

COMPLIANCE TRACKING PROGRAM

Woolgoolga to Ballina (section 3-11)
Pacific Highway Upgrade

Six Monthly Construction
Compliance Report (October 2016
to March 2017)

AUGUST 2017

Document control

| | | | |
|-----------------|--|------------------------|--|
| Report name | W2B 3-11 Six Monthly Construction Compliance Report (October 2016 to March 2017) | | |
| Document number | W2B-PC0-0-ZH-RPT-00005 | W2B-PC0-0-ZH-RPT-00006 | |
| Revision number | 5 | | |

Plan approved by:



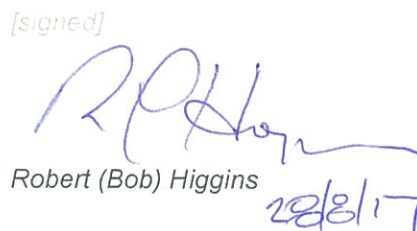
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Revision history

| Revision | Date | Description | Approval |
|----------|-----------|---|--------------|
| 0 | 4/5/2017 | Draft / Raw Data | C Morris |
| 1 | 24/5/2017 | Initial Review | C Morris |
| 2 | 19/07/17 | Combined PC and RMS update | C Morris |
| 3 | 9/8/17 | Issue for approval to RMS | C. Greenaway |
| 4 | 14/8/17 | Update following RMS review | C Greenaway |
| 5 | 17/8/17 | Final for submission following ER review, | C Greenaway |

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Glossary / Abbreviations

| | |
|------------------------|---|
| CEMP | Construction Environmental Management Plan |
| CFFMP | Construction Flora and Fauna Management Plan |
| CHMP | Construction Heritage Management Plan |
| Compliance audit | Verification of how implementation is proceeding with respect to a construction environmental management plan (CEMP) (which incorporates the relevant approval conditions). |
| CRO | Community Relations Officer |
| DoEE | Department of Environment and Energy |
| EEC | Endangered Ecological Community |
| Environmental incident | An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment. |
| EMS | Environmental Management System |
| EP&A Act | <i>Environmental Planning and Assessment Act 1979</i> |
| EPA | Environment Protection Authority |
| EPBC Act | <i>Environmental Protection and Biodiversity Conservation Act 1999</i> |
| EPL | Environment Protection License |
| ER | Environmental Representative – A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance. |
| ERG | Environment Review Group – comprising representatives of RMS, Environmental Representative, Project delivery team, regulatory authorities (eg EPA, DPI – Fisheries Conservation and Aquaculture, NOW) and councils (Coffs Harbour City Council, Clarence Valley Shire Council). The ERG will be maintained for the duration of the Project and will meet regularly and undertake environmental inspections. The role the ERG is to provide proactive advice on environmental management issues and review the environmental performance of the Project. |
| EWMS | Environmental Work Method Statements |
| HPG | Hydrostatic Profile Gauge |
| MCoA | Minister's Conditions of Approval |
| Non-compliance | Failure to comply with the requirements of the Project approval or any applicable license, permit or legal requirements. |
| Non-conformance | Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation. |
| OEH | Office of Environment and Heritage |

| | |
|--------------|---|
| OPP | Oxleyan Pygmy Perch |
| Project, the | The Woolgoolga to Ballina Project (Sections 3 to 11) |
| PC | Pacific Complete |
| Secretary | Secretary of the Department of Planning and Environment |
| SPIR | Submission / Preferred Infrastructure Report |
| RMS | Roads and Maritime Services |

1 Introduction

1.1 Project description

NSW Roads and Maritime Services (Roads and Maritime) is upgrading the Pacific Highway between Woolgoolga and Ballina on the NSW North Coast. This is known as the Woolgoolga to Ballina Pacific Highway upgrade project. An overview of the project is shown in Figure 1-1.

The 155 kilometre upgrade between Woolgoolga to Ballina is the last highway link between Hexham and the Queensland border to be upgraded to four lanes. The project will duplicate the existing highway to two lanes in each direction from about six kilometres north of Woolgoolga (north of Coffs Harbour) to about six kilometres south of Ballina.

The project bypasses the towns of Grafton, South Grafton, Ulmarra, Woodburn, Broadwater and Wardell. The project will include building new lanes and realigning the road.

Key features of the upgrade include:

- Duplicating 155 kilometres of the Pacific Highway to a motorway standard (Class M) or arterial road (Class A), with two lanes in each direction and room to add a third lane if required in the future
- Split-level (grade-separated) interchanges at Range Road, Glenugie, Tyndale, Maclean, Yamba/Harwood, Woombah (Iluka Road), Woodburn, Broadwater and Wardell
- Bypasses of South Grafton, Ulmarra, Woodburn, Broadwater and Wardell
- More than 100 bridges including major crossings of the Clarence and Richmond rivers
- Bridges over and under the highway to maintain access to local roads that cross the highway
- Access roads to maintain connections to existing local roads and properties
- Structures designed to safely encourage animals over and under the upgraded highway where it crosses key animal habitat or wildlife corridors
- Rest areas conveniently located at intervals to assist with reducing driver fatigue
- Heavy vehicle checking stations near Halfway Creek and north of the Richmond River
- Connections from the project to the local road network and other sections of the Pacific Highway
- Emergency stopping facilities, and U-turn bays
- Relocation of utilities and provision of roadside furniture, fencing (including wildlife exclusion fencing) and lighting.

The Woolgoolga to Ballina upgrade does not include the completed Devils Pulpit and Glenugie upgrade projects.

Sections of the project are located adjacent to previously approved highway upgrades, including the following:

- Sapphire to Woolgoolga Pacific Highway upgrade – NSW Approval (06_0293) 13 January 2009
- Glenugie Pacific Highway upgrade – NSW Approval (09/0073) 17 December 2009, Commonwealth Approval (2009/5002) 13 January 2010
- Devils Pulpit Pacific Highway upgrade – NSW Approval (09_0179), 1 February 2011, Commonwealth Approval (2010/8586) 20 January 2012
- Ballina Bypass Pacific Highway upgrade – NSW Approval 22 May, 2003.

The land to which the Woolgoolga to Ballina NSW Approval (SSI_4963) applies is describe as follows:

The Pacific Highway between Woolgoogla and Ballina, from about six kilometres north of Woolgoolga at Arrawarra Beach Road to Pimlico Road about six kilometres to the south of Ballina, excluding the Glenugie and Devils Pulpit upgrades but including the tie-ins to those project.

Pacific Complete (PC) has been appointed by Roads and Maritime Services (Roads and Maritime) as the Delivery Partner (DP). Pacific Complete comprises Laing O'Rourke Australia Pty Ltd and WSP working in close collaboration with Roads and Maritime.

Pacific Complete is responsible for the procurement and management of the detailed design and construction phases associated with Pacific Highway Upgrade – Woolgoolga to Ballina (Sections 3 to 11).

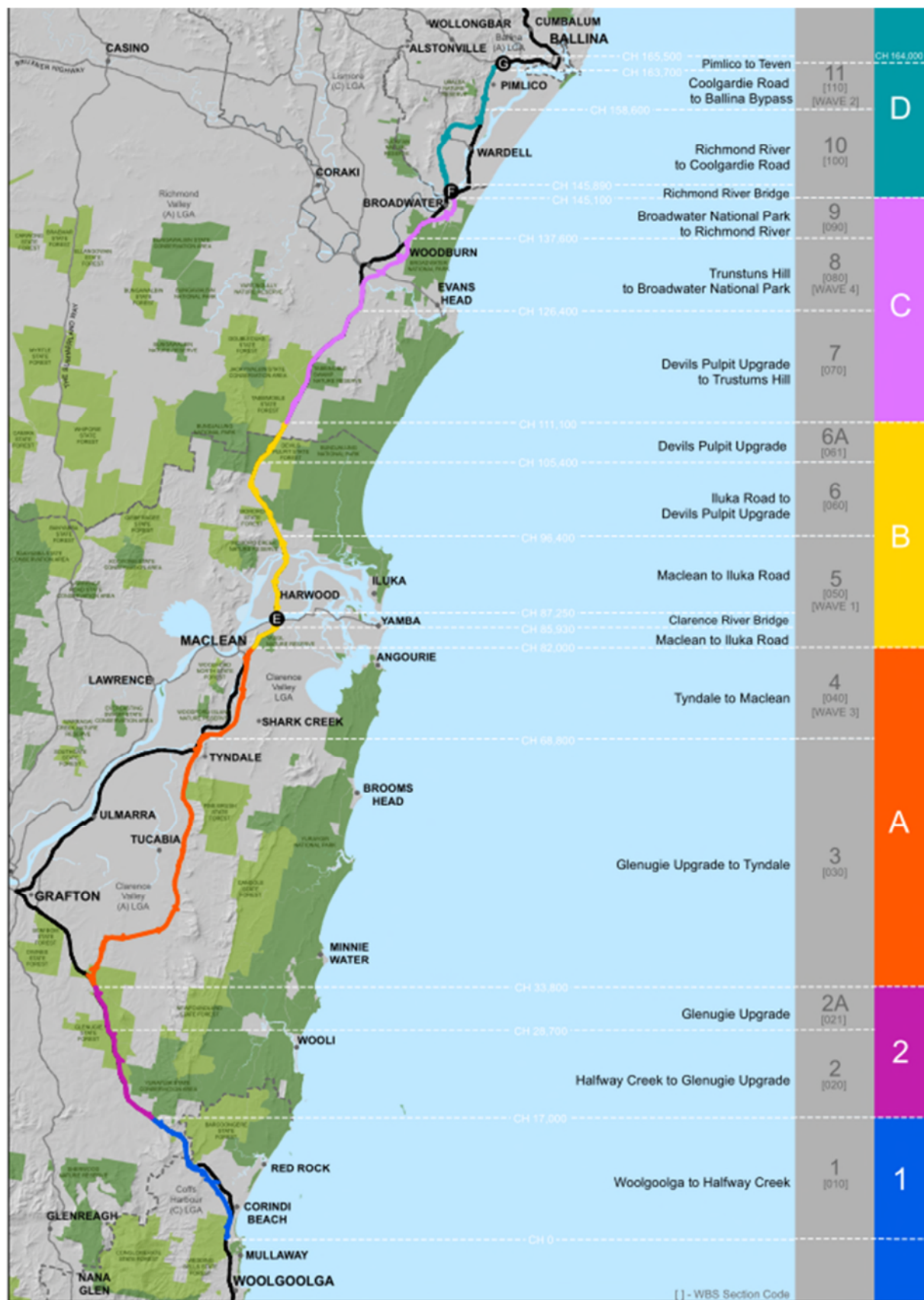


Figure 1-1 Woolgoolga to Ballina project

1.2 Staging

Staging Reports have been prepared in accordance with the requirements of the NSW Ministers Condition of Approval A7, which states:

The Applicant may elect to construct and/or operate the SSI in stages. Where staging is proposed, the Applicant 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.*

Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specified stage(s).

The project is also approved under the Commonwealth *Environment Protection and Biodiversity Act 1999* (012/6394 approval dated 14 August 2014). EPBC CoA 1 requires that:

The Staging Report as required by NSW approval conditions A7 must be submitted to the Minister prior to the commencement of each of the proposed stage(s). In accordance with NSW approval condition A7, the Staging Report must outline how the proposal will be staged. The Staging Report must also outline the threatened species and communities, and migratory species impacted in each stage.

The Staging Report(s) describe the activities associated with the project stages and how compliance will be addressed across and between the stages.

Roads and Maritime has prepared and submitted the Woolgoolga to Ballina Pacific Highway Upgrade Staging Report to the Department. An updated report – version 6 – was provided to the Department on 29 November 2016.

1.3 Purpose

This plan has been developed to address the requirements of the Ministers Conditions of Approval (MCoA) D27. The Woolgoolga to Ballina Compliance Tracking Program – Sections 3-11 was approved by the Department on 16 March 2016.

This report addresses the reporting period between October 2016 and March 2017.

1.4 Environmental management systems overview

The Construction Environmental Management Plan (CEMP) is the primary system to manage and control the environmental aspects of the Project during construction. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The strategies defined in the CEMP have been developed with consideration of the Project approval requirement, safeguards and mitigation measures presented in the environmental assessment and approval documents. The CEMP establishes the system for implementation, monitoring and continuous improvement to minimize impacts from the Project on the environment.

This Compliance Tracking Program is separate to the CEMP, but is part of a suite of environmental management documents prepared for the Project.

1.5 Relevant documentation

Documentation relevant to the Compliance Tracking Program includes:

- RMS, Woolgoolga to Ballina. *Upgrading the Pacific Highway. Environmental Impact Statement* (December 2012)
- RMS, Woolgoolga to Ballina. *Upgrading the Pacific Highway. Submissions and Preferred Infrastructure Report* (November 2013)
- New South Wales *Environmental Planning and Assessment Act 1979* (SSI-4963), approval dated 24 June 2014 (including Modification 1 dated 15 January 2015 and Modification 2 dated 7 October 2015).

2 Scope of the activities undertaken during the reporting period

The approved Construction Environmental Management Plan Section 2.3, Table 2-4 provides and overview of the construction activities across the project. Table 2-1 below provides an outline of these activities and location they were undertaken during the reporting period of 1 October 2016 to 31 March 2017.

Table 2-1 Scope of activities undertaken during the reporting period

| Construction activities | Typical activity | Glenugie to Maclean | Maclean to Devils Pulpit | Devils Pulpit to Richmond River | Richmond River to Ballina |
|---|---|---------------------|--------------------------|---------------------------------|---------------------------|
| Enabling works | <ul style="list-style-type: none"> Progressive installation of environmental controls including temporary or permanent fencing, enabling noise mitigation measures Conduct pre-clearing vegetation fauna surveys (to allow for utility adjustments) Clearing of vegetation and processing of materials (to allow for utility adjustments) Demolition of existing buildings and structures. | √ | √ | √ | √ |
| Relocation or protection of services | <ul style="list-style-type: none"> Preclearance checks Gas Electricity Water Telecommunications infrastructure. | √ | √ | √ | √ |
| Site establishment | <ul style="list-style-type: none"> Installation of boundary fencing Establishment of construction facilities Establishment of stockpile sites and ancillary facilities Installation of environmental controls Pre-clearing vegetation fauna surveys Temporary traffic management arrangements Construction of access roads Progressive installation of environmental controls including temporary or permanent fencing, construction and operational noise mitigation measures Construction of diversion and catch drains along the formation and sedimentation control basins or swales (where required) Clearing of vegetation and processing of materials Removal of harvestable timber | √ | √ | √ | √ |

| Construction activities | Typical activity | Glenugie to Maclean | Maclean to Devils Pulpit | Devils Pulpit to Richmond River | Richmond River to Ballina |
|--------------------------------|---|---------------------|--------------------------|---------------------------------|---------------------------|
| | <ul style="list-style-type: none"> Temporary upgrade work for existing local roads and intersections. | | | | |
| Bulk earthworks | <ul style="list-style-type: none"> Implementation and construction of local roadworks and any local road diversions including any construction of side roads to maintain existing traffic movement (where required) Stripping topsoil and stockpiling it for reuse in landscaping Embankment foundation or soft soils treatments, such as the installation of wick drains and drainage blankets Excavation of cuttings, including the processing, stockpiling or haulage of material; blasting activities and stabilisation of batters Construction of embankments, including foundation drainage. | √ | √ | √ | X |
| Drainage and structures | <ul style="list-style-type: none"> Installation of cross-drainage, including culverts and inlet and outlet work including any channel diversions and scour protection work Construction of any retaining walls Installation of fauna connectivity structures Construction of subsurface drainage Installation of longitudinal and vertical drainage in cuttings and embankments. | √ | √ | √ | X |
| Bridge construction | <ul style="list-style-type: none"> Additional geotechnical works Establishment of bridge work compounds Installation of rock caissons or cofferdams or temporary access roads/platforms across waterways Installation of bridge foundations (driven or bored piles, pile caps and footings) Construction of bridge abutments and piers Construction of bridge superstructure including deck and pavement work Construction of scour protection along the waterway or waterfront land. | √ | √ | X | X |

| Construction activities | Typical activity | Glenugie to Maclean | Maclean to Devils Pulpit | Devils Pulpit to Richmond River | Richmond River to Ballina |
|------------------------------------|--|---------------------|--------------------------|---------------------------------|---------------------------|
| Rest areas | <ul style="list-style-type: none"> Establishment of rest area work compounds Construction of base and select layers of materials Construction of pavement layers Installation of structures (wash rooms, seating, information boards, line markings) Reuse of topsoil Planting of native plants and seeding disturbed areas with native and cover crops species. | X | X | X | X |
| Pavement work | <ul style="list-style-type: none"> Construction of base and select layers of materials Construction of pavement layers Construction of pavement drainage, including kerb and gutter (where required) Construction of concrete barriers, wire rope fencing and guardrails. | X | X | X | X |
| Road furniture | <ul style="list-style-type: none"> Installation of signage Line marking Installation of safety barriers. | X | X | X | X |
| Landscaping and restoration | <ul style="list-style-type: none"> Reuse of topsoil Planting of native plants and seeding disturbed areas with native and cover crops species (note this will take place throughout construction as elements of the work are complete where ongoing disturbance is not anticipated). | X | X | X | X |
| Open to traffic | <ul style="list-style-type: none"> Electrical and signage testing Commissioning and final check Decommissioning of construction facilities Remove construction environmental controls Handover the road to the operations and maintenance team Road open to traffic. | X | X | X | X |

2.1 Ancillary Facilities

Ancillary Facilities for the project are being managed in accordance with the approved Ancillary Facilities Management Plan developed to satisfy MCoA D21 and approved by the Department on 10 Feb 2016. Table 2.1 below lists the Ancillary Facilities approved for use during the reporting period.

Table 2.1 Ancillary Facilities approved during the reporting period

| Facility # (ID / Name) | EIS Section | Approximate Chainage | Approval Date |
|--|-------------|----------------------|---------------|
| Tucabia Tyndale Cox Site (Section 3 Site 9) | 3 | 62000 - 62900 | 8 Sept-16 |
| Avenue Road Dry Batch Plant | 3 | 41500 | 2-Mar-17 |
| Section 5, Site 9b (Iluka East) - Stockpiling Site | 5 | 94900 - 95300 | 25-Nov-16 |
| Iluka Site 5.7 - | 5 | 95100 - 95500 | 6-Dec-16 |
| Section 6, Site 3 | 6 | 101500 - 102500 | 11-Nov-16 |
| Section 6, Site 5 | 6 | 108450 - 108900 | 4-Dec-16 |
| Section 8, Site 1 | 8 | 129800 - 130100 | 23-Mar-17 |
| Section 9, Site 3 | 9 | 142250 - 142750 | 30-Nov-16 |
| Section 9, Site 1 | 9 | 136700 - 137100 | 15-Feb-17 |
| Koala Fence Contractor Laydown Ancillary Facility | 10 | 152700 - 152850 | 23-Feb-17 |
| D09 Coolgardie Road Interchange Overbridge (CH 157550) | 10 | 157550 | 7-Mar-17 |
| D04 Bingal Creek Bridge (CH 149242) | 10 | 149242 | 7-Mar-17 |

| | | | |
|--|----|-----------------|-----------|
| D05 Wardell Floodway Bridge | 10 | 151800 | 7-Mar-17 |
| D03 Bagotville Bridge (CH 148900) | 10 | 148900 | 8-Mar-17 |
| D06 Wardell Overbridge (CH 152800) | 10 | 152800 | 8-Mar-17 |
| Major Ancillary Facility Assessment - Lumley's Lane Koala Revegetation Depot | 10 | 154900 | 29-Mar-17 |
| McAndrew's Lane (Section 11, site 1a) | 11 | 159400 - 159800 | 5-Dec-16 |
| Section 11 Site 2 | 11 | 159400 - 159800 | |
| Harwood Bridge Main Site Compound (Major) Section 5 Site 3b | 5 | 87250 - 87800 | 2-Dec-16 |
| Harwood Bridge South – Section 5 Site 2b | 5 | | |
| Yamba Road Carpark | 5 | 86300 | 31-Jan-17 |
| Test Pile Toilet Facility | 5 | 87200 | 3-Feb-17 |
| Parking Area - Harwood Off Ramp | 5 | 87200 | 8-Feb-17 |
| Test Pile Site Facility | 5 | 87200 | 8-Feb-17 |

3 Performance of environmental controls

3.1 Erosion and sediment control

Erosion and sediment control measures have been implemented across the project to ensure the appropriate management of erosion and runoff during construction. Erosion and sediment control plans (ESCP) have been prepared in consultation with the Project Soil Conservationist, Pacific Complete, Roads and Maritime and DPI Fisheries (where required). Progressive ESCPs have also been prepared to allow for adaptation to changing site conditions and staging of the construction works. Certified Progressive Erosion Sediment Control Plans (PESCP) have continued to be developed throughout the project to address changes in site conditions and stages of works during the reporting period.

The Project Soil Conservationist continues to actively provide guidance to contractors through performing regular scheduled inspections and monitoring, provision of actions following inspections and the review and approval of ESCPs.

Major controls and measures implemented during the reporting include (but are not limited to):

- Temporary erosion and sediment controls prior to and during clearing and earthworks including sediment fences, geotextile filter fences, earth or mulch bunds, sand bags, clean water diversions, swale buffers, batters stabilised with soil binder and hydromulch, batter chutes and bunds to direct water, infiltration drains, and clean water drains.
- Implementation and maintenance of stabilised rock or rumble grids at entry/exit points to reduce tracking of mud onto public roads.
- Staged clearing to reduce exposed areas by reviewing the need for ground disturbance on a site by site basis.
- To minimise erosion during clearing, the spreading of mulch has been successfully utilised as a ground cover.
- Other ground coverings have been used in ancillary, lay down and disturbed areas, such as gravel.
- Grassed areas within and adjoining sites are an integral measure to minimise erosion through ground stabilisation and filtration of sediments.
- Where suitable, seeding has been used to provide temporary stabilisation, as opposed to using materials that may be a source of future construction waste.
- Environmental work method statements (EWMS) prepared to address erosion and sediment control, such as:
 - EWMS for general geotechnical investigations
 - EWMS for piling and compound construction
 - EWMS for access track works and vegetation clearing
 - EWMS for working in proximity to a watercourse
 - EWMS for temporary waterway crossings

Erosion and sediment controls are monitored regularly through:

- Daily monitoring by Contractors Construction Teams
- Weekly or more frequent inspections by the Pacific Complete project team
- Fortnightly inspections by Independent Certified Practising in Erosion and Sediment Control (CPESC)

Overall, erosion and sediment controls are performing effectively across the project with good implementation of controls during clearing, including initial perimeter controls and clean water diversions, prior to progressing to full scale clearing works.

Overall feedback from Environmental Review Group (ERG) inspections has been positive, with rectification of minor issues identified. Of particular note at Wave 5c, positive feedback was received from DPI Fisheries during the November ERG, for the stabilisation and landscaping treatment works surrounding OPP habitat waterways. This positive feedback was further formalised in a letter sent from DPI Fisheries Program Leader-Aquatic Ecosystems to the General Manager of the Pacific Highway Upgrade.

3.2 Protection of waterways

Works occurring during the reporting period have taken place in proximity to a number of waterways, minor and major farm drains, creeks and rivers. Specific waterways intersected by works include Serpentine Channel, Edwards Creek, Shark Creek, Clarence River, Coldstream River, Tabbimoble Creek, James Creek, three major farm drains - Crackers, Lees and Edwards, Black Snake Creek, Pillar Valley Creek, Chaffin Creek, Champion Creek, various town drains (ie, Woodburn) and unnamed waterways and drainage lines.

Measures undertaken to manage and protect waterways include (but are not limited to):

- Ongoing monitoring and maintenance of erosion and sediment controls and regular inspection of waterway controls by Soil Conservationists
- Minimising vegetation clearing near waterways where practicable
- Active work areas were stabilised at the end of each day's work and/or just prior to inclement weather, by means such as grading or smooth drum rolling to create a smooth surface
- No construction water runoff to waterways prior to design event exceedance
- Constructing Blue Book temporary crossings at minor farm drains and engineering temporary crossings at the major farm drains and creeks according to site conditions
- Regular maintenance of controls adjacent to waterways
- Ongoing maintenance of scour protection and silt curtains
- Procedural development for temporary waterway crossings included: EWMS development in consultation with EPA and DPI Fisheries, toolbox talks, Severe Environmental Risk checklist and a Technical Briefing/Minimum Standard Guideline.

A number of Oxleyan Pygmy Perch (OPP) habitat waterways were intersected by works during the reporting period including Tabbimoble Floodway No. 1 and east of the proposed Lang Hill Borrow Site at bridges BC51, BC52 and Montis Creek (though no works have been carried out at this location in the reporting period). These works have been undertaken in consultation with relevant government agencies regarding:

- Development and implementation of ESCPs around OPP habitat waterways and in OPP Management Areas
- Development of EWMS for OPP waterway crossings
- Determination of culverts/pipes sizing and minimum size of rock material to be utilised for temporary crossings in OPP habitat, in liaison with DPI Fisheries
- Implementation of mitigation measures in accordance with the Threatened Fish Management Plan.

Mostly positive feedback has been reported during ERG, Roads and Maritime and Pacific Complete inspections and agencies have appreciated the involvement and updates on the implementation of control measures to protect waterways.

The temporary waterway crossings performed well during the large rainfall event experienced on site during March 2017. The ERG were pleased that no controls had failed and that the majority did not overtop at the designated high flow point.

PC initiated a training seminar that included all site staff to review on site constraints, resource allocations and methods for testing treating and managing erosion and sediment control basins.

Training also included review of installation methods of geotextile, jute and batter chutes to ensure that materials were adequately keyed in.

An initiative implemented at the Bridge over the Clarence River at Harwood involved modification to a floating boom, through the addition of PVC sliders. It was noted that the floating booms were not completely surrounding a scaffold platform used for the previous borehole location. The addition of the PVC sliders allowed the booms to freely move with the tide and any other movement of the hydrocarbon booms, resulting in the booms remaining in the water, providing effective containment around the barge in the event of a hydrocarbon spill. This ensures the deployment of floating hydrocarbon booms is undertaken correctly so that they completely surround the active works

See Figure 3.1 and Figure 3.2 below showing the positioning of the hydrocarbon boom before and after the implementation of the PVC sliders.



Figure 3.1 Boom placements prior to implementation of PVC sliders



Figure 3.2 Boom placement following implementation of PVC sliders

3.3 Flora and fauna

A wide range of Endangered Ecological Communities (EEC) and threatened flora and fauna species are known to occur within and/or adjacent to the works that occurred during the reporting period:

Some works undertaken during the reporting period carried potential to impact threatened flora or fauna species. Such activities included clearing of vegetation near/within Flying-fox, Koala and Green-thighed Frog habitats, earthworks resulting in potential dust impacts to threatened flora species including the Slender Screw Fern.

Measures undertaken to manage and protect EEC, threatened species and their habitats include (but are not limited to):

- Environmental Work Method Statements developed, approved and communicated to work teams regarding risks to flora and fauna.
- Ongoing inductions and training on the occurrence of threatened species and EECs across the project. The environmental induction include the locations of sensitive areas on Sensitive Area Plans, the importance of not entering clearing limits no-go fencing, unexpected finds procedure, etc.
- Continued training and inductions on Koala Zero Harm program, Coastal Emu Management Plan requirements have been carried out for all personnel.
- Installation and monitoring of fauna fencing, including temporary, permanent and project boundary/clearing limit fencing and delineation of protected areas.
- Collection of incidental Emu sighting data and construction of temporary and permanent Emu fencing and Emu races through construction corridor.
- Pre-clearing fauna surveys and Ecologist and spotter / catcher present during clearing operations and post-clearing surveys to check no animals were injured.
- Pre-clearing flora surveys undertaken included targeted searches for EECs and threatened flora species. These surveys have covered the entire project.
- Installation of erosion and sediment controls to prevent disturbance to Oxleyan Pygmy Perch habitat.
- Installation of both Koala and Emu signage has been undertaken in known habitat areas.
- Undertaking targeted surveys by the Project Ecologist and Aquatic Ecologist in accordance with the requirements of the applicable threatened fauna management plans including inspection and de-fishing water bodies prior to any dewatering in potential fish habitat and OPP Management Areas.
- Restriction on construction traffic speed along the construction corridor has been communicated project wide.
- Aquatic ecologist inspected and de-fished water bodies prior to any dewatering in potential fish habitat and OPP Management Areas
- Chytrid protocol and temporary frog fencing was implemented at locations where threatened frogs were identified in consultation with the EPA Biodiversity Unit.
- Prior to clearing all significant fauna habitat trees were clearly marked during a pre survey undertaken by the project ecologist. Prior to commencement of clearing operations 70% of the next boxes were installed to offset and provide alternative habitat resource for native fauna.
- Measures to ensure protection of koalas during clearing and grubbing of key habitat areas included:
 - Installation of temporary koala fence and associated escape structures on both sides of the existing highway.
 - Pre-dawn surveys by the project ecologist.
 - Koala detection dog surveys ahead of clearing works.
- Developing monitoring regimes, data collection and reporting methods on mitigation measures and management recommendations.

- Managing construction water in OPP Management Areas through use of onsite capture and subsequent re-use or irrigation to land to ensure water quality met OPP habitat requirements
- Implementing ongoing weed management measures targeting specific weed infestations including
- physical removal techniques such as slashing within pastoral areas, covering weeds under the formation and removal in native vegetation clearing areas
- Providing weed and pathogen declarations and visually inspecting all plant prior to site introduction.

At the completion of individual sections of clearing works, post clearing reports are prepared to provide a summary of the results of survey, fauna rescues, fauna injury and mortality. This information is being progressively collated and will be consolidated into overall project post-clearing report at the completion of clearing activities for the project.

Positive feedback mentioned during ERG inspections and other consultation with regulatory agencies has included:

- Effective management of the Green Thighed Frog habitat and management zone through implementation of the frog hygiene protocol, which was well managed.
- Successful management of OPP habitat which included covering exposed areas with pinned down black plastic and sand bags, and installation of a bund within a table drain, all to prevent potential site water runoff into the downstream OPP habitat area.

Other successful management controls of interest during the reporting period include but are not limited to:

- Five successful aquatic fauna and fish translocations were undertaken between Glenugie and Maclean during the installation of waterway crossing and the dewatering of existing farm dams. All works were supervised by aquatic ecologist and resulted in the relocation of over 1865 fish species into other suitable habitats. The aquatic fauna translocated included:
 - Silver Perch (*Bidyanus bidyanus*)
 - Longfin Eel (*Anguilla reinhardtii*)
 - Shortfin Eel (*Anguilla australis*)
 - Firetail Gudgeon (*Hypseleotris galii*)
 - Clarence River Turtle (*Emydura macquari binjina*)
- Implemented multiple planning sessions prior to high risk activities to construct Woodburn Town Drain, including consultation with regulatory agencies. Also undertake review of works at completion to develop lessons learnt document for future dewatering activities.
- Sustainable reuse during the clearing operations has included, root ball harvesting, grass tree translocation and mulch haulage to cogeneration plants. Over 90,00m³ of vegetative waste has been sent to assist electricity production at the Condong sugar mill. Project Contractors have been actively engaged with multiple stake holders to assist root ball harvesting for creek bank restoration. This includes North Coast Local Land Services Aquatic Habitat Rehabilitation Department of Primary Industries & Local Governments. The process included to identify very specific features of the root balls to assist wake reduction from boats, increased bank stability and specific dimensions. The root ball required specialist machinery including 20 tonne excavators. The required removal, selection and tagging, haulage and stockpiling. Many site inspections were undertaken to allow stakeholders site access to the root balls. The latest stocktake is over 300 root balls for beneficial reuse.
- The pre-clearance ecological surveys identified various potential locations for grass tree harvesting. From the ecological surveys it was evident that many populations and genotypes of the local grass trees will be lost to the vegetation clearing process. However suitable locations of grass trees over 300m in height were identified north and south of Mitchell road. The grass tree harvester and the project ecologist conducted a site visit to determine suitability with the specifications, this included a walk the alignment to view suitability of site and grass trees. Prior to going on site to conduct the translocation activities a nursery holding area was prepared.

All works have been conducted under the Harvesting Licence *National Parks & Wildlife Act 1974* Section 31 Licence Number MWL000102318.

Pacific Complete and RMS are working with the grass tree harvesters to confirm criteria and locations for receival sites including community and restoration projects.

Fauna registers have been generated to capture opportunistic fauna encounters/ observations not specifically related to clearing activities. A number of fauna relocations were required during pre-clearing and clearing surveys. Threatened fauna encounters/observations during the reporting period included (but may not be limited to):

- At the Woodburn Broadwater Service Road, additional ecological resources were utilise to supervise clearing. Clearing works were ceased on two occasions when a Koala was identified within the clearing area. On both occasions the koala moved offsite of its own accord within 48hours and no capture/relocation was required.
- An unexpected fauna find occurred when a Koala was observed within the Project Boundary during fill placement. All works ceased in the area and the Project Ecologist and a Specialist Koala Ecologist were called in to review the Koala and it was determined to erect the Temporary Koala Fencing and have an Ecologist perform daily visual inspections prior to commencement of works onsite.
- Following survey pegging the project footprint a Green-leaved Rose Walnut was found to be located within the clearing limits. No-go fencing was subsequently installed and works in the immediate area restricted. The design boundary was subsequently modified to avoid impacting the subject tree.
- Hairy Joint Grass (*Arthraxon hispidus*) was identified in the project at approximately CH129,300. A representative sample of the species was translocated to a receiving site adjacent the Project and appropriate mitigation measures were implemented during clearing and grubbing. Such measures included appropriate flagging off of the areas as no go zones and communication to site teams of the mitigation measures during construction.
- The project ecologist identified a threatened flora species Noah's False Chickweed (*Lindernia alsinoides*) during pre-clearing surveys for the project. This species was reported in accordance with the requirements of the CFFMP (Threatened Species Unexpected Finds Procedure).
- An existing Osprey nest is located to the south west of the Harwood Bridge, outside the project boundary. A number of management measures have been put in place to ensure construction activities have no impact on the Osprey. This includes no lifting activities within 100m of the nest within breeding season (March-December). To deter Ospreys from nesting or roosting in piling rigs and cranes, the project ecologist and EPA biodiversity has been consulted on Osprey deterrent on the top of piling rigs/ cranes, such as investigation into the use of cover plates over mobile components at the highest part of the boom and installation of physical deterrent device on the end of the boom such as flags to reduce the likelihood of Osprey's coming into contact with mobile components. Prior to the start of the shift and following breaks, the crane operator is to observe if Ospreys are present on the piling rig. The crane is to cease works contact ecologist if Osprey perches / attempts to build a nest on the piling rig during the breeding season. All sightings of Ospreys nesting / perching on the existing Harwood Bridge and on any construction equipment / structures are reported to the subcontractors Environmental Representative. These requirements are captured and communicated via EWMS and targeted tool box talks.

All unexpected flora and fauna finds were managed in accordance with the Unexpected Threatened Species Finds Procedure, Appendix O of the approved Pacific Complete Construction Flora and Fauna Management Plan (CFFMP), Sections 3 to 11, the relevant species management plans approved for the project and site specific EWMS. The management of the koala relocation was commended by the EPA who provided positive feedback at the following ERG inspection.

During February, eleven dead Clarence River turtles – *Emydura nacquari* - were observed in a constructed drain near Maclean Interchange. Subsequent investigations into the area and event identified construction activities had not directly impacted on the turtles. A combination of environmental factors eg existing poor water quality, high water temperatures (recorded at 37°C), and

receding water depths following January rain periods were identified as resulting in a high stress / poor quality environment for the turtles at this location.

In accordance with the approved Nest Box Strategies for the project, 272 nest boxes were installed during the reporting period.

3.4 Heritage

Works within the reporting period have occurred adjacent to several Aboriginal and non-Aboriginal items. The Roads and Maritime salvage package has continued throughout the reporting period to ensure heritage sites within the project boundary have been cleared prior to construction in that location. Clearance letters are prepared by the salvage contractor post salvage works. Where required additional mitigation measures (ie establishment of exclusion fencing) are including in these clearance letters.

The approved Pacific Complete Construction Heritage Management Plan (CHMP) Sections 3 to 11, Appendix B5 of the CEMP and subsequent CEMP's prepared by contractors are the main sources of information and guidance for the management and protection and heritage constraints within and adjacent to the footprint of the project.

As a result of the recent determination of the Yaegl Native Title claim, an agreement was prepared between Roads and Maritime and the Yaegl people, on the requirements for cultural heritage monitoring for Geotechnical Works within the bed and banks of the Clarence River. The Yaegl People commenced monitoring onsite on 13th of December 2016 to observe geotechnical drillings.

The Harwood Convent in River Street Harwood, was identified during the project Environmental Impact Statement as an item of local heritage located within the Harwood Conservation Area, under the Clarence Valley Local Environment Plan (LEP). In accordance with MCoA B48 Roads and Maritime and Pacific Complete carried out additional historical research into the building and investigated alternatives and options for relocation of this building including extensive public consultation and a public tender process. Following approval from Department of Planning and Environment, and Office of Environment and Heritage, this building was demolished in December 2016 after an unsuccessful tender process to remove and relocate the building. The additional archaeological information was provided to the Office of Environment and Heritage and stakeholders.

Six potential heritage unexpected finds were reported during the reporting period. These included:

- One unexpected heritage item of glass bottle and ceramic scatter (torpedo bottle amongst items) was found during excavation at the Iluka Ancillary Site Access. It was noted in an ERG that the 'archaeological find' at the Iluka Gate was managed well by Wave 1 contractor.
- A potential unexpected find was recorded with a cow bone unearthed during excavation of unsuitable fill at the Mororo Cut. The operator ceased work immediately and informed his supervisor. The area was flagged off and the find managed in accordance with the Unexpected Finds Procedure. The bone was not considered to be of significance and works recommenced.
- At the Greenhill Cut site where an employee suspected there to be scar tree. Works in the local vicinity were put on hold and the Unexpected Finds Procedure was enacted. These trees were assessed and deemed as not being scar tree, works then recommenced.
- A number of glass bottles were uncovered during clearing activities in the vicinity of Tuckombil Canal, all works in the vicinity ceased and the Unexpected Finds Procedure was followed. The discovery was assessed by Heritage consultants and determined to be of no heritage significance. No other potential Heritage items have been discovered during project works.

- Several potential Aboriginal scar trees and items of potential Indigenous/ European heritage value were identified during the pre-clearing surveys for the project. These were reported to the PC Indigenous Advisor for further investigation. They were assessed as not being of heritage value. When these potential heritage items were identified works within the areas were ceased and the Roads and Maritime Standard Management Procedure – Unexpected Archaeological Finds, Appendix B of the approved Pacific Complete Construction Heritage Management, was followed until the appropriate clearance was provided for works to continue.

3.5 Noise and vibration

Noise intensive activities undertaken during the reporting period include:

- Truck movements
- Heavy vehicles and plant used to carry out broad clearing and fill and compact
- Rock breaking
- Blasting (1 test and 21 occurrences)
- Rock breaking at Tyndale south as part of drainage works
- Cut rock hammering and crushing works (associated with many cuts)
- Clearing and grubbing (including mulching)
- General earthworks
- Vibratory piling of a test pile at Harwood Bridge

No exceedances of the EPL overpressure limits occurred during blasting activities within the reporting period across the project. One test blast occurred on 16 December 2016 at Cut 30 in Tyndale (500m³). The test blast was used to provide early indication on how the rock would fracture and potential impacts. After test blasts were conducted and controls were proved effective the blasting program went into 20,000m³ production blasts.

Measures undertaken during the reporting period to manage and mitigate noise and vibration include:

- Considering potential noise impacts during the preparation of construction procedures, during the planning of Out of Hours Works and at pre-start meetings
- All project personnel, including relevant sub-contractors on noise and vibration requirements from this plan through inductions, toolbox talks and targeted awareness training
- Undertaken noise monitoring to refine construction methods or techniques to minimise noise
- Prepare EWMS relative to site works
- Ongoing proactive engagement with sensitive receivers within close proximity before the commencement of works and throughout the duration of works via letterbox drop, telephone and doorknock.
- Maintain plant and equipment used on site to ensure it meets manufacturer specifications
- Positioning work compounds, parking areas, equipment and material stockpile sites and entry/exit points away from noise-sensitive receivers to the greatest extent possible
- Locating haulage routes as far away as possible from residential receivers where practicable.
- Noise monitoring has been undertaken to check that noise mitigation measures are effective. Noise monitoring may also be carried out for the purpose of refining construction methods or techniques to minimise noise.
- To mitigate truck and heavy vehicle noise annoyance, controls implemented include speed restrictions and hours of operation.
- Plant and equipment used across the project must be maintained in sound working order, meeting manufacturer specifications.
- Noise generating works were at times managed with reduced start and finishing times, and were carried out for periods of three hours with one hour breaks.
- Community consultation has been undertaken throughout the project in relation to noise and vibration works.
- Vibration monitoring has been carried out at nearby residents.

- Additional temporary noise barriers has been installed around generators operating at Avenue Road Ancillary Facility. This wall has been built around the generator to reduce noise levels at nearest sensitive receiver.

Complaints relating to noise during this reporting period are summarised in Appendix C.

3.6 Waste and chemical storage

Works within the reporting period have involved the generation of waste and the storage of chemicals and fuel. Waste management techniques utilised during the reporting period include:

- Utilising excess timber mulch for erosion and sediment controls
- Provision of pasteurised mulch to local landholders.
- Segregation and recycling of demolition waste by demolition sub-contractor.
- Ongoing re-use of onsite captured water for construction activities.
- All waste generated by the project was classified and disposed of in accordance with EPA Waste Classification Guidelines to suitably licenced facilities.
- Utilising separate skips for contaminated soil to collect any spill affected materials for off-site disposal at appropriately licensed facility.
- Use of segregated construction and office waste skips within the main compound.
- Undertaking asbestos contamination audits prior to the demolition of residential buildings.
- Transporting surplus mulch material to Cape Byron Cogeneration Plant for beneficial electricity generation.
- Re-use of root balls from clearing & grubbing for creek bank stabilisation program undertaken by EPA & DPI.
- Reuse of timber on site for fauna furniture in connectivity structures, such as culverts.
- Installation of recycling skip bins at work compounds across the project.

Measures undertaken to appropriately store, manage and monitor chemicals during the reporting period include:

- Placement of spill kits at appropriate locations and spill response training of staff.
- Appropriate storage and handling of hazardous products (e.g. fuels and chemicals) in bunded areas
- Utilising appropriately sized bunding around chemical storage containers
- Self-bunding bulk fuel tanks and installing in-ground grates for catching potential re-fuelling drips
- Locating all fuel storage away from waterways and drainage lines
- Weekly inspections of chemical and waste storage areas through the weekly Environmental Inspection process
- Utilising registers and material safety data sheets for all chemicals and fuel kept onsite.
- Installation of catch-grates at refuelling points to avoid potential spillage.
- Pumps are contained inside small plastic sand pits when pumping onsite
- All project wastes were classified and disposed in accordance with EPA Waste Classification Guidelines to suitably licenced facilities.

The majority of the environmental incidents reported during the reporting period were due to minor fuel and hydraulic oil spills; refer to Section 4.5 for a full summary of incidents. Spill kits were used to contain the spills and incidents were reported through the Roads and Maritime Incident Classification and Reporting Procedure.

3.7 Acid Sulfate and ASTA

Potential acid sulfate soils (PASS) are prominent within the footprint of the project, due to the number of low lying wetland areas located along the alignment. Areas of PASS contain iron sulphides and when exposed to oxygen, chemical reactions between the iron sulphides and oxygen molecules can result in the formation of acid sulfate soils (ASS). These soils are highly acidic and can also result in the release of other substances occurring in soil such as heavy metals. In locations where PASS soils are likely to occur, and disturbance is unavoidable, testing for ASS is carried out prior to excavation. If the results are positive, the excavated material is taken to a designated Acid Sulfate Soil Treatment Area (ASTA). During the reporting period there were seven ASTAs in use across the project. These were established and operated in accordance with approved Acid Sulfate Soil Management Plans.

Measures undertaken to appropriately manage Acid Sulfate Soils (ASS) and Acid Sulfate Treatment Areas (ASTA) include:

- Management and diversion of surface runoff around potential acid sulfate material
- Modifying the installation methodology for transverse drainage to minimise soil disturbance
- Validating and subsequently remediating excavated acid sulfate material
- Monitoring the pH of water from wick drains and preloading areas and appropriately treating (where required) prior to discharge / re-use
- Training and awareness for all personnel during the site induction including toolbox talks on the ASS EWMS and ASS Unexpected Finds Procedure for all personnel involved in ASS excavation and management
- Areas that are prone to Acid Sulphate Soils, temporary sediment basins have been constructed above ground. Excavated swales along the alignment have been removed from the design where possible and instead above ground swales will be constructed.

Current areas of work encountering and treating PASS include Section 4,5,6 and 8.

3.8 Environmental initiatives

During the reporting period the following positive environmental initiatives were implemented across the project.:

- **Conserving endangered fish**

Roads and Maritime worked with the NSW Department of Primary Industries (DPI Fisheries) and contractors to conserve endangered fish Oxleyan Pygmy Perch (OPP) in waterways along the Woolgoolga to Ballina section.

The site team completed earthworks within 50 metres of the OPP habitat that included innovative soft scour treatments, water quality measures and landscaping with more than 8000 creek grass plants to stabilise the sites before the OPP spawning season.

DPI Fisheries commended the site team for excellence in environmental performance and best practice for their work.

- **Native stingless bee preschool project**

From October 2016, the native stingless bee project has progressed. Launched in September 2016 by the Australian Native Bee Company along with Richmond Landcare and Roads and Maritime launched, this project involves 20 northern NSW preschools and aims to promote the importance of native bees and raise awareness of activities to minimise impacts associated with road construction. As part of the project the preschools were invited to host a hive of stingless bees at their schools.

- **Coastal Emu fencing trial**

As part of the Coastal Emu Management Plan for the Woolgoolga to Ballina upgrade, monitoring was performed to assess the effectiveness of fencing in protecting emus.

The results found that fencing supported the direction of emus to the proposed connectivity structure locations and allowed emus to pass through specifically designed fencing sections that align with underpass structures.

These findings were important given that connectivity is, at times, needed to provide a passage for emus under the highway, but not cattle.

4 Program requirements

This Compliance Tracking Program has been prepared as a requirement of MCoA D27. The requirements, as stipulated by this MCoA are detailed in Table 4-1.

Table 4-1 MCoA requirements for the Compliance Tracking Program

| MCoA No. | Requirement | Reference |
|----------|--|---------------|
| D27 | The Applicant shall prepare and implement a Compliance Tracking Program , to track compliance with the requirements of this approval, prior to the commencement of construction and operate from the date of its approval to a minimum of one year following commencement of operation, or as otherwise agreed by the Secretary. The Program shall be prepared for the approval of the Secretary, and include, but not necessarily be limited to: | This document |
| (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); | Section 4.1 |
| (b) | provisions for periodic review of the compliance status of the SSI against the requirements of this approval; | Section 4.2 |
| (c) | provisions for periodic reporting of compliance status to the Secretary, including a Pre-Construction Compliance Report , prior to the commencement of construction, and a Pre-Operation Compliance Report prior to the commencement of operation. These reports may be staged to suit the staged construction/operation of the SSI; | Section 4.3 |
| (d) | a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/or Environmental Management Systems Auditing; | Section 4.4 |
| (e) | mechanisms for recording environmental incidents during construction and actions taken in response to those incidents; | Section 4.5 |
| (f) | provisions for reporting environmental incidents to the Secretary and relevant public authorities during construction; | Section 4.6 |
| (g) | procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management; and | Section 4.7 |
| (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. | Section 4.8 |

4.1 Secretary notification

MCoA D27 (a) requirement:

“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)”

Construction will commence for each stage of the Project according to the Staging Report and following approval by the Secretary of the relevant CEMP, associated environmental plans and other relevant documentation required by the approval.

The CEMP and associated subplans for Sections 3 to 11 was conditionally approved by the Department of Planning and Environment on 23 October 2015, pending the submission of a Construction Noise and Vibration Management Plan D26(a) and heritage education and training package, Appendix A of the Construction Heritage Management Plan. The Construction Noise and Vibration Management Plan (sections 3 to 11) was approved by the Department of Planning and Environment on 3 December 2015. The heritage education and training package was submitted to the Department of Planning and Environment on 4 March 2016.

Stage 2 construction commenced on 8 April 2016. The Secretary was notified prior to the commencement of construction on 31 March 2016.

4.2 Period compliance review

MCoA D27 (b) requirement:

“provisions for periodic review of the compliance status of the SSI against the requirements of this approval”

Roads and Maritime will review the status of compliance and submit periodic compliance reports to the Secretary as follows:

- Prior to the commencement of construction
- Six months after the commencement of construction and then at six monthly intervals thereafter
- Prior to the commencement of operation.

This report captures the second six months of the period 1 October 2016 to 31 March 2017. The compliance tracking tables (attached in Appendix A) form an integral part of this periodic review.

These tables establish a format for recording compliance and include:

- Description of the environmental obligation
- The stage of the project to which it relates
- Status
- Responsibility.

4.3 Period compliance reporting

MCoA D27 (c) requirement:

“provisions for periodic reporting of compliance status to the Secretary, including a Pre-Construction Compliance Report, prior to the commencement of construction, and a Pre-Operation Compliance Report prior to the commencement of operation. These reports may be staged to suit the staged construction/operation of the SSI”

Roads and Maritime submitted a Pre-construction Compliance Report to the Department of Planning on 4 March 2016. Appendix A of this document presents the compliance status at the second 6 months of the works associated with Sections 3 to 11.

At intervals prescribed in Section 4.2 the status of compliance will be reviewed and reported to the Secretary in the form of a Compliance Tracking Report. Compliance Tracking Reports will typically include the following:

- Scope of the activities undertaken during the reporting period.
- Performance of environmental controls that have been implemented.
- Compliance with MCoA, revised EMMs as recorded in the compliance tracking tables.
- Non-compliances during the reporting period.
- Detail of all incidents recorded and action taken during the reporting period.
- Outcomes of monitoring undertaken over the reporting period and review of compliance against relevant criteria.
- Significant outcomes of audits and ERG inspections undertaken during the reporting period.
- Detail of substantiated environmental complaints received, responses taken and current status (ie open or closed). The audits will assess compliance against the conditions of approval (both NSW and EPBC Act Approvals) and relevant environmental management measures as specified in the Construction Environment Plan (CEMP) for Sections 3 to 11.

4.4 Independent environmental auditing

MCoA D27 (d) requirement:

“a program for independent environmental auditing in accordance with ISO 19011:2003 – Guidelines for Quality and/or Environmental Management Systems Auditing”

Environmental Audits

Roads and Maritime will ensure that independent audits are undertaken in accordance with ISO 19011:2003 – *Guidelines for Quality and/or Environmental Management Systems* at six monthly intervals throughout construction. The audits will assess compliance against the MCoA and EMMs.

Audits carried out during the reporting period have been summarised in the table below.

Table 4.1 Summary of Audits Conducted

| DATE | AUDIT TYPE | | OUTCOMES |
|---------------|-----------------------|------------------------|---|
| October 2016 | System Implementation | System | Observations of Concern - 6 |
| October 2016 | RMS/PC Systems Audit | Contractor – Section 9 | Corrective Actions – 2 Notable Practice – 1 Observations of Concern - 2 |
| November 2016 | Contractor Internal | Contractor Section 5 | Opportunities for Improvement - 1 |
| November 2016 | Contractor Internal | Contractor Section 4 | Opportunities for Improvement - 1 |
| November | RMS/PC | Contractor | Corrective Actions – 0 |

| | | | |
|---------------|----------------------|---|---|
| 2016 | Systems Audit | Section 4 | Notable Practice – 1 Observations of Concern - 9 |
| December 2016 | RMS/PC Systems Audit | Section 3 & 4 | Corrective Actions – 1 |
| December 2016 | Contractor Internal | Bridge over the Clarence River at Harwood | Corrective Actions Raised – 0 Observations of Concern - 3 |
| January 2017 | RMS/PC Systems Audit | Section 8 | Corrective Actions – 1 Notable Practice – 1 |
| March 2017 | RMS/PC Systems Audit | Bridge over the Clarence River at Harwood | .Corrective Actions– 0 Notable Practice – 1 Observations of Concern - 6 |
| March 2017 | RMS/PC Systems Audit | Yamba Temporary Diversion Lanes | Corrective Actions Raised – 5 Observations of Concern - 9 |
| 28/3/2017 | RMS/PC Systems Audit | Ancillary Sites | Corrective Actions Raised – 2 |

Environmental Review Group Meetings/Inspections

The Environmental Review Group (ERG) consists of representatives from Environment Protection Authority (POEO), Environment Protection Authority (biodiversity), DPI (Fisheries), Clarence Valley Council, Richmond Valley Council, , Department of Planning and Environment (DP&E) and the project Environmental Representative (ER),

Monthly ERG meetings/ inspections have occurred on the following dates, during the reporting period:

- 25 - 27 October 2016
- 22- 24 November 2016
- 20 22 December 2016
- 23 25 January 2017
- 21 - 23 February 2017
- 20 - 22 March 2017

Issues raised at these meeting includes, but is not limited to:

- Update of construction activities across the project
- Presentations from project Contractors about upcoming high-risk environmental activities and management of these activities.
- Discussion on environmental management measures including erosion and sediment controls, dust and air quality, biodiversity issues across the project.
- Site inspection of individual locations and Contractors across the W2B project length

Weekly/ Fortnightly Environment Inspections

Pacific Highway Upgrade – Woolgoolga to Ballina (section 3-11)

Six Monthly Construction Compliance Report (October 2016 to March 2017)

Contractors, Soil Conservationists, Pacific Complete, the Environmental Representative and Roads and Maritime all carry out regular environmental inspections throughout the project. Observations requiring action are recorded by the individual contractors that is managed by their environment site representative.

4.5 Incident reporting and response

MCoA D27 (e) requirement:

“mechanisms for recording environmental incidents during construction and actions taken in response to those incidents”

In accordance with the approved Construction Environmental Management Plan, Roads and Maritime’s *Environmental Incident Classification and Reporting Procedure* is being implemented for all environmental incidents for the Project. The full procedure is provided in Appendix A5 of CEMP.

Environmental incidents are generally notified verbally immediately and in writing within 24 hours of any incident occurring to the Roads and Maritime Representative and the Environmental Representative. Incident reports will be provided to Roads and Maritime Representative and the Environmental Representative within 24 hours of the incident occurring, including lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. All efforts will be undertaken immediately to avoid and reduce impacts of incidents and suitable controls put in place. Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident.

In accordance with MCoA A12, Pacific Complete will notify the Secretary and relevant public authorities of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 24 hours of becoming aware of the incident. The Applicant shall provide full written details of the incident to the Secretary within seven days of the date on which the incident occurred.

Where an incident also requires reporting to the EPA and/or OEH, the incident report prepared for the purposes of notifying the EPA and/or OEH would meet this requirement.

The EPA will be notified of any environmental incidents or pollution incidents on or around the site via the EPA Environment Line (telephone 131 555) in accordance with Part 5.7 of the

Protection of the Environment Operations Act 1997 (NSW) (POEO Act). The circumstances where this will take place include:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial.
- If actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.

The Project team comprising Roads and Maritime and its Delivery Partner will maintain all records relating to environmental incidents. Roads and Maritime Environment Branch will also provide assistance with maintaining records relating to environmental incidents.

In accordance with Roads and Maritime’s *Environmental Incident Classification and Reporting Procedure* environmental incidents for the reporting period are summarised below in Figure and Table 4-2 below.

Environmental Incidents by Type Recorded October 2016 - March 2017

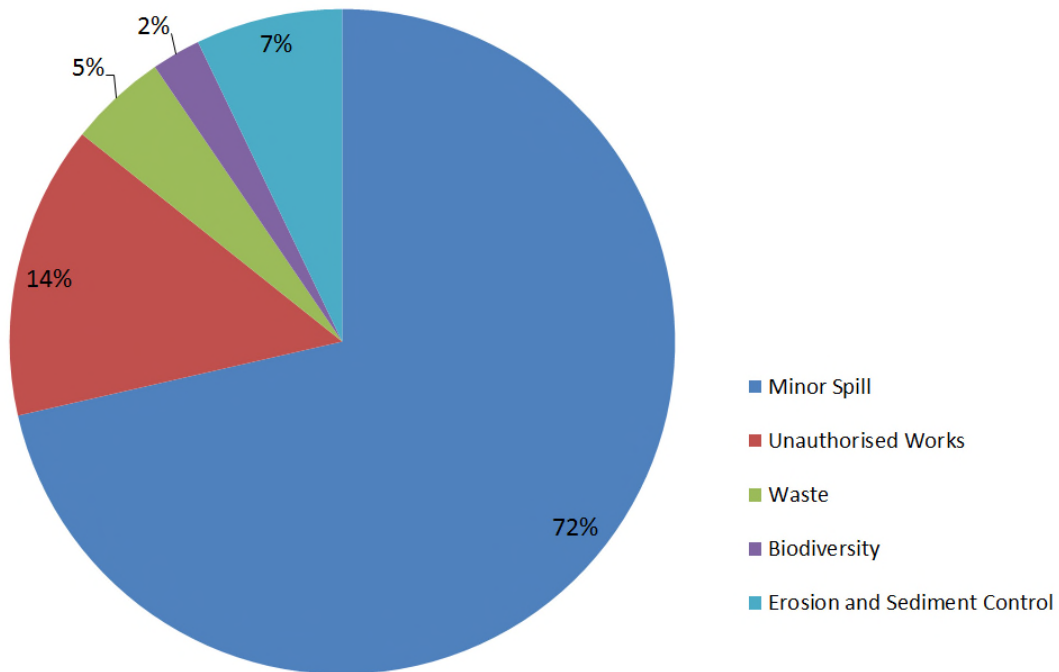


Table 4-2 Environmental incidents that occurred within the reporting period

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|--|--|--------------|
| 7/10/2016 | Category 2 | Minor spill - Minor hydraulic fluid spill of 0.5L to ground when excavator bucket was being changed out. A hose became loose resulting in the spill. | Use spill kit materials when changing over attachments, in case hoses/fittings become loose. Hose was re-secured before works recommenced | Closed |
| 12/10/2016 | Category 2 | Minor spill - hydraulic fluid spill (0.5L) to the ground occurred whilst changing over excavator tilt buckets. | Hose was re-secured before works recommenced. Training session to be held for plant hose checks and maintenance. | Closed |
| 13/10/2016 | Category 1 | Whilst undertaking the installation of ERSED controls, grass was stripped outside of the approved Ancillary site boundary.. | Survey checks revealed that the works had been installed outside of the approved ancillary site boundary. Works ceased within the vicinity, and ecological and cultural assessments undertaken to determine impact.. | Closed |
| 13/10/2016 | Category 1 | Works and material identified outside no-go flagging and project boundary. Existing access track used prior to approval. | Upon review of the inspection findings the boundary breaches were confirmed, works were stopped and investigation launched. - Change Management. Facilitate review of change management with relevant functions when impacts to constructability and design become apparent | Closed |

Pacific Highway Upgrade – Woolgoolga to Ballina (section 3-11)

Six Monthly Construction Compliance Report (October 2016 to March 2017)

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|--|--|--------------|
| | | | <ul style="list-style-type: none"> - Re-emphasise pre-disturbance checklist process when works are to recommence after period of inactivity (re-start check) - Interface with multiple contractors and associated flagging protocol | |
| 15/10/2016 | Category 2 | Minor spill - spill of 0.2L to the ground occurred when a Pozi Track was moving R31 rock. A hose of the pozi track was caught on the rocking and became loose. | The pozi track stopped work and the hose replaced before being put back into service. Spill kit absorbent pads were used to absorb the spill. Pre-start reminder to be mindful of plant maintenance to avoid damage to plant and spills to ground. | Closed |
| 29/10/2016 | Category 2 | Minor spill - 22T excavator burst a hydraulic hose, spilling 5L of hydraulic fluid. The spill was 20m from the nearest sensitive receiver/waterway. | Operator isolated the machine immediately, spill was contained, cleaned up and put into waste bags in the hydrocarbons bin at the Bensons Lane compound to be taken to the Grafton licenced landfill facility. Hydraulink were also called when spill first occurred and were able to attend site one hour later. Spill response posters have now been put up on site and the reporting of spills are being discussed at each pre-start over the week. | Closed |
| 31/10/2016 | Category 2 | Minor spill -. Approximately 5l of hydraulic oil was lost when a hose disconnected. Closest waterway is 50m to the road side drain and >1km from the Tabbi Floodway 1. | Spill kit materials deployed across the impacted area. Impacted soil materials and spill kit materials were bagged up and disposed of to the sites contaminated waste bin for later disposal to a licensed waste facility. Incident communicated to the Team the next day at the Pre-Start. | Closed |
| 1/11/2016 | Category 2 | Minor spill - Approximately 1L of oil was spilled. The closest watercourse was an old farm drain, 33m uphill from the spill. | The spill was localised to very small area immediately beneath the machine and did not spread. The clearing crew used an on-board spill kit to protect the spill from spreading. The fitting and hose were replaced and the spill cleaned up. Contaminated material was placed into a waste bag and taken Licenced Landfill facility The spill was reported as a result of this morning's tool box about onsite spills. This is to continue for the rest of the week. The clearing crew were also commended for reporting the | Closed |

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|--------------------|-------------------|--|--|--------------|
| | | | small spill. | |
| 3/11/2016 | Category 2 | Minor spill - a Quarry trucks diesel cap loosened and fell off resulting in a diesel spill at 2 locations A maximum of 10L of diesel was lost to the road. | Spill kit material instantly applied in consultation with the Contractors Traffic Engineer. | Closed |
| 3/11/2016 | Category 2 | Minor spill - spill from watercart Approximately 15L of oil spilled to sealed surface Oil did not leave site.. | Contractor used spill kit consumables and a sweeper cart to remove residual hydrocarbons. Affected material was disposed of at a licensed waste facility | Closed |
| 8/11/2016 | Category 2 | Minor spill - Contractor observed diesel stained soil around the pump of the service truck. Approx. 100L of oil had spilled to the ground. The spill was 25m from the nearest sensitive receiver/watercourse. | Immediately a spill kit was deployed and environmental crew notified. . The excavated material was taken to the licenced landfill at Grafton Issue was toolboxed to contractors. | Closed |
| 9/11/2016 | Category 2 | A water truck parked up overnight at the Chatsworth Compound was observed to have a leak. Approximately 20L of soil binder estimated to have leaked. | Contractor to pump out affected water and use on fill embankments or dispose of lawfully. Contractor to ensure sub-contractors truck is repaired before coming back to site. | Closed |
| 11/11/2016 | Category 2 | Minor spill - A hydraulic oil spill occurred during soil wick installation. Approx. 1L of oil spilled to the rock fill material. The spill occurred 30m from the nearest cane drain. | The rig was switched off and spill contained. Affected rocks and spill material disposed of appropriately. Following week toolbox included reminder for, soil wick operators to check their plant hoses prior to works. | Closed |
| 15/11/2016 8:00 | Category 2 | Minor spill - Small hydraulic leak observed during daily pre-start inspection on the 980H loader. | . On-board spill kit was used to contain the spill. A hose was repaired; the spill cleaned up and taken to the licenced landfill facility in Grafton. | Closed |
| 16/11/2016 | Category 2 | Minor spill - A small oil leak was observed on excavator PH226 during clearing and mulching works. The operator had a tub nearby and placed under the machine to collect the remaining 3-5L that continued to leak whilst the hose was repaired. Approximately 300mL of hydraulic oil spilled to the ground, and <5L into the tub. | Spill kit was used to clean up and contain the spill and placed in the hydrocarbons bin for disposal at the Grafton Licenced Landfill facility. Team to be reminded about the importance of reporting all spills when they happen, to enable Environmental staff to notify within the required time frame. | Closed |
| 17/11/2016 | Category 2 | Minor spill - A minor leak from a hydraulic hose on a Geotech rig approximately less than 500ml. The spill did not leave site.. | Contractor remediated spill area and disposed of affected material at a licensed waste facility. | Closed |
| 19/11/2016 | Category 2 | Minor spill - Sub-contractor noticed diesel spill stain around | Soil bund installed immediately below spill area containing the | Closed |

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|---|---|--------------|
| | | a service truck whilst undertaking earth works. Approx. 70L of diesel spilled to the ground, 25-30m from the nearest watercourse/sensitive receiver. | site. Absorbent peat spread over the area to absorb fuel and absorbent pads positioned immediately beneath the spill source. Material removed and disposed of at a licenced facility. | |
| 30/11/2016 | Category 2 | Minor spill - Diesel (<10Lts) overtopped the internal bund within a trailer mounted six inch pump, dripping diesel onto the bitumen scattercoat. | Remove pump from site Clean up spill Communicate incident to team Check internal bunding capacity for all existing/new pumps on/to site | Closed |
| 17/01/2017 | Category 2 | Minor spill - A minor spill (5L) of hydraulic fluid to the ground from 8tn digger, due to a burst hydraulic hose. | The digger stopped work and the spill contained and cleaned up immediately. Impacted material collected for disposal at a licensed facility. The digger hose replaced before being used again. | Closed |
| 17/01/2017 | Category 2 | Minor spill - hydraulic fluid (5L) to the ground from a Moxy during the transportation of material to stockpiles due to burst hydraulic hose. | The moxy stopped work and the spill contained and cleaned up immediately. Contained material collected for disposal at a licensed facility. The moxy hose was replaced before being used again. | Closed |
| 18/01/2017 | Category 2 | Minor spill - A diesel leak was observed on the ground beneath a work ute.. Approximately 15L of diesel had leaked. | Spill kit was immediately deployed with bunds, pads and peat being used. The ute was removed from site shortly after. A small digger was brought down to remove the impacted material hardstand and place it into the hydrocarbons bin at the Tyndale compound. It was found the fuel tank had been pierced, possibly by a root or a stick. The fuel tank is being replaced by Contractor. | Closed |
| 19/01/2017 | Category 2 | Minor spill - A Pacific Complete representative discovered a 1L oil bottle which had been run over, leaving a small amount of oil residue (<0.5L) on the ground. The spill occurred in a previously disturbed area away from drains or waterways. | Contractor cleaned up spill using absorbent pads from the spill kit. Contaminated soil was scooped up from the track and placed within a regulated waste bag along with the oil container and spill pads. 1. Toolbox employees on the importance of securing loads 2. Use of bunded hydrocarbon storage container 3. Spill response training with Contractors personnel 4. Contact waste contractor to ensure regulated waste buns onsite for spill clean-up. | Closed |
| 20/01/2017 | Category 2 | Minor spill - A hydraulic line | Site foreman instructed works to | Closed |

Pacific Highway Upgrade – Woolgoolga to Ballina (section 3-11)

Six Monthly Construction Compliance Report (October 2016 to March 2017)

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|--|--|--------------|
| | | failure occurred on a truck trailer when delivering fill for Main Site Compound Platform. Less than 5L of hydraulic oil was spilt and cleaned up immediately with spill absorbent material | stop within area. Contractor cleaned up spill using absorbent pads and kitty litter from spill kit. Potentially impacted soil was collected and disposed of within regulated waste bag along with the used spill kit material. Truck trailer was inspected and hydraulic line was secured. Truck left site to get hydraulic hose repaired. | |
| 20/01/2017 | Category 2 | A mulch stockpile was observed smouldering, with smoke coming from the base of the stockpile. It did not reach flashpoint.. | The incident occurred on a mulch stockpile that was formed approximately 4 months ago. | Closed |
| 24/01/2017 | Category 2 | Minor spill - Whilst undertaking haulage, a truck and dog oil sump was damaged, releasing 5-10L to the ground . The spill occurred 100m from existing drainage feature, but ground slopes away from this drainage feature. | Spill was reported immediately, isolated and affected materials collected for off-site disposal. Check haulage road for more rocks and remove rock that caused the damage. Repair truck and dog damaged oil sump before returning to works. | Closed |
| 24/01/2017 | Category 2 | Minor spill - A machine (PH226) was shearing timber into smaller pieces before being loaded into the mulcher when a hydraulic hose burst. Approximately 5L of oil was released, with 2L spilling to the ground. | The machine was immediately shut down and the on-board spill kit deployed. The spill and machine were cleaned up and the contaminated material was taken to the local licenced landfill facility. The hose was replaced. The incident was raised at the next mornings pre start. Prior to starting work, the two shears were inspected for possible defects that could result in another burst hose. | Closed |
| 24/01/2017 | Category 2 | Minor spill - Up to 140L of hydraulic fluid leaked from a fill delivery truck along the length of the access road, following rupture at the frog hygiene wheel wash. | Frog hygiene wheel wash was decommission (no longer required) .Impacted material was treated with spill kit consumables. Incident and response discussed with work crew at pre-start meeting the following day, and reviewed with management team. | Closed |
| 1/02/2017 | Category 2 | Minor spill - An oil leak from a grader was discovered when parked up on the main site compound rock platform. Less than 1L of hydraulic oil was leaked. | Contractor personnel cleaned up the spill using absorbent pads and kitty litter from the spill kit. Potentially impacted rock fill material was collected and disposed of within contaminated waste bag, along with used spill material. Grader was inspected and leak repaired. | Closed |
| 1/02/2017 | Category 2 | A routine water quality check was conducted on basin TB66490. During approved de- | The pump was off at the time of inspection, as the operator was at morning tea. All further | Closed |

Pacific Highway Upgrade – Woolgoolga to Ballina (section 3-11)

Six Monthly Construction Compliance Report (October 2016 to March 2017)

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|---|---|--------------|
| | | watering, it was found that the EWMS had not been followed correctly, with the potential for non-compliant water to be discharged off-site. The water had been pooling in a sump depression below the spillway. This had just filled and was holding water. The inspection confirmed no sediment loss outside project boundary. | pumping operations from this basin were cancelled. Site inspections were undertaken by Senior Environmental Advisor to determine any downstream sediment loss and conducted reviews of the process that lead to the potential to cause sediment to be lost off site. | |
| 2/02/2017 | Category 2 | <p>Contractor was undertaking works to realign and install culverts and an adjacent cane drain. Area was dewatered to facilitate works. During an inspection on the 2nd Feb 17 (7:00am), 154 deceased fish / crustaceans were identified in the adjacent cane drain.</p> <p>Water quality monitoring was undertaken throughout dewatering works (pre/post/during). All de-watering/de-fishing works were supervised by the Project Aquatic Ecologist. De-fishing of the cane drain was not undertaken, as per advice from the Project Aquatic Ecologist. The ambient and water temperature was high on the day of the dewatering (approx. 30 - 34C). Initial advice from the Aquatic Ecologist suggested that mobilization of monosulphidic black ooze (MBO) and subsequent deoxygenation of the water could be cause for the incident.</p> | <p>All related works were immediately ceased. Water quality monitoring was conducted throughout the Woodburn Town Drain/cane drain.</p> <p>The Project Ecologist and Aquatic Ecologist arrived at site (10am and 2pm on the 2 Feb, respectively) to review the works, provide advice, de-fish the remaining live fish and collect and quantify the number of deceased fish / crustacean. Update the relevant EWMS and conduct an audit of compliance. Undertake an assessment for monosulphidic black ooze across the Project and update Contractor's CEMP/EWMS accordingly to include a change management process into all EWMS. Prepare and deliver the following Toolbox Awareness Packages:</p> <ul style="list-style-type: none"> - MBO Technical Advice - MBO Dewatering Activities and Mitigation. | Closed |
| 3/02/2017 | Category 2 | Minor spill - During haulage a Moxy burst a hose thought to be from wear and tear resulting in a 2L spill. Spill was to Haul Rd fill material located approximately 630m from waterway. | Driver stopped the Moxy. The spill was reported to the supervisor. The affected materials were bagged for off-site disposal. Mechanic called in to change the hose and the Moxy was put back into service. Raise in toolbox the need to always check condition of hoses prior to works to identify any loose or worn hoses. | Closed |
| 4/02/2017 | Category 2 | A mulch stockpile was observed to be smouldering, with smoke coming from the base of the stockpile. It did not reach flash point. | The incident occurred on a mulch stockpile that was formed approximately 4 months ago, located at ancillary site. The stockpile is fully banded and contains large sumps. There is space around the stockpile at | Closed |

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|--|---|--------------|
| | | | <p>the ancillary site, to allow management.</p> <p>A water truck was brought in to douse the area. An excavator opened up the mulch stockpile to allowing cooling through ventilation. The smouldering issue was addressed.</p> <p>Re-stockpiling the mulch at a height of 2m to reduce core temperature builds up and increase natural ventilation. The area is currently being inspected regularly.</p> | |
| 10/02/2017 | Category 2 | Minor spill – spill in a damaged fuel tank on the Moxie, resulting in approx. 200L of diesel spilling to the ground. | <p>Spill boom kit was used to isolate the spill and absorbent pads used to collect excess diesel on the surface of the body of the Moxie. Soil was removed to the full depth of the spill, resulting in 12m3 of affected materials to be disposed of at a licenced facility.</p> <p>Plant Vehicle Movement plan for this section of site is under review to identify how to prevent a re-occurrence.</p> | Closed |
| 11/02/2017 | Category 2 | Minor spill - During bulk earthworks operations, a scraper blew a hydraulic hose releasing approx. 40L of hydraulic oil. The spill was 15m from a clean water drain and 222m to the nearest basin. The spill did not leave site. | Machinery isolated and spill kit deployed. The hose was replaced and contaminated material places in the hydrocarbons bin. All other hoses were checked after the repair and were deemed fit for work. | Closed |
| 16/02/2017 | Category 2 | Minor spill - While undertaking haulage, minor loss of sediment (<1m3) from haul road to waters in Crackers Drain Waterway occurred. No sediment laden waters have left project boundaries. | The controls were reworked with extra keyed in geo fabric fencing/wrap to either side of the crossing to eliminate potential of further sediment loss. Review PESCP for this crossing. | Closed |
| 24/02/2017 | Category 2 | Contractor was utilising a workshop facility prior to formal Ancillary Facility approval from Pacific Complete. | 25/02/2017 - All Contractor stored equipment removed from workshop. Contractor gained approval through the AFMP process post this event. | Closed |
| 27/02/2017 | Category 2 | Minor spill - oily residue was noticed in compound areaLess than 1L of oily residue was on the ground.. | Spill kit pads were used to remove the oily residue. A boom was placed at location where, with more rain, waters could potentially exit site. A review of all car parking areas for staining to ground to be conducted. | Closed |
| 3/03/2017 | Category 1 | Contractor was dewatering stormwater into a water truck | Watercart activities ceased until further notice. Toolbox talk to be | Closed |

Pacific Highway Upgrade – Woolgoolga to Ballina (section 3-11)

Six Monthly Construction Compliance Report (October 2016 to March 2017)

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|--|--|--------------|
| | | from inside the construction zone (inside the project / EPL boundary) and discharging outside the project and EPL boundary as dust suppression on a local gravel road. The contractor had not undertaken water quality testing and did not have an approved method statement for the works. | held to highlight that dust suppression activities cannot be undertaken on unsealed roads outside the EPL boundary, even if being used for access to work areas. | |
| 9/03/2017 | Category 1 | Contractor identified to be undertaking the treatment of ASS/PASS materials prior to receiving approval for treatment area and not in accordance with EWMS. | The contractor ceased activities immediately and developed an action program to remedy the issue. No movement of PASS/ASS material until the Acid sulphate treatment area is functional and appropriate management measures implemented. | Closed |
| 11/03/2017 | Category 1 | Failure to meet condition O5.9 of EPL20713. Three sediment basins were not dewatered back to the design level within the five day limit. Two of the basins had Total Suspended Solid (TSS) readings >50mg/L, which delayed dewatering activities. The remaining compliant basin was not dewatered due to concern that the installation of a pump in the shallow water would stir up too much sediment. | To assist to achieve full compliance in future, Contractor has collected samples to compile an NTU and mg/L data set, which will be used to formulate site-based correlation between the two measurements.. | Closed |
| 15/03/2017 | Category 2 | During a significant rain event (approximately 170ml), the constructed Acid Sulfate Soil Treatment Area (ASTA) clay bund failed and resulted in the sump water emptying onto the haul road. Approximately 180m3 of water was released onto the road. The project ecologist attended site and assessed the adjacent vegetation for any potential impacts. The ecologist determined that no adverse impacts (such as sedimentation or acidic impacts) were observed on the vegetation or the soil. The validation results for the material within the ASTA at the time of the incident indicated that the material was completely neutralised (pHKCl 7.37 - 7.66) and excess neutralising agent was present. | The failure point was immediately reinstated with a rock plastic bund to prevent any further material escaping during the inclement weather. A (temporary) stabilised overtopping point was immediately constructed at the ASTA outlet with a permanent over-topping point constructed as soon as weather permits to appropriately convey water when the sump reaches capacity. | Closed |
| 29/03/2017 | Category 2 | Minor spill - A small oil leak of approx. 2-3L was observed | The spill was immediately cleaned up with a spill kit and | Closed |

| Date of Event | Incident Category | Event Details | Corrective Actions | Event Status |
|---------------|-------------------|--|--|--------------|
| | | beneath a light vehicle in site compound approximately 50m from the nearest clean water drain. | the contaminated hardstand material place into the hydrocarbons bin at the Tyndale compound. Crews to be toolboxed on the spill to raise awareness. Visual inspections to be undertaken prior to start of shift. | |

4.6 Incident reporting to Secretary

MCoA D27 (f) requirement:

“provisions for reporting environmental incidents to the Secretary and relevant public authorities during construction”

The Secretary will be notified of incidents in writing in circumstances where:

- The actual or potential harm to the health or safety of human beings or ecosystems is not trivial.
- The actual or potential loss or property damage (including clean-up costs) associated with an environmental incident exceeds \$10,000.

An initial notification to the Secretary will be made verbally within two working days. The written notification will be made within 10 working days.

Where incidents are considered to be minor, ie do not meet the criteria above, they will be reported to the Secretary in accordance with the compliance tracking program at frequencies prescribed in Section 4.3.

4.7 Addressing non-compliance

MCoA D27 (g) requirement:

“procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management”

Section 8.4 of the CEMP (Sections 3 to 11) describes in detail the system for tracking compliance prior to and during construction.

Where a non-compliance has been identified, a corrective/preventative action (or actions) will be implemented.

Corrective/ preventative actions will be entered into the contractor's quality system database and include details of the issue, action required, timing and responsibilities. The record will be updated with the date of close out and any necessary notes. The contractor's database will be reviewed regularly to ensure actions are closed out as required.

The close out of required actions will be reviewed during forums including Environmental Representative (ER) and Environmental Review Group (ERG) inspections. The ER will be actively involved in the review and resolution of non-compliances.

While there were no non-compliances with the conditions of approval identified in the reporting period, Roads & Maritime did write to the Department of Planning and Environment on 17 January 2017 to inform the Department that we did not meet our obligations in the approved Communications and Engagement Strategy relating to and inadvertent administrative mistake in which the 1800 project number was diverted to a phone number

that was not actively managed during the Christmas shut down period. A copy of the letter is provided in Appendix C1.

4.8 Employee inductions

MCoA D27 (h) requirement:

“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”

Section 5.1 of the CEMP describes in detail how all personnel working on the Project are aware of their environmental obligations.

During construction, the Environmental Manager (or delegate) will conduct the environmental component of the site inductions. The environmental component will include, but not limited to, an overview of:

- Relevant details of the CEMP including purpose and objectives
- Key environmental issues including the Koala Zero Harm program
- Conditions of environmental licences, permits and approvals
- Specific environmental management requirements and responsibilities
- Mitigation measures for the control of environmental issues
- Incident response and reporting requirements
- Information relating to the location of environmental constraints.

Regular toolbox talks are also held where environmental issues are discussed to increase awareness, outline key constraints in relation to the construction site and remind staff of the environmental commitments outlined in the CEMP, EWMS, species management plans and other environmental documentation.

Pacific Complete run environmental inductions for all construction staff and contractors. The Pacific Complete induction covers sections 3 to 11 of the project and includes the above listed environmental components of the project. Contractors also run their own environmental inductions for all staff and sub-contractors. These inductions are focused more specifically on the environmental constraints located within and adjacent to their worksites.

A record of all environment inductions will be maintained and kept on-site.

5 Environmental monitoring

A range of environmental monitoring has occurred during the reporting period including surface water, noise, dust and flora and fauna monitoring in accordance with the project approvals, approved Pacific Complete CEMP and other project documentation. Monitoring results are provided in Appendix B. Further details on monitoring are outlined below.

5.1 Water Quality

The Project has engaged a contractor to undertake project wide water quality monitoring in accordance with the approved W2B Water Quality Monitoring Plan, this includes both surface and groundwater monitoring. In accordance with the approved plan, the results of the Project Water Quality Monitoring Program (Sec 3-11) will be provided in the Annual Monitoring Report.

Sediment basin monitoring

There are a number of licenced sediment basins associated with the Environmental Protection Licence (EPL) for the project. Details of these basin discharges are captured in the monthly EPL reports.

5.2 Noise Monitoring

Noise monitoring was carried out throughout the reporting period. No exceedances of the noise management levels for the area were recorded. The dominant noise sources at the monitoring locations were local and highway traffic. In total, 39 monitoring events were conducted throughout the reporting period.

Out of hours works noise monitoring was conducted during December at Maclean Interchange. There were no exceedances recorded.

Noise monitoring was carried out in response to community complaints in November and February at Tyndale. Highway traffic was attributed as the dominant noise sources during noise monitoring at this location. Traffic noise from the highway was identified as the dominant noise source. Results for this monitoring were above modelled RBL but did not exceed measured background measurements.

Refer to Appendix B1 for the noise monitoring results.

5.2.1 Blasting

During the reporting period one trial blast and twenty-one blasts were carried out across the project.

No exceedances of the EPL overpressure limits occurred during blasting activities within the reporting period across the project.

One test blast occurred on 16 December 2016 at Cut 30 in Tyndale (500m³). The test blast was used to provide early indication on how the rock would fracture and potential impacts. After test blasts were conducted and controls were proved effective the blasting program went into 20,000m³ production blasts.

Refer to Appendix B2 for the results of blast monitoring.

5.3 Air quality

Dust monitoring was undertaken on a monthly basis at a number of locations along the alignment during the reporting period in accordance with the approved Pacific Complete Construction Air Quality Management Plan (CAQMP), Appendix B6 of the CEMP.

As construction works progressed throughout the reporting period, more dust monitoring locations were established. Thirty-five (35) exceedances above the air quality monitoring criteria set by the EPA

for maximum total deposited dust level (4 g/m²/month) were recorded during the reporting period. Exceedances recorded have mostly been attributed to blasting and rock crushing and topsoil stockpiling and stripping activities.

Management measures implemented to minimise dust emissions from construction activities include:

- Regular use of water carts to dampen exposed areas of land
- Signage onsite to remind drivers of speed limits to minimise dust generation
- Rumble grids and rock shakedown at site exist gates to minimise the tracking of dirt and mud onto public roads
- Daily observations and weekly inspections by construction staff to identify locations at risk of dust emissions and to determine whether dust control measures are performing effectively
- Stabilisation of exposed area using geofabric and seeding.

Full air quality monitoring results are detailed in Appendix B3.

5.4 Flora and Fauna

Biodiversity monitoring for threatened species, populations and communities identified within the approved Threatened Species Management Plans during the construction and operation phases of the project is ongoing. Annual monitoring reports for each Plan will continue to be submitted to EPA, DP&E and DoEE in accordance with reporting schedule.

5.4.1 Additional fauna monitoring

The following fauna monitoring occurred during this reporting period:

- **Serpentine Channel Flying-Fox Monitoring**

Of the 12 flying-fox inspections undertaken, only two inspections observed Black Flying-foxes as present at Serpentine Channel:

- 24 November 2016: 15
- 9 December 2016: >70

This may be attributable to localised disturbance from clearing operations at the Serpentine Channel soft soil treatment area, however repeated periods of absence from the roost has been observed during previous monitoring events.

As Grey-headed Flying-foxes have only been recorded briefly roosting at the site in small numbers (two individuals during one monitoring event) in the previous reporting period, preparation of a site specific Grey-headed Flying-fox Management Plan is not considered warranted at this stage.

Ongoing monitoring will continue and the management measures listed under FF21 of the Construction Flora and Fauna Management Plan still apply.

- **Koala Monitoring**

Monitoring in accordance with the Approved Koala Management Plans has occurred in known Koala hot spots across the project and includes:

- Pre-dawn surveys
- Fulltime supervision by an Ecologist during clearing activities, including constant visual monitoring of trees within the days clearing footprint.
- Koala detection dog surveys

Additionally a certified Koala Detection Dog has been used to assist pre-clearing fauna surveys at Gate 6.7 and 6.9 to target Koalas in Section 5.

- **Green Thighed Frog Monitoring**

In Section 5 and 6 the Project Ecologist undertook Green Thighed Frog monitoring throughout the reporting period in accordance with the Threatened Frog Management Plan. Annual monitoring

reports for each Plan will continue to be submitted to EPA, DP&E and DoEE in accordance with reporting schedule.

- **Wallum Sedge Frog Monitoring**

Wallum Sedge Frog monitoring/surveys were undertaken between Chainage 2250 2450 for one week prior to commencement of clearing following installation of temporary frog fencing in accordance with the *Threatened Frog Management Plan*. Ongoing monitoring in accordance with the Species Management Plan has continued for the reporting period. Annual monitoring reports for each Plan will continue to be submitted to EPA, DP&E and DoEE in accordance with reporting schedule.

- **Osprey Monitoring**

At the Bridge over the Clarence River at Harwood, the project Ecologist and EPA Biodiversity have been consulted on potential Osprey deterrents on the top of piling rigs and cranes. The project Ecologist inspected the equipment when it was mobilised to site and prior to it being erected. The use of cover plates over mobile components at the highest part of the boom have been utilised to reduce the likelihood of Osprey's coming into contact with mobile components. A physical deterrent device will be installed on the end of the boom, such as flags if safety/manufacturers requirements allow.

Prior to the installation of a physical deterrent, the operator is to visually inspect the top of the rig for perching and nesting Ospreys prior to commencement of works and after any breaks. The site team has been tool boxed to report any sightings of Ospreys in the area.

The crane is to cease works and contractor is to contact the Ecologist if an Osprey perches and/or attempts to build a nest on the piling rig during the breeding season, being March through to November.

The project Ecologist has commenced undertaking weekly monitoring during the early stages of the breeding season. The contractor is adopting an adaptive management approach and will continue to consult with the Project Ecologist and EPA Biodiversity with regards to any further measures to be put in place to deter Osprey perching or nesting.

There has been no attempt of Ospreys to perch or nest on the existing piling equipment during the reporting period.

- **Dolphin Monitoring**

At the Bridge over the Clarence River at Harwood, no piling activities have occurred on the Clarence River during the reporting period. However, the contractor has sourced advice from a Marine Ecologist on observation and shutdown zones to reduce the risk of physiological impact on the resident (and non-resident) bottle-nose dolphin (*Tursiops aduncus*) population of the Clarence River, from underwater noise associated with piling.

The agreed mitigation measures are outlined within the Marine Piling EWMS which broadly incorporates the measures below:

- Pre-start Procedure – A trained crew member will be watching the shutdown / Observation zone for dolphins (the size of the zones vary for different piling energies)
- Soft start - This will involve a gradual increase in piling energy over 10 min period
- Normal operation – There will be one spotter continually monitoring the shutdown zone, however will also keep an eye on the observation zone to pick up any dolphins moving toward the shutdown zone.
- Standby operations procedure – If a dolphin is within the observation zone during a soft start or normal piling then the operation of the piling rig should be placed on stand-by to shut down the piling rig. An additional trained crew member should continuously monitor the marine mammal in sight.

The above mitigation measures have been developed based on the Government of South Australia's Department of Planning, Transport and Infrastructure Underwater Piling Noise Guidelines (2012).

- **Oxleyan Pygmy Perch Monitoring**

An existing pond/dam located approximately at CH139,600 was surveyed for OPP by the project aquatic Ecologist prior to commencement of clearing and grubbing. No fish were recorded despite twice the standard effort for fish surveys being applied.

- **Potoroo Monitoring**

Potoroo monitoring was undertaken each night ahead of clearing between CH 139,800 to CH140,300, in accordance with the Threatened Mammal Management Plan. Ongoing monitoring in accordance with the Species Management Plan has continued for the reporting period. Annual monitoring reports for each Plan will continue to be submitted to EPA, DP&E and DoEE in accordance with reporting schedule.

- **Native Stingless Bee Monitoring**

Native stingless bees detection requirements in the pre-clearing surveys have continued, with bee hives rescued and relocated during clearing works.

Unexpected Fauna Finds

With exception of additional koala records outlined in Section 3.3 above, there have been no unexpected fauna finds during the reporting period.

5.4.2 Flora Monitoring

Flora monitoring is conducted as part of the weekly monitoring undertaken by the Environmental Site Representative. This is a visual inspection of adjacent flora to ensure no impacts outside the approved clearing limits are occurring. Works are managed within through signage and flagging and delineation to reduce to the potential for impacts on flora outside the approved clearing limits

The following flora monitoring occurred during this reporting period:

- **Slender Screw Fern Dust Monitoring**

Slender Screw Fern Monitoring was undertaken each month near the Mororo cutting works area to monitor potential dust impacts from project works.

There was a minor decrease of approximately 50 Slender Screw Fern fronds observed during the October 2016 survey, when compared to the September 2016 survey. The cover has decreased slightly from September 2016 to October 2016, and the monitoring has shown that the frond numbers are highly variable. The latest minor decrease in cover is potentially due to drier and windier conditions experienced since the previous survey.

The control site no longer contains Slender Screw Fern plants due to the translocation taking place during the weeks prior to the October 2016 survey. No evidence of dust impacts to SSF is evident at the site or the control site.

Following the October 2016 survey, there will be no further monitoring of the Slender Screw Fern as the plants are to be translocated to the nominated site in November 2016.

- **Hairy Joint Grass**

At Wave 4, an adjacent plot of translocated Hairy Joint Grass is monitored by an Ecologist in accordance with the Threatened Flora Translocation Strategy. Works are managed within through signage and flagging and delineation to reduce to the potential for impacts on flora outside the approved clearing limits.

- **Tall Knotweed Monitoring**

Tall Knotweed (*Persicaria elatior*) was monitored during the reporting period and temporary no-go fencing was installed around plants identified near the Maclean Interchange, within the works footprint. Translocation of the species has been completed during the reporting period.

- **Sandstone Rough Barked Apple**

Sandstone Rough Barked Apple (*Angophora robur*) was monitored in Section 4 as they occur adjacent to the clearing limits at Tyndale South (CH 67500 to 69000) as previously recorded.

Numbers of plants directly impacted have been recorded during clearing and documented in the post clearing report/s.

- ***Maundia triglochinoides* Monitoring**

An adjacent monitoring plot of *Maundia triglochinoides* is located at Tabbimoble Floodway No. 1 was monitored by an ecologist in accordance with the Threatened Flora Translocation Strategy. Monitoring works of this threatened flora plot is managed by Pacific Complete but the plot is located in the Wave 5C works area. Works are managed within through signage and flagging and delineation to reduce to the potential for impacts on flora outside the approved clearing limits. Works are managed within through signage and flagging and delineation to reduce to the potential for impacts on flora outside the approved clearing limits. No impacts to threatened flora were recorded in the reporting period.

Unexpected Flora Finds

An unexpected threatened flora species find was made as part of this initial pre-clearance ecological survey, at CH 94680. Three *Macadamia tetraphylla* (a vulnerable species) plants occur on the eastern edge of the works footprint at this chainage. These specimens range in size from 40cm to 5m.

The ecologists identified that in NSW, this species primarily occurs north of the Richmond River, though it is widely propagated across north-east NSW. The site is located approximately 30 km south of *Macadamia tetraphylla*'s natural southern distribution and is not within habitat or on soils typical of the species natural occurrence. The subject plants are considered likely to have originated from cultivated plants established around the adjacent dwellings. These plants are unlikely to form part of any natural *Macadamia tetraphylla* population. The work and clearing limits in this area have been flagged as a "no-go" zone and the project will not impact or disturb these trees.

A single Green-leaved Rose Walnut (*Endiandra muelleri*) plant occurs west of the project at Maclean Interchange. Following survey pegging of the re-designed project footprint, the subject Green-leaved Rose Walnut was found to be within the Wave 3 clearing limits. No-go fencing was subsequently installed and works delayed. The Wave 3 Early Works have subsequently been modified to avoid impacting the subject tree.

Weed Monitoring

Project wide weed monitoring is undertaken on a six monthly basis. Areas are surveyed and given a priority rating of high, medium or low. Areas described as high or medium priority are required to have weed control measures implemented based on the weed species and level of infestation.

Six monthly weed monitoring was completed in March 2017 with the Weed Monitoring Report pending.

6 Community engagement and complaints management

6.1 Community consultation activities

Community consultation activities carried out during the reporting period are detailed in Table 6.1 and Figure 6.1 below:

Figure 6-1 breakdown of community activities during reporting period.

Number of community consultation events in reporting period

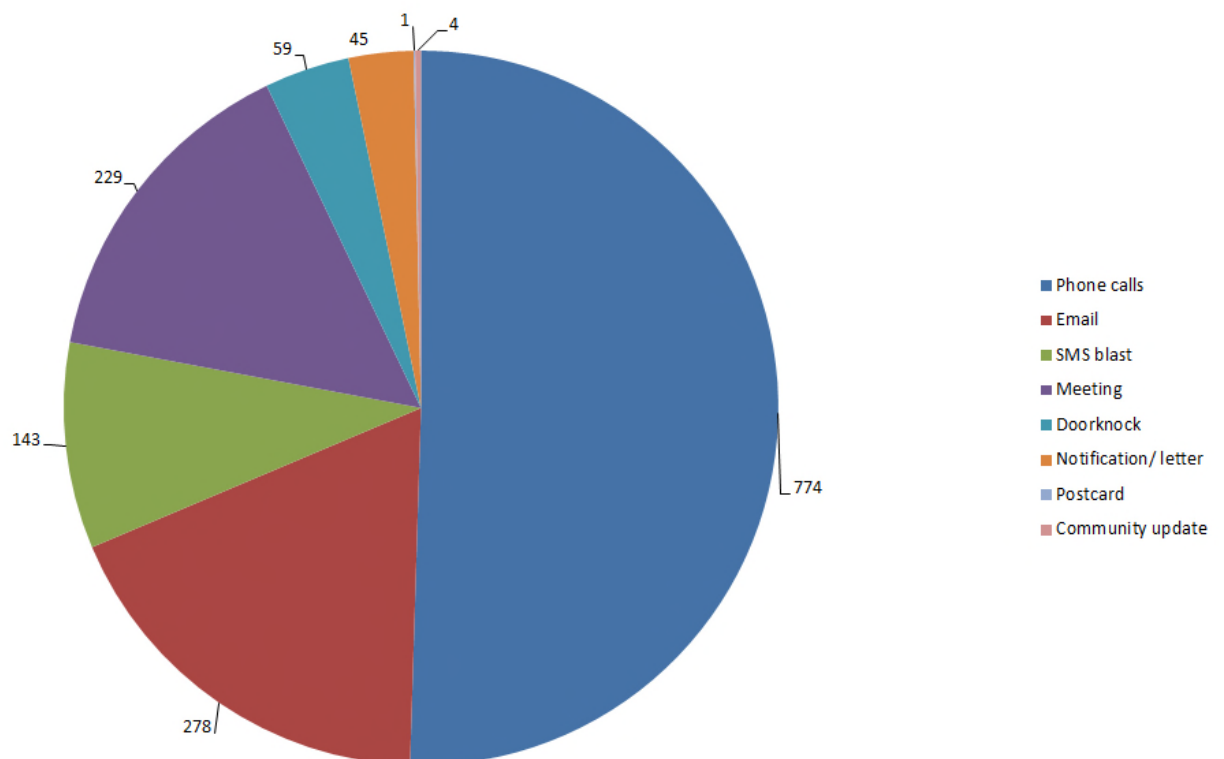


Table 6.1 Community consultation activities

| Activity | Number of Events | Stakeholders Reached |
|----------------------|------------------|----------------------|
| Phone calls | 774 | 761 |
| Email | 278 | 26300 |
| SMS blast | 143 | 8561 |
| Meeting | 229 | 266 |
| Doorknock | 59 | 80 |
| Notification/ letter | 45 | 685 |
| Postcard | 1 | 6500 |
| Community update | 4 | 26,800 |

Community consultation sessions carried out during the reporting period are summarised below:

Table 6.2 Community consultation sessions

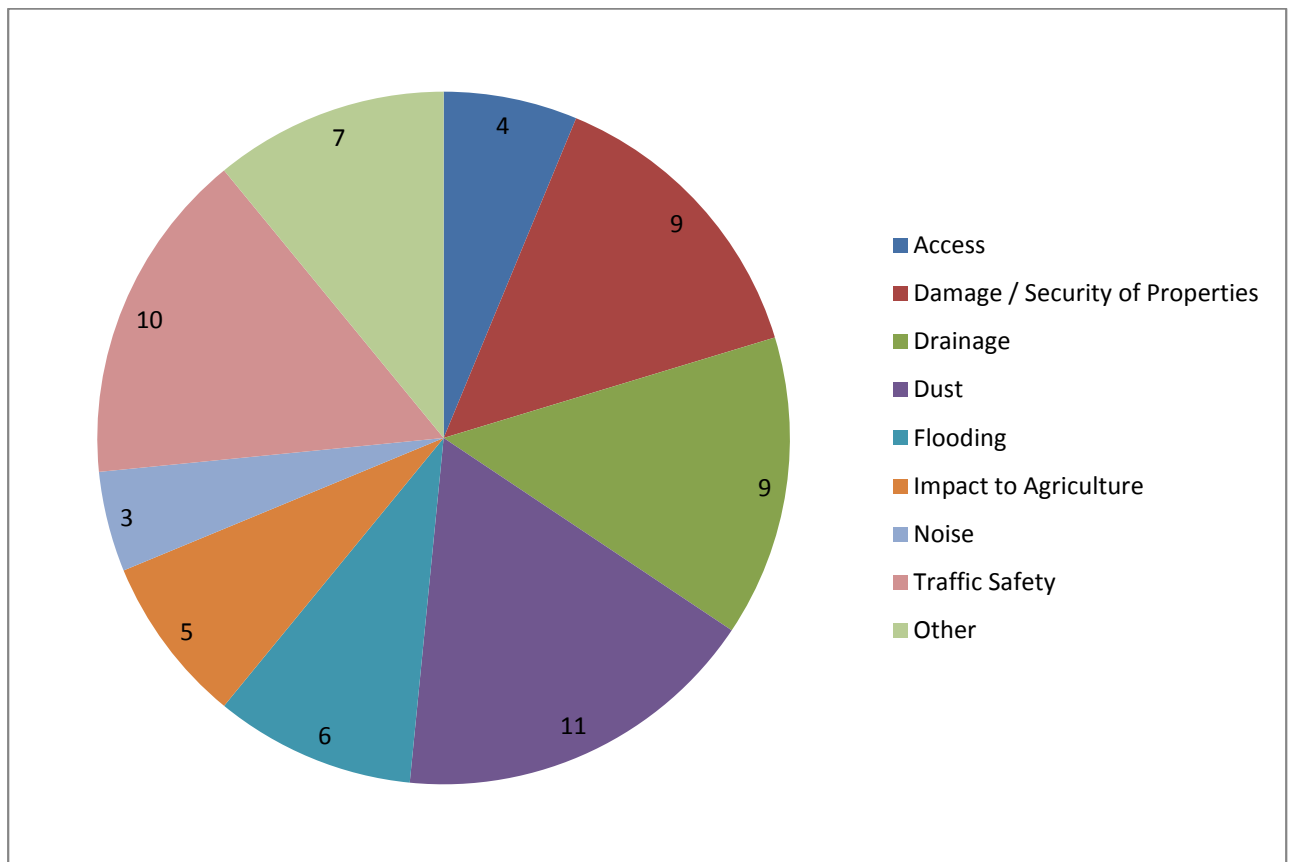
| Date | Type | Location |
|------------------|-----------------|---|
| 30 November 2016 | Staffed display | Yamba Farmers Market, Whiting Beach car park, Yamba |
| 1 December 2016 | Staffed display | Harwood General Store, Morpeth Street, Harwood |
| 4 December 2016 | Staffed display | Iluka Market, Iluka Sports Oval, Iluka |
| 10 December 2016 | Staffed display | Maclean Community Market, Main Car Park, Maclean |
| 11 December 2016 | Staffed display | Ashby Markets, Lismore Street, Ashby |

6.2 Community complaints

During the reporting period there were a total of 220 complaints received, of which 64 are related to environmental aspects or issues. All complaints received by Roads and Maritime, Pacific Complete and contractors are entered into the project consultation management system and assigned to the appropriate person to follow up and close out the complaint. Complaints are handled in accordance with the approved Community Communication Strategy. Complaints received during the reporting period include issues such as:

- Construction noise and vibration
- Operational noise mitigation and treatments
- Flooding
- Consultation process
- Dust
- Damage to property
- Property adjustment.

Figure 6-2 Summary of environmental community complaints during reporting period.



Refer to Appendix C for a list of complaints received during the reporting period, their status and RMS/Pacific Complete/Contractor responses and actions.

Appendix A Compliance Tables

COMPLIANCE TRACKING - NSW CONDITIONS OF APPROVAL

Woolgoolga to Ballina SSI-4963

PART A - Administrative Conditions



Transport
Roads & Maritime
Services

| Category | Part | Requirement | Stage 2 (Section 3-11) | Timing | Responsibility | Status | Comment |
|---|------|--|---------------------------|--|--------------------|--------|--|
| OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT | | | | | | | |
| | A1 | In addition to meeting the specific performance criteria established under this approval, the Applicant 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. | All | Pre-construction and Construction | RMS and Contractor | Open | This is addressed within the approved Pacific Complete Construction Environmental Management Plan (CEMP) and associated sub plans, design drawing specification etc. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| TERMS OF APPROVAL | | | | | | | |
| | A2 | The Applicant shall carry out the SSI generally in accordance with the: (a) State significant infrastructure application SSI-4963; (b) Pacific Highway Upgrade Woolgoolga to Ballina Environmental Impact Statement Volumes 1A, 1B, 2, 3, 4A, 4B, 5, 6A, 6B, 6C, 7A, 7B and 8, prepared by Roads and Maritime Services, dated December 2012; (c) Pacific Highway Upgrade Woolgoolga to Ballina Submissions/Preferred Infrastructure Report Main Volume and Appendices, prepared by Roads and Maritime Services, dated November 2013; (d) Ancillary facility sites listed in Woolgoolga to Ballina Pacific Highway Upgrade - Ancillary descriptions and impact assessment, prepared by Roads and Maritime Services, dated 13 December 2013; (e) Connectivity structures listed in Woolgoolga to Ballina Alliance Update 20 Feb 2014 Structures Inventory (except Sections 1 and 2) and Woolgoolga to Glenugie Fauna Connectivity Tracking Register 11/02/2014, prepared by Roads and Maritime Services, and email correspondence from Roads and Maritime Services dated 14 March 2013; (f) Pacific Highway Upgrade Woolgoolga to Ballina: Utilities impact native vegetation (D00395_0102_Uilities Clearing Vegetation_v9), prepared by Roads and Maritime Services, dated 21 May 2014 (g) Modification request and letter dated 17 November 2014 to modify the definition of construction under subclause f in relation to section 4 utility adjustments and replacement of all references to OEH with EPA; and (h), Modification request and letter dated 24 September 2015 to modify the approval to capture additional works outside the project boundary that may impact on heritage items to require archaeological investigations; and (i) conditions of this approval. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | Noted |
| | 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. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | Noted. |
| | A4 | The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department of Planning and Environment's assessment of: (a) any strategies, plans, programs, reviews, audits. reports or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these documents. | All | Pre-construction and Construction | RMS and Contractor | Open | Noted. |
| LIMITS OF APPROVAL | | | | | | | |
| | 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. | All | Pre-construction | RMS | Closed | The project was approved by NSW Department of Planning and Environment in June 2014 and by the Federal Minister for the Environment in August 2014. The project commenced in 2015 with construction officially commencing in April 2016. |
| STATUTORY REQUIREMENTS | | | | | | | |
| | A6 | The Applicant 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 Applicant to obtain, renew or comply with such licences, permits or approvals. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | Pacific Complete has obtained an Environment Protection Licence (EPL) for S3-S11 (No. 20713, 29 January 2016). This EPL is in addition to those obtained by contractors (Wave 1 (EPL No. 20674), Wave 2 Soft Soil Works (EPL No. 20715) and Water Extraction Lewis Lane, Mororo (DPI Licence 30BL207354) directly procured by RMS. Other licences, permits and approvals will be obtained as required by law during the course of the project. |
| STAGING | | | | | | | |
| | A7 | The Applicant may elect to construct and/or operate the SSI in stages. Where staging is proposed, the Applicant 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. Where staging of the SSI is proposed, these conditions of approval are only required to be complied with at the relevant time and to the extent that they are relevant to the specific stage(s). | All | Pre-construction | RMS | Open | The Stage 2 Staging Report (dated July 2016, Revision 5) was acknowledged by the Department of Planning and Environment on 2 August 2016. The department requested an updated Staging Report (and Compliance Report) which was submitted to the Secretary on 29/11/2016, (Version 6). |
| SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM | | | | | | | |

| Category | Part | Requirement | Stage 2 (Section 3-11) | Timing | Responsibility | Status | Comment |
|--------------------|------|---|---------------------------|--|--------------------|--------|---|
| | A8 | The Applicant shall ensure that any strategy, plan, program or other document required by the conditions of this approval and relevant to each stage (as identified in the Staging Report) is submitted to the Secretary no later than one month prior to the commencement of the relevant stage(s), unless otherwise agreed by the Secretary. Notes: • While any strategy, plan or program may be submitted on a progressive basis, the Applicant 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. | All | Pre-construction | RMS | Open | Noted. |
| COMPLIANCE | | | | | | | |
| | A9 | The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | This requirement is addressed in the Pacific Complete CEMP (Main Document - Section 5 Competence, Training and Awareness). Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| | A10 | The Applicant 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. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | Noted. |
| | A11 | In the event of a dispute between the Applicant 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. | All | Pre-construction, Construction and Operation | RMS | Open | Noted. |
| INCIDENT REPORTING | | | | | | | |
| | A12 | The Applicant shall notify the Secretary and relevant public authorities of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 24 hours of becoming aware of the incident. The Applicant shall provide full written details of the incident to the Secretary within seven days of the date on which the incident occurred. Note: • Where an incident also requires reporting to the EPA and/or OEH, the incident report prepared for the purposes of notifying the EPA and/or OEH would meet this requirement. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | This is addressed in the approved Pacific Complete CEMP (main document - Section 7.1 Incident Reporting) and RMS Environmental Incident Classification and Reporting Procedure as well as in Pacific Complete Compliance Tracking Program – Six Monthly Construction Compliance Report (April 2016 – September 2016) (Section 4.6 Incident Reporting to Secretary). |
| | A13 | The Applicant 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 A12, within such period as the Secretary may require. | All | Pre-construction, Construction and Operation | RMS and Contractor | Open | Noted. |

COMPLIANCE TRACKING - NSW CONDITIONS OF APPROVAL

Woolgoolga to Ballina SSI-4963

PART B - Environmental Performance



Transport
Roads & Maritime
Services

| Category | Part | Requirement | Status | Comment |
|---------------------|------|---|--------|---|
| BIODIVERSITY | | | | |
| | B1 | The clearing of native vegetation shall be minimised with the objective of reducing impacts to any threatened species or EECs where feasible and reasonable, consistent with the following: (a) clearing of native vegetation shall be limited to a total area of 931.7 hectares, within the SSI boundary defined in the document referred to in condition A2(c), subject to condition B1(b); (b) clearing of native vegetation for ancillary facilities specified in the document referred to in condition A2(d) and outside the SSI boundary defined in the document referred to in condition A2(c) shall be limited to 4.75 hectares; (c) clearing of threatened ecological communities shall be limited to the areas specified in Table 6-1 (under the column titled: Revised—direct impact (hectares)) of Appendix J of the document referred to in condition A2(c), subject to condition B1(d); (d) clearing of the Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions shall be limited to a total area of 0.5 hectares; and (e) clearing of Koala (Phascolarctos cinereus) primary and secondary habitat shall be limited to a total area of 375 hectares. | Open | RMS, Pacific Complete and the Contractors will ensure compliance with the approved clearing limits under the Planning Approval. Clearing of native vegetation has been minimised during detailed design with the objective being to reduce impacts to threatened species or EECs where feasible and reasonable. Clearing limits are clearly shown on relevant construction drawings and closely monitored and reported throughout the project. |
| | B2 | Where feasible and reasonable, remnant vegetation shall be retained between the SSI boundary and the SSI footprint. | Open | Vegetation clearance limits will be defined during the detailed design. Overall vegetation clearance (design plus actual construction clearance) will be monitored on a regular basis during the W2B project, captured and tracked on the Clearing Register. |
| | B3 | Native vegetation shall be established in or adjacent to disturbed areas within the SSI boundary to provide habitat for wildlife following the completion of construction in the vicinity of the disturbed area, consistent with the Urban Design and Landscape Plan required under condition D20. | Open | Urban Design and Landscape Plan(s) have been submitted to the Department for approval, with exception of UDLP for Richmond River Bridge. It is anticipated this UDLP will be submitted in next reporting period. An extension to the submission of the Urban Design and Landscape Plan for the Richmond River Bridge was approved on 6/7/17. |
| | B4 | Light spill from the SSI shall be avoided on Pink Underwing Moth and Atlas Rainforest Ground Beetle habitat, where feasible and reasonable. | Open | This has been captured as part of detailed design for the project. |
| PRE CLEARING | | | | |
| | B5 | Prior to construction, pre clearing surveys and inspections for endangered 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. All clearing of Koala habitat trees shall be undertaken in the presence of a Koala spotter. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B2 - Construction Flora and Fauna Management Plan, Section 5.4 Pre-Clearing Surveys, Section 5.4.3 Fauna Capture and Handling and Appendix N Fauna Handling and Rescue Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Qualified Ecologists are engaged to carry out pre-clearing surveys and to be present during clearing activities as required under the Construction Flora and Fauna Management Plan (approved 20 October 2015). Clearing of Koala habitat trees will be undertaken in the presence of a Koala spotter as detailed in the Koala Management Plan (approved 4 August 2016), Chapter 4.3 Mitigation & Monitoring details that pre-clearing surveys require an Ecologist / Koala spotter to be engaged prior to pre-clearing activities. Pacific Complete will apply RMS/PC specs to ensure compliance with this CoA.</p> |
| | B6 | Incidental or unanticipated threatened flora and fauna finds shall be immediately reported and clearing work stopped in the vicinity of the find to allow for an evaluation of an appropriate response in accordance with the Construction Flora and Fauna Management Plan. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B2 - Construction Flora and Fauna Management Plan, Section 5.4 Pre-Clearing Surveys, Section 5.4.3 Fauna Capture and Handling and Appendix N Fauna Handling and Rescue Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Qualified ecologists are engaged to carry out pre-clearing surveys and are to be present during clearing activities as required under the Construction Flora and Fauna Management Plan.</p> <p>Refer to Section 3.4 of the Six Monthly Construction Compliance Report (October 2016 - March 2017)) for unexpected finds of threatened flora and fauna during the reporting period.</p> |

| Category | Part | Requirement | Status | Comment |
|------------------------------------|------|---|--------|--|
| OXLEYAN PYGMY PERCH HABITAT | | | | |
| | B7 | High risk construction activities in known Oxleyan Pygmy Perch habitat shall not be undertaken during the Oxleyan Pygmy Perch spawning period, or on days when the relevant Bureau of Meteorology site predicts a 90% chance of 10mm of rain or more, unless otherwise agreed by DPI (Fisheries). | Open | <p>This requirement is addressed in Pacific Complete CEMP (Appendix B2 - Construction Flora and Fauna Management Plan, Appendix J Threatened Fish Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>Wave 5c works are located within OPP habitat. The OPP spawning period as outlined in MCoA is October to April. Therefore the spawning period did occur during this reporting period (April to September 2016). High risk activities were carried out in this area prior to the end of September 2016.</p> <p>Wave 1 works are located within the OPP habitat and Wave 1 works within the OPP management area (October 2016 to March 2017) included construction of two gates - not classified as a high risk activity in accordance with the W2B Threatened fish management plan. Works were not undertaken on days where the relevant BoM site predicted >90% chance of 10mm.</p> <p>Geotechnical investigations undertaken from October 2016 to March 2017 were performed in accordance with: EWMS for Working within 50m of a waterway (EWMS0003); Temporary WaterWay Crossings (EWMS0004); and Working over Water (EWMS0007), including the implementation of suitable mitigation measures and controls (including exclusion zones) for OPP.</p> |
| | B8 | Temporary bridge or arch structures in known Oxleyan Pygmy Perch habitat shall be used if the crossing is intended to be in place for more than 3 months. | Open | <p>This requirement is addressed in Pacific Complete CEMP (Appendix B2 - Construction Flora and Fauna Management Plan, Appendix J Threatened Fish Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). This is being also considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> |
| | B9 | <p>Where temporary crossings in known Oxleyan Pygmy Perch habitat are proposed with culverts or pipes, the Applicant shall, in consultation with DPI (Fisheries):</p> <p>(a) determine the size of the culverts or pipes to facilitate fish passage; and</p> <p>(b) identify the minimum size of clean rock to be used to ensure that rock material will not wash into the waterway in periods of high flows.</p> <p>Temporary culvert or pipe crossings shall be removed prior to the start of the Oxleyan Pygmy Perch spawning period.</p> | Open | <p>This requirement is addressed in Pacific Complete CEMP (Appendix B2 - Construction Flora and Fauna Management Plan, Appendix J Threatened Fish Management Plan and Appendix N Fauna Handling and Rescue Procedure. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). This is being also considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>Temporary bridge structure has been established at BC52 for the Wave 5C works.</p> |
| CONNECTIVITY | | | | |
| | B10 | <p>Subject to conditions B11 and B12, the Applicant shall revise the Connectivity Strategy identified in the documents listed in condition A2(e), based on the outcomes of the Mitigation Framework required by condition D1.</p> <p>Note:</p> <ul style="list-style-type: none"> The requirements for the Connectivity Strategy are contained in condition D2. | Closed | This has been undertaken during detailed design and incorporated into the development of the project Connectivity Strategy for Sections 3 to 11. |
| | B11 | As part of detailed design, the Applicant shall further investigate design refinements for fauna crossings and associated exclusionary measures, between station 41.500 and station 80.000 to improve connectivity for the Coastal Emu, and in the proximity of station 96.000 and between station 137.800 and station 159.700 to improve connectivity for the Koala. Any changes to fauna crossings and exclusionary measures shall be included in the Connectivity Strategy required under condition D2. | Closed | This has been undertaken during detailed design and incorporated into the development of the project Connectivity Strategy for Sections 3 to 11. |
| | B12 | Investigations into the location and design of connectivity structures, including but not limited to those identified in the documents listed under conditions A2(c) and A2(e), shall be undertaken during detailed design with the input of a suitably qualified and experienced ecologist. The investigations shall be undertaken in consultation with the QEH EPA, DPI (Fisheries) and DoE and include workshops and on-site ground verification. The results of these investigations shall be detailed in the Connectivity Strategy required under condition D2. | Closed | This has been undertaken during detailed design and incorporated into the development of the project Connectivity Strategy for Sections 3 to 11. |

| Category | Part | Requirement | Status | Comment |
|--------------------|------|--|--------|---|
| | B13 | The Applicant shall minimise riparian vegetation clearing during construction and undertake a targeted rehabilitation program post construction to restore in-stream and riparian habitat to at least the pre-construction condition or better, unless otherwise agreed by DPI (Fisheries). All areas disturbed by the SSI that are in the vicinity of known Oxleyan Pygmy Perch habitat waterways shall be stabilised prior to the Oxleyan Pygmy Perch spawning period. | Open | <p>This requirement is addressed in Pacific Complete CEMP (Appendix B2 - Construction Flora and Fauna Management Plan, Appendix J Threatened Fish Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>At the Wave 5c works riparian vegetation clearing has been minimised wherever possible. Altered construction methodology and changes to foundation resulted in the project being able to avoid a temporary crossing at Tabbimoble Floodway No.1. All disturbed areas in the vicinity of OPP have been stabilised to the satisfaction of DPI Fisheries prior to the OPP spawning period</p> |
| CONSTRUCTION NOISE | | | | |
| | B14 | <p>The SSI shall be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (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.</p> <p>Note:</p> <ul style="list-style-type: none">• The Interim Construction Noise Guideline identifies 'particularly annoying' activities that require the addition of 5dB(A) to the predicted level before comparing to the construction Noise Management Level. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> |
| | B15 | <p>Construction activities associated with the SSI shall be undertaken during the following standard construction hours:</p> <p>(a) 7:00am to 6:00pm Monday to Friday, inclusive; and</p> <p>(b) 8:00am to 5:00pm Saturday; and</p> <p>(c) at no time on Sunday or public holidays.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures and Appendix C Out of Hours Work Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| | B16 | <p>Construction works outside the standard construction hours may be undertaken in the following circumstances:</p> <p>(a) construction works that generate noise that is:</p> <p>(i) no more than 5 dB(A) above rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009); and</p> <p>(ii) no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (DECC 2009) at other sensitive receivers; or</p> <p>(b) for the delivery of materials required outside the standard construction hours by the NSW Police Force or other authorities for safety reasons; or</p> <p>(c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or</p> <p>(d) between 6.00am and 7.00am and 6.00pm and 7.00pm Monday to Friday (except public holidays) in sparsely populated areas (these construction hours may be reviewed and/or revoked by the Secretary in consultation with the EPA in the case of unresolved noise complaints); or</p> <p>(e) low noise impact activities and work between:</p> <p>(i) 6.00am and 7.00am Monday to Friday; and/or</p> <p>(ii) 6.00pm and 7.00pm Monday to Friday; or</p> <p>(f) works approved through an EPL; or</p> <p>(g) works approved by a Construction Environment Management Plan or Construction Noise and Vibration Management Plan for the SSI.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Appendix C Out of Hours Work Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Out of hours permits have been approved in accordance with Appendix C Out of Hours Work Procedure, of the approved Pacific Complete Construction Noise and Vibration Management Plan (CNVMP).</p> |

| Category | Part | Requirement | Status | Comment |
|-------------------------------|------|--|--------|---|
| | B17 | <p>Construction activities which cannot be undertaken during the standard construction hours for technical or other justifiable reasons (Out of Hours work) may be permitted outside the standard construction hours 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:</p> <p>(a) process for obtaining the Environmental Representative's approval for Out of Hours work;</p> <p>(b) details of the nature and need for activities to be conducted during the varied construction hours;</p> <p>(c) justifies the varied construction hours in accordance with the Interim Construction Noise Guideline (DECC, 2009);</p> <p>(d) provides evidence that consultation with potentially affected receivers and notification of the relevant council has been undertaken, that the issues raised have been addressed and all feasible and reasonable mitigation measures have been put in place; and</p> <p>(e) provides evidence of consultation with the EPA on the proposed variation in standard construction hours.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Appendix C Out of Hours Work Procedure). and Appendix N Fauna Handling and Rescue Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>Out of hours permits have been approved in accordance with Appendix C Out of Hours Work Procedure, of the approved Pacific Complete Construction Noise and Vibration Management Plan (CNVMP).</p> |
| | B18 | <p>Construction activities resulting in impulsive or tonal noise emission (such as rock breaking, rock hammering, pile driving) shall only be undertaken:</p> <p>(a) between the hours of 8:00am to 5:00pm Monday to Friday;</p> <p>(b) between the hours of 8:00am to 1:00pm Saturday; and</p> <p>(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.</p> <p>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. The works subject to this condition may be undertaken in sparsely populated areas within the standard construction hours.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures).</p> |
| | B19 | <p>The Applicant shall, where feasible and reasonable, limit high noise impact activities and work to the mid-morning and mid-afternoon periods, except in sparsely populated areas.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures). Pacific Complete will approve Contractor EMPs and EWMSs to ensure compliance with this MCoA.</p> |
| CONSTRUCTION VIBRATION | | | | |
| | B20 | <p>The SSI shall be constructed with the aim of achieving the following construction vibration goals:</p> <p>(a) for structural damage to heritage structures, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration – Part 3 Effects of vibration on structures;</p> <p>(b) for damage to other buildings and/or structures, the vibration limits set out in the British Standard BS 7385-1:1990 – Evaluation and measurement of vibration in buildings—Guide for measurement of vibration and evaluation of their effects on buildings (and referenced in Australian Standard 2187.2 – 2006 Explosives – Storage and use – Use of explosives); and</p> <p>(c) for human exposure, the acceptable vibration values set out in Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 6.5 Construction Vibration and Blasting Assessment). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| | B21 | <p>Blasting associated with the SSI shall only be undertaken during the following hours:</p> <p>(a) 9:00am to 5:00pm, Monday to Friday, inclusive;</p> <p>(b) 9:00am to 1:00pm on Saturday; and</p> <p>(c) at no time on Sunday or public holidays.</p> <p>Blasting outside the above hours and in accordance with the standard construction hours where:</p> <p>(i) no sensitive receivers in sparsely populated areas would be impacted by blasting; or</p> <p>(ii) an agreement has been made with receivers within 200 metres of the blast zone to permit blasting in accordance with the standard construction hours.</p> <p>This condition does not apply in the event of a direction from the NSW Police Force or other relevant authority for safety or emergency reasons to avoid loss of life, property loss and/or to prevent environmental harm.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 6.5 Construction Vibration and Blasting Assessment, Section 7 Environmental Control Measures and Appendix B Blast Management Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |

| Category | Part | Requirement | Status | Comment |
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| | B22 | <p>The Applicant shall ensure that Airblast overpressure generated by blasting associated with the SSI shall not exceed the criteria specified in Table 1 when measured at the most affected residence or other sensitive receiver.</p> <p>Note</p> <ul style="list-style-type: none"> a sensitive site includes houses and low rise residential buildings, theatres, schools and other similar buildings occupied by people. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 6.5 Construction Vibration and Blasting Assessment, Section 7 Environmental Control Measures and Appendix B Blast Management Procedure). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>There were no airblast overpressure exceedances recorded during this reporting period.</p> |
| | B23 | <p>The Applicant shall ensure that Ground vibration generated by blasting associated with the SSI shall not exceed the criteria specified in Table 2 and Table 3 when measured at the most affected residence or other sensitive receiver.</p> <p>Note</p> <ul style="list-style-type: none"> a sensitive site includes houses and low rise residential buildings, theatres, schools and other similar buildings occupied by people. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 6.5 Construction Vibration and Blasting Assessment, Section 7 Environmental Control Measures and Appendix B Blast Management Procedure). Pacific Complete will approve Contractor EMPs and EWMSs to ensure compliance with this CoA.</p> <p>Refer to Section 5.2 of the 6 monthly construction compliance report (October 2016 to March 2017), where there were no notable peak particle velocity (PPV) vibrations recorded during this reporting period.</p> |
| | B24 | <p>The blasting criteria specified in conditions B22 and/or B23 may be increased where the Applicant has obtained the written agreement of the relevant landowner to increase the criteria. In obtaining the agreement the Applicant shall make available to the landowner:</p> <p>(a) details of the proposed blasting program and justification for the proposed increase to blasting criteria including alternatives considered (where relevant);</p> <p>(b) the environmental impacts of the increased blast limits on the surrounding environment and most affected residences or other sensitive receivers including, but not limited to noise, vibration and air quality and any risk to surrounding utilities, services or other structures; and</p> <p>(c) the blast management and mitigation measures, and the procedures to be implemented to monitor blasting impacts.</p> <p>The Applicant shall provide a copy of the written agreement to the Secretary and the EPA, including details of the consultation undertaken (with clear identification of proposed blast limits and potential property impacts) prior to commencing blasting at the increased limits.</p> <p>Unless otherwise agreed by the Secretary, the following exclusions apply to the application of this condition:</p> <p>(a) Any agreements reached may be terminated by the landowner at any time should concerns about the increased blasting limits be unresolved. Should an agreement be terminated by a landowner, the Applicant shall not exceed the criteria specified in conditions B22 and/or B23 for future blasting at that receiver.</p> <p>(b) The blasting limit agreed to under any agreement for an occupied residential building can at no time exceed a maximum Peak Particle Velocity vibration level of 25 mm/s or maximum Airblast Overpressure level of 125 dBL.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 6.5 Construction Vibration and Blasting Assessment, Section 7 Environmental Control Measures and Appendix B Blast Management Procedure). Pacific Complete will approve Contractor EMPs and EWMSs to ensure compliance with this CoA.</p> <p>Some agreements have been reached as part of the Wave 3 works.</p> |
| | B25 | 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. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>Test piling activities occurred at Harwood during the reporting period October 2016 to March 2017.</p> |
| | B26 | Prior to the use of the dynamic compaction construction method, the Applicant shall undertake an assessment of vibration generated by dynamic compaction on nearby sensitive receivers. Feasible and reasonable mitigation measures shall be implemented to minimise vibration impacts. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Vibration assessments and modelling have been carried out where construction activities require dynamic compaction construction methods and additional mitigation measures have been included within the approved Piling EWMS and implemented as required.</p> |

| Category | Part | Requirement | Status | Comment |
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| | B27 | 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. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan, Section 7 Environmental Control Measures). Pacific Complete will manage consultation with potentially affected educational institutions. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Consultation with Harwood School commenced during the reporting period (April 2016 - September 2016) in relation to the construction of Harwood Bridge. Further consultation has occurred during the reporting period (October 2016 to March 2017) following noise and vibration monitoring of high impact works. |
| OPERATIONAL NOISE | | | | |
| | B28 | The SSI shall be designed and operated with the objective of not exceeding the road noise criteria outlined in the NSW Road Noise Policy (DECCW, 2011). | Open | This has been captured during detailed design and development of the operational noise design for the project. |
| | B29 | 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. | Open | Operational noise mitigation measures are proposed to be installed as soon as reasonable and feasible following completion and submission of the Operational Noise Design Reports developed during detailed design. It is anticipated these will commence in the next reporting period. |
| WATER QUALITY | | | | |
| | B30 | Except as may be expressly provided by an EPL, the Applicant shall comply with section 120 of the Protection of the Environment Operations Act 1997. | Open | Pacific Complete has obtained an Environment Protection Licence (EPL) for S3-S11 (No. 20173, 29 January 2016). This EPL is in addition to those obtained by contractors (Wave 1 (EPL No. 20674) and Wave 2 Soft Soil Works (EPL No. 20715)) directly procured by RMS. |
| HYDROLOGY AND FLOODING | | | | |
| | B31 | The hydrological and flooding impacts resulting from the SSI are to be assessed during detailed design against the 'Design Objectives for Flood Management' described in Section 2.1 of the EIS Working Paper – Hydrology and Flooding. This shall include assessment against the 'Flood Management Objectives' and the 'Other Flood Impact Considerations' as well as the other requirements of this section of the EIS. The hydrology assessment shall include the refinement of or development of new flood models (where required) for the 14 catchments investigated during the EIS. These models shall be operated for the same design floods considered in the EIS, as well as the 2000 year ARI and the probable maximum flood (PMF) design events. | Open | Flood modelling (final models) are being developed as part of detailed design. Pacific Complete will review relevant detailed design deliverables to ensure that they have taken into account this measure. |
| | B32 | For the Corindi, Shark Creek and Farlows Flat areas, flooding and hydrological impacts resulting from existing highway infrastructure shall be assessed. As part of this assessment, flood models shall assess the impacts of recent highway upgrades in this area. Where the existing highway in these areas has resulted in adverse flooding and/or hydrological impacts, opportunities to reduce the quantum of these impacts shall be considered during the detailed design of the SSI, where feasible and reasonable. | Open | Corindi Creek is located within Section 1 which is outside the area of this part of the project and has been reported separately. For Shark Creek and Farlows Flat, flood modelling (final models) is being developed as part of detailed design. Pacific Complete is reviewing relevant detailed design deliverables to ensure that this measure has been taken into account. |
| | B33 | Where the objectives and considerations referred to in condition B31 cannot be complied with, the Applicant shall: (a) achieve compliance through modified embankment or drainage design. This might include new or duplicated drainage structures designed to minimise afflux and other impacts to waterways that traverse the road alignment, to the greatest extent practicable; or (b) achieve an acceptable level of mitigation of impacts through alternative design measures (e.g. raised access tracks) in consultation with the affected land-owner; or (c) reach agreement with affected landowners on impacts to property. | Open | Noted. This will be assessed on completion of detailed design. |
| CONSTRUCTION SOIL AND WATER MANAGEMENT | | | | |

| Category | Part | Requirement | Status | Comment |
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| | B34 | Soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) and Managing Urban Stormwater Soil and Construction Vols 2A and 2D Main Road Construction (Department of Environment and Climate Change, 2008) 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. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan, Chapter 6 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>ESCPs are prepared in accordance with the Blue Book guidelines and RMS specifications in consultation with Project Soil Conservationist. ESCPs are updated as controls require and reviewed regularly.</p> <p>Environmental Work Method Statements (EWMS) are prepared for activities assessed as having a high environmental risk and/or that pose a risk to receiving water quality. Including: clearing, ASS / PASS, Sediment basins and dewatering, working in waterways, underboring and culvert installation.</p> |
| | B35 | Where available, 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. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan, Chapter 6 Environmental Control Measures).</p> <p>Water collected onsite from runoff in sediment basins, tannin treatment areas and other areas is recycled and reused where appropriate for activities such as dust suppression. Drillers recycle drilling water as much as possible to reduce the use of potable water. Ancillary facilities are designed to consider the capture and reuse of stormwater and include rainwater tanks where possible.</p> |
| | B36 | All surface water and groundwater shall be adequately treated as far as is practicable, prior to entering the stormwater system to protect the receiving water source quality. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan, Chapter 6 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Captured water onsite is reused where possible. Water does not leave the project boundary unless it has passed through a sediment basin / treated and/or similar management control.</p> |
| LAND CONTAMINATION | | | | |
| | B37 | <p>Prior to the commencement of site preparation and excavation activities, or as otherwise agreed by the Secretary, in areas identified as having a moderate to high risk of contamination, a site audit shall be carried out by a suitably accredited contaminated site auditor. A Site Audit Report is to be prepared by the site auditor detailing the outcomes of Phase 2 contamination investigations within these areas. The Site Audit Report shall detail, where relevant, whether the land is suitable (for the intended land use) or can be made suitable through remediation.</p> <p>Where the investigations identify that the site is suitable for the intended operations and that there is no need for a specific remediation strategy, measures to identify, handle and manage potential contaminated soils, materials and groundwater shall be identified in the Site Audit Report and incorporated into the Construction Environmental Management Plan. Where the investigations identify that the site is suitable for the intended operations and that a remediation strategy is required, the Site Audit Report shall include a remediation strategy for addressing the site contamination, and how the environmental and human health risks will be managed during the disturbance, remediation and/or removal of contaminated soil or groundwater, and be incorporated into the Construction Environmental Management Plan.</p> <p>Where remediation is required, a Site Audit Statement(s) shall be prepared verifying that the site has been remediated to a standard consistent with the intended land use.</p> <p>Note</p> <ul style="list-style-type: none"> Terms used in this condition have the same meaning as in the Contaminated Land Management Act 1997. | Open | <p>Potentially contaminated sites associated with the project will be reviewed during detailed design to determine those sites that will require a phase 2 contamination investigation. The results of phase 2 contamination investigations will determine whether the sites are suitable or unsuitable for their intended land use. For those sites found to be unsuitable for their intended land use, appropriate management or remediation/validation strategies will be developed and implemented.</p> <p>Wave 1 soft soils works will impact on a potential contaminated site at the Mills Truck depot. The Site Audit Report and associated requirements will be completed and implemented prior to the commencement of permanent construction activities.</p> <p>Additional contamination report has been prepared to identify asbestos prior to demolition of buildings.</p> |
| WATERCOURSE CROSSINGS | | | | |
| | B38 | Watercourse crossings shall be designed and constructed in consultation with the DPI (Fisheries), EPA, NOW and DoE, and where feasible and reasonable, be consistent with the Guidelines for Controlled Activities Watercourse Crossings (Department of Water and Energy, February 2008), Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge, 2003), Policy and Guidelines for Fish Friendly Waterway Crossings (NSW Fisheries, February 2004), and Policy and Guidelines for Fish Habitat Conservation and Management (DPI Fisheries, 2013). Where multiple cell culverts are proposed for crossings of fish habitat streams, at least one cell shall be provided for fish passage, with an invert or bed level that mimics watercourse flows. | Open | During the reporting period Consultation with agencies occurred during the installation of temporary waterway crossings. Hold points were implemented prior to construction of crossings to ensure appropriate management measures were in place and the required consultation had occurred. |

| Category | Part | Requirement | Status | Comment |
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| | B39 | All crossings of known Giant Barred Frog habitat or waterways with the confirmed presence of the species shall be designed and constructed with bridges. Should the Applicant construct a crossing structure other than a bridge, the Applicant shall demonstrate maintained connectivity for the Giant Barred Frog upstream and downstream of that crossing for a monitoring period of three consecutive years, or such other period agreed by the Secretary in consultation with the QEH EPA . Demonstration of maintained habitat connectivity shall: (a) be based on baseline data that confirms the presence, nature and distribution of Giant Barred Frog population using a survey methodology that has been endorsed by the QEH EPA , and detailed in the Mitigation Framework required in condition D1, and an assessment of the connectivity of the crossing site prior to commencement; or, if adequate baseline data is not provided to the satisfaction of the Secretary, be based on the assumption of occurrence of a population on either side of the crossing site; and (b) be based on evidence that the Giant Barred Frog has remained present upstream and downstream of the crossing site for the monitoring period, with periodic monitoring to occur at least biannually. Should the results of any instance of periodic monitoring record an absence of the Giant Barred Frog, the Applicant shall be required to demonstrate that this change is not as a result of the SSI within one month of the completion of that instance of periodic monitoring, to the satisfaction of the Secretary. Should the Secretary not be satisfied that the change is not a result of the SSI, the SSI will be deemed as the cause of the impact and the Applicant shall offset the loss of the habitat in accordance with this approval. | Open | Not applicable to Sections 3-11. Habitat for Giant Barred Frog occurs only in Section 1 and 2 |
| | B40 | Unless otherwise agreed by DPI (Fisheries), all crossings of Class 1 watercourses in known Oxleyan Pygmy Perch habitat shall be designed and constructed with a bridge or arch structure and, where feasible and reasonable, no supporting structures shall be installed within affected waterways. | Open | This has been considered as part of detailed design based on information in the Threatened Fish Management Plan. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| | B41 | Where an Oxleyan Pygmy Perch habitat waterway is realigned or its stream profile is changed, or an in-stream structure is installed in the waterway (both permanent and temporary construction structures), the Applicant shall ensure that the final design of that waterway does not result in water velocities exceeding 0.4 metres per second under normal flow conditions. The Applicant shall determine normal flow conditions to the satisfaction of DPI (Fisheries) through baseline monitoring of known Oxleyan Pygmy Perch habitat waterways. | Open | This has been considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. Realignment of waterway BC52 was designed and constructed to the satisfaction of DPI Fisheries. Monitoring of the realigned waterway indicated velocities of 0.1 metres per second during normal flow conditions |
| | B42 | The Applicant shall ensure that the SSI does not increase the afflux of waterways with known Oxleyan Pygmy Perch habitat by more than the relevant flood management objective in the documents referred to in condition A2 for flood events up to the 1 in 100 year event. | Open | This has been considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| | B43 | The Applicant shall investigate the removal of the proposed embankment at station 145.2 and its replacement with an extension of the Richmond River bridge. The investigation shall consider issues around hydrology and flooding (including meeting the flooding objectives for bridges), constructability, cost, funding arrangements and visual impacts. The investigation shall include consideration of other relevant environmental impacts (noise, heritage, biodiversity, traffic etc.) and consider any alternative options. A copy of the investigation shall be submitted to the Secretary prior to the commencement of any bridge approach or embankment works in the vicinity. | Open | An investigation into this embankment and its removal has been provided to the Department for information. At time of reporting, no feedback had been received. |
| ABORIGINAL HERITAGE | | | | |
| | B44 | Prior to the commencement of construction affecting PAD site WWC Dirty Creek 1 and ancillary facilities at Section 4, Site 1; Section 4, Site 3; Section 7, Site 1; Section 10, Site 1a; and Section 11, Site 1a , the Applicant shall: (a) undertake field investigation, and where required, an archaeological investigation of the site(s) using a methodology generally consistent with testing undertaken for the Environmental Impact Statement, and prepared in consultation with the QEH EPA (Aboriginal heritage) and the Registered Aboriginal Parties; and (b) prepare a report on the results of the archaeological investigation, including recommendations (such as further archaeological work) in consultation with the QEH EPA and to the satisfaction of the Secretary, and shall include, but not necessarily be limited to: (i) consideration of measures to avoid or minimise disturbance to Aboriginal objects where objects of moderate to high significance are found to be present; (ii) recommendations for further investigations under condition B45 where impacts cannot be avoided; and (iii) details of management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities; and (c) submit the report to the Registered Aboriginal Parties, the QEH EPA (Aboriginal heritage) and the Secretary. | Open | – PAD site WWC Dirty Creek 1 does not occur within sections 3 to 11, however has been salvaged and clearance letter issued. – Section 4, Site 1 – Assessed and mitigations advised/incorporated. Section 4, Site 3 – has not been assessed, will be carried out as part of an ancillary facility assessment if it is proposed for use. – Section 7, Site 1 – Assessed. – Section 10, Site 1a – has not been assessed, will be carried out as part of an ancillary facility. – Section 11, Site 1a, heritage assessment prepared including test pitting. Recommended management measures have been implemented in Ancillary Facility Checklist for this site. |

| Category | Part | Requirement | Status | Comment |
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| | B45 | <p>Prior to the commencement of construction activities affecting Aboriginal sites WWC39, WWC46, Tyndale 2 site, IR2W4, Site 11, E2/2, WWC37, Dubaljeen site (New Italy 1), The Gap Road 1, WX21 Site 8, Site 1, Site 2, Site 3 and Site 4 and sites recommended by condition B44 for further investigation, the Applicant shall:</p> <p>(a) develop a detailed salvage strategy, prepared in consultation with the OEH EPA (Aboriginal heritage) and the Registered Aboriginal Parties. The salvage strategy shall be prepared to the satisfaction of the Secretary; and</p> <p>(b) undertake any further archaeological excavation works recommended by the results of the detailed salvage strategy.</p> <p>Within twelve months of completing the above work, unless otherwise agreed by the Secretary, the Applicant shall prepare a report containing the findings of the excavations, including artefact analysis and Aboriginal Site Impacts Recording Forms (ASIR), and the identification of final storage location for all Aboriginal objects recovered (testing and salvage), in consultation with the Registered Aboriginal Parties, the OEH EPA (Aboriginal heritage) and to the satisfaction of the Secretary.</p> <p>The report shall be submitted to the Registered Aboriginal Parties, the OEH EPA (Aboriginal heritage) and the Secretary.</p> <p>Note:</p> <ul style="list-style-type: none"> Where archaeological testing has occurred as part of the environmental assessment and the results are included in the documents listed in condition A2, the sites tested shall be included in the final report prepared under condition B45. | Closed | <p>A salvage strategy was prepared in consultation with RAPs. Salvage works are being completed on sites that require salvage. Clearance letters have been prepared post salvage that outline that the site is clear for construction and outlines any additional mitigation measures (i.e. fencing). Detailed reports will be prepared by the heritage consultant as required by this condition. An update on each site is listed below:</p> <p>WWC39—not in Section 3 to 11. Site clearance letter has been done.</p> <p>WWC46—not part of Section 3 to 11. Site clearance letter done. Tyndale 2 – Site clearance letter done. Section 3 (SPIR CH69,550). IR2W4—Site clearance letter done. (SPIR CH128,550 - Section 8). Site 11 – Site clearance letter done. E2/2 – Site clearance letter done. Associated with Site 11, separate clearance letter. WWC37 – not in Section 3 to 11. Dubaljeen Site (New Italy 1) – Site clearance letter done. The Gap Road 1 – this site is located outside the approved project boundary (EIS/SPIR). Section 8 CH125,250. 250m west of project boundary. Near an ancillary site, will only be affected if ancillary site is used. WX21 Site 8 – this site is located outside the approved project boundary (EIS/SPIR). South of Avenue Rd, west of SPIR boundary. No salvage. Section 10, CH156,000. Site 1 – Salvage done. Site clearance letter done. Section 10 CH156,000. Site 2 –Site clearance letter done. Section 10 CH150,750. Site 3 – South of Site 2 CH 150,500 Section 10. Site clearance letter done. Site 4 – CH152,500 site clearance letter done.</p> |
| | B46 | <p>Identified impacts to Aboriginal heritage, shall be minimised to the greatest extent practicable through both detailed design and construction, particularly with regard to the Aboriginal sites Gittoes Jali and the Melino site, and the Aboriginal culturally significant places identified as Corindi Massacres (section 1), Burials (section 1), Halfway Creek Ceremonial Site, Birrugan and Mindi spiritual sites (sections 1, 2, 5 and 10), Pillar Valley men's and women's sites, Place H, Place I and Place J. Where impacts are unavoidable, works shall be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan.</p> | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Chapter 7 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>Gittoes Jali is located near the Wave 5c works. Gittoes Jali clearance letter was received prior to construction activities commencing on Lang Hill. This clearance letter outlines the required management measures for the protection of the site.</p> <p>Where impacts are unavoidable in construction, works would be undertaken in accordance with the strategy outlined in the Construction Heritage Management Plan.</p> |

| Category | Part | Requirement | Status | Comment |
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| | B47 | The Applicant shall not destroy, modify or otherwise physically affect Aboriginal sites WWC5, WWC7, WWC26, WWC92, WWC115, WWC139, Tyndale 1, Scarred/engraved Tree (section 7), C3/2/2, Saw Pit Creek / New Italy, Gittoes Jali 2, Cooks Hill, Broadwater, Law PAD, Law Scarred Tree, MST 3, C21, Melino Scarred Tree 4, MST 2, MST1, Rudgley Scarred Tree or Saezza 1. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Chapter 7 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>WWC5– exclusion fencing installed, WWC7 - exclusion fencing installed, WWC26- salvage done, fencing installed, WWC92- exclusion fencing installed, WWC115 – Exclusion fencing installed, WWC139 = Exclusion fencing installed, Tyndale 1 = Exclusion fencing installed, Scarred tree in Section 7 = Outside the project corridor. Exclusion fencing to be installed, C3/2/2 = Outside the project corridor, Outside the project corridor, Gittoes Jali 2 – ongoing, Cooks Hill = Outside of the project boundary, Broadwater – ongoing, Law PAD = To be fencing on vacant possession of the adjacent block, MST 3 = Exclusion fencing is to be re-installed on vacant possession of the block, C21 = Exclusion fencing is to be re-installed on vacant possession of the block, Melino Scarred Tree 4 = Exclusion fencing is to be re-installed on vacant possession of the block, MST2 = Exclusion fencing is to be re-installed on vacant possession of the block, MST1 – ongoing, Rudgley scarred tree - Fencing to be established, Saezza 1 = Exclusion fencing installed, awaiting site clearance letter.</p> |
| NON - ABORIGINAL HERITAGE | | | | |
| | B48 | Prior to the commencement of construction affecting the Convent (12-14 Rivers Street), Harwood (item 21), the Applicant shall carry out further historical research and investigate the options for relocation of the convent building, in consultation with the Department of Planning and Environment and the OEH (Heritage Division), to the satisfaction of the Secretary. | Closed | Further historical research and investigation has been carried out for options to relocate the convent building. Community and agency consultation has been carried out. A tender called for its removal, with no compliant tenders received for the removal and relocation of the Harwood Convent building and no suitable land in or adjacent to the Harwood Heritage Conservation Area where the building could be relocated to was identified. Additional information was requested and provided to OEH and OEH concurrence with demolition was advised on 5/12/2016. Secretarial / DPE provided approval for the demolition of the convent building, dated 5 December 2016. The convent was subsequently demolished in December 2016. |
| | B49 | <p>Prior to the commencement of construction in proximity to the following heritage items: 21; 23 (Roder's well and orchard); 26; 28; 29; and 43, the Applicant shall complete all archival recordings, including photographic recording of these heritage items, unless otherwise agreed by the Secretary.</p> <p>The 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 these items shall be clearly identified and/or fenced until the completion of the archival recordings. Within 6 months of completing the archival recording, the Applicant shall submit a report containing the archival and photographic recordings and the historical research, where required, to the Department of Planning and Environment, the Heritage Council of NSW, and the local library and the local Historical Society in the relevant local government area(s).</p> | Closed | Archival recordings completed for all items. Reports received and submitted to DPE. |
| | B50 | <p>Prior to construction affecting the following heritage items: 7; 23 (Roder's well and orchard) and 28, the Applicant shall carry out further historical and physical archaeological investigations of these heritage items, in consultation with the Department of Planning and Environment and the OEH (Heritage Division), to the satisfaction of the Secretary. These investigations shall:</p> <p>(a) include archaeological investigations and excavation in accordance with the Heritage Council's Archaeological Assessments Guideline (1996) using a methodology prepared, in consultation with the OEH (Heritage Division), and to the satisfaction of the Secretary. The archaeological investigation shall be undertaken by an archaeological heritage consultant, whose appointment has been endorsed by the Secretary. The nomination for the Excavation Director shall demonstrate ability to comply with the Heritage Council's Criteria for the Assessment of Excavation Directors (July 2011);</p> <p>(b) provide for the detailed analysis of any heritage items discovered during the investigations;</p> <p>(c) include management options for these heritage items (including options for relocation and display); and</p> <p>(d) if the findings of the investigations are significant, provide for the preparation and implementation of a heritage interpretation plan.</p> <p>Within 12 months of completing the above work, unless otherwise agreed by the Secretary, the Applicant shall prepare a report containing the findings of the excavations, including artefact analysis, and the identification of a final repository for finds, prepared in consultation with the OEH (Heritage Division) and to the satisfaction of the Secretary. The report shall be submitted to the Department of Planning and Environment, the Heritage Council of NSW, and the local library and the local Historical Society in the relevant local government area(s).</p> <p>Note:</p> <ul style="list-style-type: none"> Where archaeological testing has occurred as part of the environmental impact assessment for the SSI and the results are included in the documents listed in condition A2, the sites tested shall still form part of the methodology and final report prepared for the non-Aboriginal archaeological investigation program. | Closed | Item 7 is not included in Section 3 to 11 and is therefore covered under a separate compliance report. Further historical and physical archaeological investigations has been carried out for Item 23 and 28. Reports received and submitted to DPE |

| Category | Part | Requirement | Status | Comment |
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| | B51 | The Applicant shall not destroy, modify or otherwise physically affect the heritage items listed in Table 5-1, Historic (non-Aboriginal) Heritage Assessment Working Paper and Table 3-38, Submissions/Preferred Infrastructure Report (RMS, November 2013). | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Chapter 7 Environmental Mitigation and Management Measures) and these sites are also listed as being within or adjacent to the works. Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During this reporting period (October 2016 to March 2017) one Non-Aboriginal Heritage Item - the Harwood Convent - Item 21 was demolished in December 2016 as per approved process and with DPE approval. |
| HERITAGE - GENERAL | | | | |
| | B52 | Identified impacts to heritage sites shall be minimised where feasible and reasonable through both detailed design and construction, particularly with regard to the historic site known as the North Coast Railway Branch Tramway, Glenugie. Where impacts are unavoidable, works shall be undertaken in accordance with the actions to manage heritage construction impacts required by condition D26(d) and under the guidance of an appropriately qualified heritage specialist. | Closed | This heritage item occurs in Section 2, therefore will not be impacted by the works. |
| | B53 | This approval does not allow the Applicant to destroy, modify or otherwise physically affect human remains as part of the SSI. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Chapter 7 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| | B54 | The Applicant 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 B78-BB54A. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Chapter 7 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| | B54A | <p>The Applicant may undertake archaeological investigations at sites outside the SSI boundary where the following works associated with the construction of the highway are proposed:</p> <ul style="list-style-type: none"> i. ancillary sites that do not meet the criterion set out in condition B73; or ii. utilities or services, or iii. access and service roads and driveways; or iv. or similar works required for the project that are located within 5 metres of the SSI boundary (with the exception of drainage works in flood prone areas where such activities can be investigated within 20 metres of the SSI boundary). <p>These investigations are permitted where this is required to assess the potential Aboriginal and non-Aboriginal archaeological impacts of the ancillary facility or other works on previously unidentified heritage sites, provided:</p> <ul style="list-style-type: none"> (a) any archaeological investigations undertaken under this condition shall be consistent with the requirements in condition B44 for Aboriginal heritage and condition B50 for non-Aboriginal heritage and with the Construction Heritage Management Plan or a methodology prepared to the satisfaction of the Secretary in consultation with OEH; and (b) the results of any relevant archaeological investigations undertaken under this condition shall be consistent with the reporting requirements of condition B45 for Aboriginal heritage and condition B50 for non-Aboriginal heritage, and for ancillary sites, be described in the assessment of the ancillary facility required under conditions B74 and B75 | Open | Noted. Addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Chapter 7 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| | B55 | The measures to protect heritage sites near or adjacent to the SSI during construction shall be detailed in the Construction Heritage Management Plan. | Closed | Pacific Complete CEMP including Appendix B5 Construction Heritage Management Plan has been approved (23 October 2015). |
| TRANSPORT AND ACCESS | | | | |
| | B56 | The SSI shall be designed with the objective of minimising adverse changes to existing access arrangements and services for other transport modes and, where feasible and reasonable, facilitate an improved level of access and service to other transport modes comparable to or better than the existing situation. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| | B57 | 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. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan, Section 5.4.1 Management of Pedestrians and Section 5.4.2 Management of Cyclists). Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| | B58 | <p>Construction vehicles (including staff vehicles) associated with the SSI shall be managed to:</p> <ul style="list-style-type: none"> (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 Management Plan. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan, Section 4 Construction Activities and Impacts, Section 4.3 Road Network, Section 4.4 Construction Access Points, Section 4.5 Construction Site Office and Section 5.5 Construction Vehicle Management). Pacific Complete approves Contractor EMPs and EWMs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Construction sites provide ample parking to minimise parking on local roads. Access to work areas are via access gates, sufficient space for queuing is provided where feasible to prevent queuing on public roads.</p> |

| Category | Part | Requirement | Status | Comment |
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| | B59 | 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 relevant council; (b) 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. | Open | This has been considered as part of detailed design. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| PROPERTY AND LANDUSE | | | | |
| | B60 | The Applicant shall ensure that the SSI is designed to minimise land take impacts to surrounding properties (including agricultural properties) as far as feasible and reasonable, in consultation with the affected landowners. | Open | This has been considered as part of detailed design. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| | B61 | Where the viability of existing agricultural operations are identified to be impacted by the land requirements of the SSI, the Applicant shall, at the request of these landowners, employ a suitably qualified and experienced independent agricultural expert, whose appointment has been endorsed by the Secretary, to assist in identifying alternative farming opportunities for the land, including purchase of other residual land to enable existing agricultural activities to continue. | Open | No impacts to the viability of existing agricultural operations have been identified to date. No requests for agricultural expertise has been received to date. |
| | B62 | Unencumbered access to private property shall be maintained during construction unless otherwise agreed with the landowner in advance. A landowner's access that is physically affected by the SSI shall be reinstated to at least an equivalent standard, in consultation with the landowner. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan, Section 4.5.1 Site Office Locations, Section 4.6.1 Haulage Routes and Section 5.8.6 Removal of Temporary Roadways and Detours). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Access to private property has been maintained throughout construction of all current works and shall continue throughout the duration of construction.</p> |
| | B63 | The Applicant shall, in consultation with relevant landowners, construct the SSI in a manner that minimises intrusion and disruption to agricultural operations/activities in surrounding properties (e.g. stock access, access to farm dams, etc.), unless otherwise agreed by the landowner. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan, Section 4.6.1 Haulage Routes). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Landowners have been consulted regarding work potentially disruptive to agricultural operations / activities. This includes potential use of cane pads within the project boundary and realignment of fences through agricultural land. The project has assisted landowners with property access for cattle movement and prioritised the installation of the permanent boundary fence and gates for landowner cattle movements.</p> |
| | B64 | 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 Applicant. This condition is not intended to limit any claims that the landowner may have against the Applicant. | Open | Noted. No issues to date. Pre-construction building condition inspections have been completed, with post construction inspections to be completed following construction. Any damage identified due to the project works will be rectified. |
| FORESTRY IMPACTS | | | | |
| | B65 | Where the SSI traverses a state forest, the Applicant shall, in consultation with the NSW Forestry Corporation, ensure that construction does not unduly disrupt existing forestry activities, access for fire fighting and access for other activities within state forests, unless otherwise agreed by the NSW Forestry Corporation. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan, Section 4.7.3 Property Access and Section 4.7.8 State Forest Road Network). Pacific Complete will approve Contractor EMPs, EWMSs and related traffic management safety plans (or similar) to ensure compliance with this CoA.</p> <p>Consultation with NSW Forestry regarding access to forestry areas has been ongoing. Access to Tabbimoble forest is maintained via Glencoe Road during the Wave 5C works.</p> |
| AIR QUALITY | | | | |
| | B66 | 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 Applicant 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. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B6 Construction Air Quality Management Plan, Chapter 7 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>Dust mitigation measures such as the use of watercarts are being implemented on all parts of the project. Contractor works are being monitored by Pacific Complete to ensure contractors are providing sufficient measures to control dust including monitoring and watercarts.</p> |

| Category | Part | Requirement | Status | Comment |
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| HAZARDS AND RISK | | | | |
| | B67 | 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. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan, Chapter 6 Environmental Control Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| WASTE MANAGEMENT | | | | |
| | B68 | 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. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B7 Construction Waste, Resource and Energy Management Plan, Chapter 6 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. No waste from outside the project has been received. |
| | B69 | 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. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B7 Construction Waste, Resource and Energy Management Plan, Chapter 6 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Waste generation and transport is being tracked by each contractor for the project and reported to PC/RMS on a monthly basis. |
| | B70 | 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). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B7 Construction Waste, Resource and Energy Management Plan, Chapter 6 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Waste generation and transport is being tracked by each contractor for the project and reported to PC/RMS on a monthly basis. |
| | B71 | All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B7 Construction Waste, Resource and Energy Management Plan, Chapter 6 Environmental Mitigation and Management Measures). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| UTILITIES AND SERVICES | | | | |
| | B72 | 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 Applicant. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. Utilities have been relocated in areas where construction has commenced. |
| ANCILLARY FACILITIES | | | | |
| | B73 | 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 (100 metres for a State Environmental Planning Policy No. 14 wetland or known Oxleyan Pygmy Perch habitat waterway); (b) not impact on connectivity structures or vegetation leading to a connectivity structure; (c) be located within or adjacent to the SSI boundary; (d) have ready access to the road network; (e) be located in areas of low ecological significance and require no clearing of native vegetation; (f) be located more than 50 metres from threatened species and endangered ecological communities and their habitats; (g) be located on relatively level land; (h) be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant) and comply with construction noise management levels at sensitive receivers; (i) be above the 20 year ARI flood level unless a contingency plan to manage flooding is prepared and implemented; (j) have minor impacts on flood storage and not result in obstruction of floodplain flow or blockage of culverts and drains; (k) not unreasonably affect the land use of adjacent properties; (l) operate in accordance with the construction hours set out in conditions B15 and B16; (m) 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 (n) 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 Applicant shall undertake an assessment of the facility against the above criteria in consultation with the relevant public authority(s) and the relevant council. The assessment shall be approved by the Environmental Representative and included in the Ancillary Facilities Management Plan required under condition D21. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans have been and will continue to be prepared by Pacific Complete and contractors in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). Ancillary Facility Management Plans are approved by the ER. If required the plan will be submitted to the Secretary for approval. Refer to Section 2.1 of the six monthly compliance report (October 2016 to March 2017) for a list of ancillary facilities approved for use during this reporting period. |

| Category | Part | Requirement | Status | Comment |
|--------------|------|--|--------|---|
| | B74 | <p>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 B73, shall be approved by the Environmental Representative prior to its establishment. In obtaining this approval, the Applicant shall consult with the relevant public authority(s) and the relevant 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:</p> <p>(a) details on the site location and access arrangements; (b) a description of the activities to be undertaken; (c) outcomes of the assessment of the site against the locational criteria set out in condition B73; (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).</p> <p>A copy of the report shall be included in the Ancillary Facilities Management Plan.</p> | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans have been and will continue to be prepared by Pacific Complete and contractors in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). Ancillary Facility Management Plans are approved by the ER. If additional impacts are anticipated then the plan will be submitted to the Secretary for approval.</p> <p>Refer to Section 2.1 of the six monthly compliance report (October 2016 to March 2017) for a list of ancillary facilities approved for use during the reporting period.</p> |
| | B75 | <p>Notwithstanding condition B74, ancillary facilities that that have not been previously identified and assessed in the documents listed in condition A2 and result in additional impacts to biodiversity, heritage, flooding and noise beyond those approved for the SSI, shall be approved by the Secretary prior to their establishment. In order to obtain this approval, the Applicant shall undertake an assessment of the ancillary facility in accordance with condition B74 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.</p> | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans have been and will continue to be prepared by Pacific Complete and contractors in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). Ancillary Facility Management Plans are approved by the ER. If required the plan will be submitted to the Secretary for approval.</p> <p>Refer to Section 2.1 of the six monthly compliance report (October 2016 to March 2017) for a list of ancillary facilities approved for use during the reporting period.</p> |
| | B76 | <p>The land on which ancillary facilities are located shall be rehabilitated to at least their pre-construction condition or better, unless otherwise agreed by the landowner.</p> | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans have been and will continue to be prepared by Pacific Complete and contractors in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>Urban Design and Landscape Plans (UDLP) have been prepared for the project and outline rehabilitation commitments and principles for ancillary facilities.</p> |
| | B77 | <p>Where changes are made to the boundary or use of an ancillary facility, including facilities identified in the documents listed in condition A2, the Applicant shall assess the facility against the criteria set out in condition B73. If the ancillary facility site:</p> <p>(a) does not meet the criteria set out under condition B73 the Applicant shall seek the approval of the Environmental Representative in accordance with condition B74; or (b) results in impacts to biodiversity, heritage, flooding and noise beyond those approved for the SSI, the Applicant shall seek the approval of the Secretary in accordance with condition B75.</p> <p>The relevant approval shall be obtained prior to the establishment of the ancillary facility.</p> | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). Ancillary Facility Management Plans are approved by the ER. If required the plan will be submitted to the Secretary for approval.</p> <p>Refer to Section 2.1 of the six monthly compliance report (October 2016 to March 2017) for a list of ancillary facilities approved for use during the reporting period.</p> |
| | B78 | <p>DELETED The Applicant may undertake archaeological investigations at ancillary sites that do not meet the criterion set out in condition B73, where this is required to assess the potential Aboriginal and non-Aboriginal archaeological impacts of the ancillary facility on previously unidentified heritage sites, provided: (a) any archaeological investigations undertaken under this condition shall be consistent with the requirements in condition B44 for Aboriginal heritage and condition B50 for non-Aboriginal heritage and with the Construction Heritage Management Plan or a methodology prepared to the satisfaction of the Secretary in consultation with OEH; and (b) the results of any relevant archaeological investigations undertaken under this condition shall be consistent with the reporting requirements of condition B45 for Aboriginal heritage and condition B50 for non-Aboriginal heritage and be described in the assessment of the ancillary facility required under conditions B74 and B75.</p> | | <p>Noted.</p> |
| BORROW SITES | | | | |

| Category | Part | Requirement | Status | Comment |
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| | B79 | The Applicant shall ensure that material extracted from the borrow sites established for the SSI, is only used for the construction of the SSI subject to this approval, and no other sections of the Pacific Highway or other works. | Open | <p>Pacific Complete will prepare site specific Borrow Site Management Plans as required by the project approval. This requirement will apply to all borrow site management plans prepared by Pacific Complete.</p> <p>The Tyndale Borrow Site Management Plan (Portion A) was approved in August 2016 by DPE.</p> <p>The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. Management Plans are currently being prepared for a number of borrow sites in Portion D such as Lumleys Hill Borrow Site which will be submitted/approved in the following 6 monthly reporting period.</p> |
| CONSTRUCTION ACTIVITIES | | | | |
| | B80 | The Applicant 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. | Open | Pacific Complete has an approved CEMP. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| OPERATIONAL PERFORMANCE | | | | |
| | B81 | The Applicant shall ensure that during the operation of the SSI, water quality risks to the Woodburn Bore field drinking water catchment are minimised to the satisfaction of Rous Water. | Open | This has been considered as part of detailed design and has been developed in consultation with Rous Water. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

COMPLIANCE TRACKING - NSW CONDITIONS OF APPROVAL

Woolgoolga to Ballina SSI-4963

PART C - Community Information and Reporting

| Category | Part | Requirement | Status | Comment |
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| COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT | | | | |
| | C1 | <p>Prior to the commencement of construction or as otherwise agreed by the Secretary, the Applicant shall prepare and implement a Community Communication Strategy to the satisfaction of the Secretary. The Strategy shall provide mechanisms to facilitate communication between the Applicant (and its contractor(s)), the Environmental Representative (see condition D22), the relevant council and community stakeholders (particularly adjoining landowners) on the construction environmental management of the SSI. The Strategy shall include, but not be limited to:</p> <ul style="list-style-type: none"> (a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners; (b) procedures and mechanisms for the regular distribution of information to community stakeholders on construction progress and matters associated with environmental management; (c) the formation of community-based focus groups for key environmental management issues for the SSI. The Strategy shall provide detail on the structure, scope, objectives and frequency of the community-based focus groups; (d) procedures and mechanisms through which the community stakeholders can discuss or provide feedback to the Applicant and/or Environmental Representative in relation to the environmental management and delivery of the SSI; (e) procedures and mechanisms through which the Applicant can respond to enquiries or feedback from the community stakeholders in relation to the environmental management and delivery of the SSI; and (f) procedures and mechanisms that would be implemented to resolve issues/ disputes that may arise between parties on the matters relating to environmental management and the delivery of the SSI. This may include the use of an appropriately qualified and experienced independent mediator. <p>Issues that shall be addressed through the Community Communication Strategy include (but are not necessarily limited to):</p> <ul style="list-style-type: none"> (i) traffic management (including property access, pedestrian access); (ii) heritage matters; (iii) landscaping and urban design matters; (iv) construction staging, hours and activities; (v) noise and vibration mitigation and management; (vi) air quality and dust; (vii) water quality, hydrology and flooding matters; and (viii) biodiversity matters. <p>The Applicant shall maintain and implement the Strategy throughout construction of the SSI.</p> | Closed | An overarching Woolgoolga to Ballina Communication and Stakeholder Engagement Strategy has been prepared and approved. DPE Approval dated 13 May 2015. |
| COMPLAINTS AND ENQUIRIES PROCEDURE | | | | |
| | C2 | <p>Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Applicant shall ensure that the following are available for community enquiries and complaints for the duration of construction:</p> <ul style="list-style-type: none"> (a) a 24 hour telephone number(s) on which complaints and enquiries about the SSI may be registered; (b) a postal address to which written complaints and enquires may be sent; (c) an email address to which electronic complaints and enquiries may be transmitted; and (d) a mediation system for complaints unable to be resolved. <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> | Open | <p>Information and systems required by this condition have been established. Refer to the overarching Woolgoolga to Ballina Communication and Stakeholder Engagement Strategy (DPE Approval dated 13 May 2015). Relevant details have been included in the approved Pacific Complete CEMP, refer to Section 6.3 Stakeholder and Community Communication. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> <p>While there were no non-compliances with the conditions of approval identified in the reporting period, Roads & Maritime did write to the Department of Planning and Environment on 17 January 2017 to inform the Department that we did not meet our obligations in the approved Communications and Engagement Strategy relating to and inadvertent administrative mistake in which the 1800 project number was diverted to a phone number that was not actively managed during the Christmas shut down period.</p> |
| | C3 | <p>Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Applicant shall prepare and implement a Construction Complaints Management System consistent with AS 4269: Complaints Handling and maintain the System for the duration of construction and up to 12 months following completion of the SSI. Information on all complaints received, including the means by which they were addressed and whether resolution was reached, with or without mediation, shall be maintained in a complaints register and included in the construction compliance reports required by this approval. The information contained within the System shall be made available to the Secretary on request.</p> | Closed | <p>Information and systems required by this condition have been established. Refer to the overarching Woolgoolga to Ballina Communication and Stakeholder Engagement Strategy (DPE Approval dated 13 May 2015). Relevant details have been included in the approved Pacific Complete CEMP, refer to Section 6.3 Stakeholder and Community Communication and Section 6.3.2 Complaints and Enquires Procedure. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| PROVISION OF ELECTRONIC INFORMATION | | | | |

| Category | Part | Requirement | Status | Comment |
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| | C4 | <p>Prior to the commencement of pre-construction and construction, or as otherwise agreed by the Secretary, the Applicant 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 Applicant 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 D27 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> | Open | <p>The website for the project is http://www.rms.nsw.gov.au/projects/northern-nsw/woolgoolga-to-ballina/index.html. Community & Stakeholder Engagement Stragtegy (approved 13/5/15) Section 6, Table 6.1 & Section 7</p> <p>Enquiries & Complaints - Phone: 1800 778 900 - maintained by Pacific Complete.</p> <p>Copies of the project approval and management plans are available on the project website. The website is regularly updated.</p> |

COMPLIANCE TRACKING - NSW CONDITIONS OF APPROVAL

Woolgoolga to Ballina SSI-4963



Transport
Roads & Maritime
Services

PART D - Environmental Management, Reporting and Auditing

| Category | Part | Requirement | Status | Comment |
|------------------------------|------------|---|--------|--|
| | D1 | <p>The Applicant shall develop a framework for finalising mitigation measures for threatened species. This Mitigation Framework shall be developed by a suitably qualified and experienced ecologist in consultation with DPI (Fisheries), OEH EPA and DoE, and submitted to the satisfaction of the Secretary prior to commencement of detailed design of the relevant stage, unless otherwise agreed by the Secretary. The Mitigation Framework shall detail the process for finalising the biodiversity strategies, plans and programs required under this approval. The Mitigation Framework shall include:</p> <p>(a) a description of the methodology of all proposed pre-construction species and habitat surveys, including surveys undertaken in the 2013-2014 spring and summer seasons and as otherwise required under this project approval, and with reference where relevant to compliance with relevant NSW and Commonwealth field survey methods and guidelines;</p> <p>(b) a summary of potential changes to the avoidance, mitigation and/or offset measures specified in the documents listed in condition A2, as justified by the results of surveys described in condition D1(a);</p> <p>(c) a summary of the potential avoidance, mitigation and/or offset measures for all species for which the proposed level of impact or mitigation required differs from that assessed in the documents listed in condition A2, including evidence that those measures would achieve the same or an improved biodiversity outcome;</p> <p>(d) provision for updating the relevant Threatened Species Management Plans required under condition D8; and</p> <p>(e) a schedule for submission of all biodiversity strategies, plans and programs required under this approval in accordance with the requirements for submission in the conditions below.</p> | Closed | Mitigation Framework approved by DPE on 8 May 2015. |
| | D2 (a)-(g) | <p>The Applicant shall prepare and implement a Connectivity Strategy, to be submitted and approved by the Secretary prior to the commencement of construction. The strategy shall describe the rationale for, and final design and location of, fauna connectivity structures for the SSI and shall demonstrate the effectiveness of connectivity measures for the species targeted for the crossing. The Strategy shall be developed from the draft Connectivity Strategy in the documents listed in condition A2 in consultation with the EPA OEH, DPI (Fisheries) and DoE, to the satisfaction of the Secretary. The Strategy shall include:</p> <p>(a) details of all crossings for terrestrial and aquatic fauna, including but not limited to land bridges, bridge, arch and culvert crossings, and crossings for arboreal fauna;</p> <p>(b) justification for the location and design, and spacing of the connectivity structures, with reference to relevant State and Commonwealth threatened species guidelines and the results of on-ground surveys as required by D2(d);</p> <p>(c) demonstration of the effectiveness of the connectivity structures (including exclusionary fencing) in terms of location, design and number of connectivity structures to mitigate impacts to the relevant threatened species, and that the crossings:</p> <p>(i) maintain or improve connectivity and movement pathways;</p> <p>(ii) reduce the risk of mortality for threatened species;</p> <p>(iii) are located at locations, at sufficient frequency along the alignment, based on the ecological requirements of the targeted species, including but not limited to home range size, movement patterns, and habitat use;</p> <p>(d) the results of surveys undertaken to determine the habitat, species movement patterns, distribution of species to confirm the design and location;</p> <p>(e) consideration of connectivity under the existing highway, service roads and local roads (servicing over 100 vehicles per day);</p> <p>(f) commitment that pathways to connectivity structures are not to be impeded by ancillary facilities, rest areas or service roads, or local roads (servicing over 100 vehicles per day) that are realigned as part of the SSI or experience an increase in traffic volumes during operation of the SSI;</p> <p>(g) commitment to implement the landscaping of vegetation leading to connectivity structures;</p> | Open | The Connectivity Strategy (Sections 3-11) was submitted to Department of Planning & Environment and the Department of Environment and Energy on 14 December 2016 (this reporting period - October 2016 to March 2017). Approval of these plans was received in the next 6 monthly reporting period (April 2017 to September 2017). |
| | D2 (h)-(m) | <p>(h) a fencing strategy, describing the location, design and length of fencing, which must extend beyond the edges of habitat for threatened species;</p> <p>(i) the maintenance of connectivity measures and fencing for the life of the impact of the action, including the timing and frequency;</p> <p>(j) an assessment of the flooding risk for proposed structures, and measures to confirm and provide for flood immunity of those structures in light of this assessment. The agreement of the EPA OEH on flood immunity levels shall be obtained prior to the commencement of construction of the relevant stage;</p> <p>(k) commitment that all bridges in identified wildlife corridors, or adjacent to threatened species habitat, or are likely to provide connectivity for threatened species based on surveys undertaken in accordance with the Mitigation Framework required in condition D1, shall provide a minimum three metre wide dry passage from toe of the scour protection to the top of the bank, with natural substrate and refuge features. Where this criteria cannot be achieved and with the agreement of the EPA OEH, consideration shall be given to the use of suitable materials in, and the final form of, the scour protection to provide for the safe and effective passage of fauna;</p> <p>(l) detailed consideration of the effects of connectivity structures on the maintenance or improvement of population viability and gene flow; and</p> <p>(m) incorporate the outcomes of the Mitigation Framework required under condition D1.</p> <p>Unless connectivity measures can be demonstrated to be effective at successfully mitigating the barrier and fragmentation impact to relevant species, in accordance with the requirements of the construction flora and fauna management plan required under condition D26(e), and threatened species management plans required under conditions D8 and D9, the residual impact to connectivity shall be offset.</p> <p>Where the location and/or design of connectivity structures has changed from that identified in the documents listed under conditions A2(c) and A2(e), the Strategy shall demonstrate how the new location and/or design would result in an improved biodiversity outcome. The Strategy shall clearly identify how the connectivity structures will work in conjunction with other biodiversity measures, such as complementary fauna exclusion fencing measures and the regeneration/replanting of native vegetation, to be implemented for the SSI.</p> <p>The Applicant shall demonstrate to the satisfaction of the Secretary how public authority comments on the Strategy have been addressed.</p> <p>The Strategy may be submitted in stages to suit the staging of the SSI.</p> | Open | The Connectivity Strategy (Sections 3-11) was submitted to Department of Planning & Environment and the Department of Environment and Energy on 14 December 2016 (this reporting period - October 2016 to March 2017). Approval of these plans was received in the next 6 monthly reporting period (April 2017 to September 2017). |
| BIODIVERSITY OFFSET STRATEGY | | | | |

| Category | Part | Requirement | Status | Comment |
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| | D3 | <p>The Applicant shall prepare and implement a Biodiversity Offset Strategy to outline how the ecological values lost as a result of the SSI will be offset in perpetuity. The Strategy shall be developed from the draft Biodiversity Offset Strategy in the documents listed in condition A2, in consultation with the QEH EPA, DPI (Fisheries) and DoE, to the satisfaction of the Secretary.</p> <p>Unless otherwise agreed to by the QEH EPA, DPI (Fisheries) and DoE, offsets shall be provided on a like-for-like basis and at a minimum ratio of 4:1 for native vegetation (including salt marsh) impacted by the SSI or as required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (Commonwealth of Australia 2012) and Offsets Assessment Guide (Commonwealth of Australia 2012), whichever is the greater.</p> <p>The Strategy shall include, but not necessarily be limited to:</p> <p>(a) the objectives and outcomes that would be sought through a biodiversity offset package, including to achieve a neutral or net beneficial outcome for all threatened species and endangered ecological communities likely to be impacted directly or indirectly during both the construction and operation of the SSI;</p> <p>(b) confirmation of the vegetation type/habitat (in hectares) to be cleared and their condition, and the size of offsets required (in hectares);</p> <p>(c) details of the available offset measures that have been selected to compensate for the loss of existing native vegetation (including mangroves, salt marsh and riparian vegetation), threatened and vulnerable species and Endangered Ecological Communities and their habitats, and identification of potential offset sites;</p> <p>(d) consideration of contingency measures for offsets to address potential changes to impacted areas as a result of detailed design changes;</p> <p>(e) a process for addressing and incorporating offset measures arising from changes in biodiversity impacts (where these changes are generally consistent with the biodiversity impacts identified for the SSI in documents listed under condition A2), including:</p> <p>(i) changes to the SSI footprint due to detailed design;</p> <p>(ii) changes to predicted impacts as a result of changes to mitigation measures;</p> <p>(iii) the identification of additional species/habitat through pre-clearance surveys and construction; and</p> <p>(iv) additional impact associated with the establishment of ancillary facilities;</p> <p>(f) the decision-making framework that would be used to select the final suite of offset measures to achieve the objectives and outcomes established within the Strategy, including the ranking of offset measures; and</p> <p>(g) options for securing and management of biodiversity offsets in perpetuity.</p> <p>The Applicant may elect to satisfy the requirements of this condition by identifying a suitable offset strategy which addresses impacts from multiple Pacific Highway Upgrade projects within the North Coast bioregion. Any such strategy, including an agreement made with QEH EPA and DoE, shall be approved by the Secretary within a timeframe agreed to by the Secretary.</p> <p>The Biodiversity Offset Strategy shall be submitted to, and approved by, the Secretary prior to the commencement of construction work that would result in the disturbance of the relevant existing ecological communities, threatened species, or their habitat, unless otherwise agreed by the Secretary.</p> | Closed | <p>Biodiversity Offset Strategy Approved (DPE 6 January 2016 and DoE 7 January 2016), meeting the Conditions of Approval:</p> <p>D3 - This report & Section 5.3 D3(a) - Sections 1.2, 1.3 & 2.3.3 D3(b) Sections 3 & 5 D3(c) Section 6 D3(d) Section 7.4 D3(e) Section 7.4 D3(f) Section 7 D3(g) Sections 6 & 7</p> |
| | D4 | <p>Prior to the commencement of construction work that would result in the disturbance of the relevant existing ecological communities, threatened species, or their habitat, unless otherwise agreed by the Secretary, the Applicant shall submit for the approval of the Secretary, the offset sites for the species listed under condition D4(a). The selection of the offset sites should be undertaken in consultation with the QEH EPA, DPI (Fisheries) and DoE. Submission of the offset sites for approval shall be accompanied by:</p> <p>(a) details of offset sites to compensate the impacts on:</p> <p>(i) Koala populations in Coolgardie/Bagotville, Broadwater and Woombah/Iluka;</p> <p>(ii) Moonee Quassia (Quassia sp. Moonee Creek);</p> <p>(iii) Sandstone Rough-Barked Apple (Angophora robur);</p> <p>(iv) Singleton Mint Bush (Prostanthera cineolifera); and</p> <p>(v) Lowland Rainforest in Sub-tropical Australia;</p> <p>(b) a map that defines the locations and boundaries of the sites;</p> <p>(c) demonstration, through ground truthing survey or an alternative method(s), the adequacy of the site(s), in terms of habitat suitability and presence of the relevant species, to offset the impacts of the SSI;</p> <p>(d) consideration of how the offsets achieve the outcomes required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy to the satisfaction of DoE; and</p> <p>(e) details of how the offset sites would be secured and managed in perpetuity.</p> | Open | Threatened Biodiversity Offset Status Report, updated 3 was approved by DPE on 30 June 2016 and DOEE on 18 July 2016. |
| BIODIVERSITY OFFSET STRATEGY | | | | |
| | D5 (a)-(g) | <p>The Applicant shall prepare and implement (following approval) a Biodiversity Offset Package, within twenty-four months of approval of the Biodiversity Offset Strategy, or as otherwise agreed by the Secretary. The package shall detail how the ecological values lost as a result of the SSI will be offset. The Biodiversity Offset Package shall be prepared in consultation with the QEH EPA, DPI (Fisheries) and DoE, for the approval of the Secretary, and shall (unless otherwise agreed by the Secretary) include, but not necessarily be limited to:</p> <p>(a) the identification of the extent and types of habitat that would be lost or degraded as a result of the final design of the SSI;</p> <p>(b) the objectives and biodiversity outcomes to be achieved;</p> <p>(c) details of the final suite of the biodiversity offset measures selected and secured in accordance with the Biodiversity Offset Strategy including the identification of all offset sites, including, offset attributes, shapefiles, textual descriptions and maps that clearly define the location, boundaries of the offset areas;</p> <p>(d) an assessment demonstrating how the offset area(s) achieve the outcomes required by the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy and user guide to the written satisfaction of DoE;</p> <p>(e) the management and monitoring requirements for compensatory habitat works and other biodiversity offset measures proposed to ensure the outcomes of the package are achieved, including:</p> <p>(i) the monitoring of the condition of species and ecological communities at offset locations;</p> <p>(ii) the methodology for the monitoring program(s), including the number and location of offset monitoring sites, and the sampling frequency at these sites;</p> <p>(iii) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the QEH EPA, DPI (Fisheries) and DoE; and</p> <p>(iv) the monitoring and reporting on the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(f) the results of targeted field surveys within the offset sites (undertaken at any ecologically appropriate time of the year) to assess and describe habitat suitability, presence/absence of threatened species and ecological communities and an assessment of the baseline population;</p> <p>(g) a description of the current quality (prior to any management activities) of the offset area(s);</p> | Open | A Biodiversity Offset Package will be prepared. Program currently being prepared. |

| Category | Part | Requirement | Status | Comment |
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| | D5(h)-(m) | <p>(h) targeted management actions, regeneration and/or revegetation strategies to be undertaken on the offset area(s) to improve the ecological quality of these areas for the relevant species and communities;</p> <p>(i) clear performance objectives for management actions that will enable maintenance and enhancement of habitat within the offset area, as well as contribute to the better protection of individuals and/or populations of the relevant species;</p> <p>(j) performance and completion criteria for evaluating the management of the offset area, including contingency actions, criteria for triggering contingency actions and a commitment to the implementation of these actions in the event that performance objectives are not met; a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(k) timing and responsibilities for the implementation of the provisions of the Biodiversity Offset Package and achieving performance objectives;</p> <p>(l) details of who would be responsible for monitoring, reviewing, and implementing the Biodiversity Offset Package; and</p> <p>(m) a description of funding arrangements or agreements including work programs and responsible entities.</p> <p>Land offsets shall be consistent with the Principles for the use of Biodiversity Offsets in NSW. Any land offset shall be enduring and be secured by a conservation mechanism which protects and manages the land in perpetuity. Where land offsets cannot solely achieve compensation for the loss of habitat, additional measures shall be provided to collectively deliver an improved or maintained biodiversity outcome for the region.</p> <p>The Biodiversity Offset Package shall include details of the offset sites approved under condition D4, and timeframe for the delivery of the offset sites.</p> <p>Where monitoring required under conditions D8 and/or D9 indicates that biodiversity outcomes are not being achieved, remedial actions. as approved by the Secretary, shall be undertaken to ensure that the objectives of the Biodiversity Offset Package are achieved.</p> <p>The requirements of the Biodiversity Offset Package shall be implemented by the responsible parties according to the timeframes set out in the Biodiversity Offset Package, unless otherwise agreed by the Secretary.</p> <p>Note:</p> <ul style="list-style-type: none">• If an offset site proposed as a part of the Biodiversity Offset Strategy or Biodiversity Offset Package is already required to be protected as a result of a separate approval, only the management actions which can be demonstrated to be additional to those required for the separate approval, can be considered as an offset for this project in accordance with the EPBC Act Environmental Offsets Policy 2012 (or subsequent published revisions). | Open | A Biodiversity Offset Package will be prepared. Program currently being prepared. |
| | D6 | <p>Prior to the commencement of construction of the relevant stage that would result in the disturbance of native vegetation (or as otherwise agreed by the Secretary), the Applicant shall prepare and implement a Nest Box Plan to provide replacement hollows for displaced fauna. The Plan shall be prepared in consultation with the EPA QEH and to the satisfaction of the Secretary. The Plan shall be prepared by a suitably qualified and experienced ecologist and detail the number and type of nest boxes to be installed, which shall be justified based on the number and type of hollows removed (based on pre clearing surveys), the density of hollows in the area to be cleared and in adjacent areas, and the availability of adjacent food resources. The Plan shall also provide details of maintenance protocols for the nest boxes installed including responsibilities, timing and duration.</p> | Closed | <p>Nest Box Plan approved (DPE approval 17 February 2015).</p> <p>Nest Box Management Plans for sections have been developed & approved by NSW Department of Planning & Environment:</p> <p>Nest Box MP Section 1 & 2: approved 16/1/15</p> <p>Nest Box MP Section 3: approved 23/2/15</p> <p>Nest Box MP Sections 4 & 5: approved 16/1/15</p> <p>Nest Box MP Section 6: approved 23/2/15</p> <p>Nest Box MP Section 7: approved 23/2/15</p> <p>Nest Box MP Sections 8 & 9: approved 16/1/15</p> <p>Nest Box MP SEction 10 & 11: approved 16/1/15</p> <p>These plans were informed by the results of detailed supplementary targeted surveys and the Nest Box Plans provide maintenance protocols, timing & duration</p> |
| BIODIVERSITY TRANSLOCATION STRATEGY | | | | |
| | D7 | <p>The Applicant shall prepare and implement a Flora Translocation Strategy to determine the feasibility and potential efficacy of translocation measures (as identified in the threatened species management plans required under condition D8), prior to the commencement of construction work that would result in the disturbance of threatened flora species for which translocation is proposed. The Strategy shall be prepared by a suitably qualified and experienced ecologist, in consultation with the QEH EPA and DoE, and to the satisfaction of the Secretary. The Strategy shall include:</p> <p>(a) a feasibility assessment of timeframe and staging requirements, availability of expertise, risk effectiveness analysis and availability/suitability of translocation sites;</p> <p>(b) detail of species specific information on the proposed methods of, and discussion of results of past recorded responses to, translocations;</p> <p>(c) a framework for the translocation process applicable to each affected species; and</p> <p>(d) consideration of appropriate compensatory habitat in the Biodiversity Offsets Package required under condition D5 where translocation is not reasonable or feasible.</p> | Closed | <p>Translocation Strategy Update 3 (for Section 3 -11) Approved by DPE on 2 February 2016.</p> <p>DoE have confirmed no comment. Translocation Strategy Update 2 (Waves 1, 2 and 3) Approval by DPE on 11 June 2015.</p> |
| BIODIVERSITY THREATENED SPECIES MANAGEMENT PLANS | | | | |
| | D8 (a)-(h) | <p>The Applicant shall prepare and implement Threatened Species Management Plans to detail how impacts of the SSI will be minimised and managed specifically for each species identified as significantly impacted in the documents listed in condition A2 or in accordance with condition D1. The Plans shall be developed from the draft Threatened Species Management Plans included in the documents listed in condition A2(c) (subject to condition D9), in consultation with EPA QEH, DPI (Fisheries) and DoE, and to the satisfaction of the Secretary, and shall include but not necessarily be limited to:</p> <p>(a) demonstration that adequate surveys have been undertaken to assess the impacts of the SSI with reference to the Mitigation Framework developed under condition D1, including baseline data collected from surveys, undertaken by a suitably qualified and experienced ecologist on threatened species and ecological communities within all habitat areas to be cleared of vegetation for the SSI, that are likely to contain these species and that are likely to be adversely impacted by the SSI (as determined by a suitably qualified expert). The data shall address the densities, distribution, habitat use and movement patterns of these species;</p> <p>(b) identification of potential impacts on each species;</p> <p>(c) details of and demonstrated effectiveness of the proposed avoidance and mitigation and management measures to be implemented for each threatened species including measures to at least maintain habitat values of habitat areas compared to baseline data and maintain connectivity for the relevant species;</p> <p>(d) an adaptive monitoring program to assess the use of the mitigation measures identified in conditions B10 and D2. The monitoring program shall nominate appropriate and justified monitoring periods, performance parameters and criteria against which effectiveness of the mitigation measures will be measured and include operational road kill and fauna crossing surveys to assess the use of fauna crossings and exclusion fencing implemented as part of the SSI;</p> <p>(e) monitoring methodology for threatened flora and fauna adjacent to the SSI footprint,</p> <p>(f) goals and performance indicators to measure the success of mitigation measures, which shall be specific, measurable, achievable, realistic and timely (SMART), and be compared against baseline data;</p> <p>(g) methodology for the ongoing monitoring of road kill, the species densities, distribution, habitat use and movement patterns, and the use of fauna crossings during construction and operation of the SSI, including the proposed timing, and duration of that monitoring;</p> <p>(h) provision for the assessment of monitoring data to identify changes to habitat usage and whether this can be attributed to the SSI;</p> | Closed | <p>The following Threatened Species Management Plans have been prepared and approved:</p> <p>Threatened Flora Management Plan Update 1 (Section 1, Section 2, Waves 1, 2 and 3) DPE Approval 30 April 2015, DoE Approval 5 May 2015.</p> <p>Threatened Flora Management Plan Update 2 (Sections 3 to 11) DPE Approval 21 August 2015, DoE Approval 4 September 2015.</p> <p>Threatened Rainforest Plants Management Plan (Section 10) DPE Approval 11 September 2015.</p> <p>Threatened Mammal Management Plan Update 1 DPE Approval 7 May 2015, DoE Approval 12 May 2015.</p> <p>Threatened Mammal Management Plan Update 2 DPE Approval 21 October 2015, DoE Approval 25 October 2015.</p> <p>Threatened Invertebrates Management Plan DPE Approval 29 July 2015.</p> <p>Threatened Fish Management Plan DPE Approval 30 July 2015.</p> <p>Threatened Frog Management Plan DPE Approval 7 May 2015.</p> <p>Threatened Glider Management Plan DPE Approval 4 May 2015.</p> <p>Coastal Emu Management Plan (Sections 3 and 4, excluding Wave 3) DPE Approval 3 June 2015.</p> <p>Coastal Emu Management Plan (includes updates for Wave 3) DPE Approval 18 December 2015.</p> <p>Microbat Management Plan (Section 3 to 11) DPE approval 25 May 2015.</p> <p>Koala Management Plan (Section 1 to 11), DPE Approval 4 August 2016, DoE Approval 11 August 2016.</p> |

| Category | Part | Requirement | Status | Comment |
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| | D8 (i)-(l) | <p>(i) details of contingency measures that would be implemented in the event of changes to habitat usage patterns, entities, distribution, and movement patterns attributable to the construction or operation of the SSI, based on adequate baseline data;</p> <p>(j) mechanisms for the monitoring, review and amendment of these plans;</p> <p>(k) provision for ongoing monitoring during operation of the SSI (for operation/ongoing impacts) until such time as the use and effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods, unless otherwise agreed by the Secretary in consultation with the EPA QEH, DPI (Fisheries) and DoE; and</p> <p>(l) provision for annual reporting of monitoring results to the Secretary and the QEHEPA, DPI (Fisheries) and DoE, or as otherwise agreed by those agencies.</p> <p>In developing the Plans, the Applicant shall demonstrate to the satisfaction of the Secretary and DoE, how the public authorities and expert reviewer recommendations provided for each draft plan in the documents listed in condition A2(c) have been addressed, including detailed justification of any variance from the recommendations of the expert reviewer of the management plans, including analysis of potential risk to the threatened species.</p> <p>The Plans must be submitted and approved by the Secretary prior to commencement of construction of the relevant stages of the action, and implemented prior to commencement of construction of the relevant stages, unless otherwise agreed by the Secretary.</p> | Closed | As above. Approved Threatened Species Management Plans form part of the approved Pacific Complete CEMP (i.e. Construction Flora and Fauna Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with the relevant requirements of the various Threatened Species Management Plans. |
| | D9 (a)-(c) | <p>As part of the Threatened Species Management Plans required under condition D8, the Applicant shall prepare and implement a Koala Management Plan to demonstrate the ongoing survival of the Koala populations at Coolgardie/Bagotville, Broadwater and Woombah/Iluka. The Plan shall be prepared by a suitably qualified and experienced species expert and shall include, but not necessarily be limited to:</p> <p>(a) results of detailed surveys to determine:</p> <p>(i) the population status of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka Koala populations;</p> <p>(ii) habitat use and movement patterns of Koala populations within five kilometres of the proposed upgrade, or such area as determined by the independent ecologist; and</p> <p>(iii) habitat areas likely to be fragmented by the SSI; including the results of SPOT assessment and radio tracking.</p> <p>The results and adequacy of surveys shall be verified by an independent suitably qualified and experienced ecologist with appropriate qualifications and experience in Koala and road ecology. Where appropriate, the Applicant may vary the required area of survey specified under condition D9(a)(ii) to the satisfaction of the independent ecologist;</p> <p>(b) a detailed assessment of the impacts to the Koala populations based on the survey results required by condition D9(a), including population impacts and the identification of habitat likely to be fragmented and/or isolated as a result of the SSI;</p> <p>(c) a detailed description, including the location and design, of all proposed avoidance and mitigation measures;</p> | Closed | Koala Management Plan (Section 1 to 11) was approved by DPE on 4 August 2016 and DoE on 11 August 2016. This updated Koala Management Plan includes the management of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka koala populations and a Population Viability Analysis (PVA) for the Ballina koala population. |
| | D9 (d) | <p>(d) justification that the location and design of mitigation measures:</p> <p>(i) have been designed with the objective of no Koala road kill from the commencement of construction of the SSI. In the event that a Koala is injured or killed during construction or operation, this shall be reported on the Applicant's website within 24 hours of this occurring, and the record shall remain available for a period of at least five years, unless otherwise agreed by the Secretary;</p> <p>(ii) include permanent fencing of the entire SSI for the length of the distribution of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka populations and for two kilometres beyond the distribution of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka population, following the highway or to the nearest natural barrier to Koala movement (e.g. river), after baseline surveys are complete in accordance with condition D9(a) and prior to operation;</p> <p>(iii) result in the complete, safe crossing of fauna crossings by the Koala. Fauna crossings shall be provided at a sufficient frequency to ensure that habitat connectivity is maintained or improved from pre-construction conditions, as determined by the independent ecologist and agreed by EPA QEH;</p> <p>(iv) provide sufficient opportunities for species dispersal and re-colonisation as determined by the independent ecologist and EPA QEH;</p> <p>(v) are in areas that, and are at a sufficient frequency to, achieve (i) - (iv), based on site specific information contained in the survey results required by condition D9(a) and the ecological requirements of the Koala, including but not limited to home range size, local movement patterns and habitat use, in accordance with the advice of the independent ecologist and EPA QEH;</p> <p>(vi) all koala underpass structures shall have a minimum height and width of 2.4 metres and a maximum length of 40 metres, or a minimum height and width of 3 metres and a maximum length of 50 metres. The underpass/culvert entrance shall be located at ground level, and no higher in the fill. Structures that provide passage over the road shall have a minimum width of 30 metres and shall be treated with contiguous habitat features;</p> <p>(vii) provide passage for Koalas under or over the existing highway (where the existing highway forms part of the SSI) and service roads or local roads (servicing over 100 vehicles per day);</p> <p>(viii) effectively minimise the risk of predation from dogs in both dedicated and combined crossings;</p> <p>(ix) provide dry passage for dedicated fauna crossings and for combined fauna crossings to the satisfaction of EPA QEH and DoE, at a flood immunity level determined in accordance with condition D2(c)(j);</p> <p>(x) provide habitat linkages to crossing structures from adjacent Koala habitat; and</p> <p>(xi) ensures that pathways to connectivity structures are not impeded by ancillary facilities, rest areas, service roads or local roads;</p> | Closed | Koala Management Plan (Section 1 to 11) was approved by DPE on 4 August 2016 and DoEE on 11 August 2016. This updated Koala Management Plan includes the management of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka koala populations and a Population Viability Analysis (PVA) for the Ballina koala population. |

| Category | Part | Requirement | Status | Comment |
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| | D9 (e)-(i) | <p>(e) if the mitigation measures discussed in condition D9(d) cannot be demonstrated to be effective to the satisfaction of the Secretary, in consultation with EPA OEH and DoE, provision for the Plan to be revised to include the design and construction of a minimum of one dedicated underpass or land bridge every 500 metres. Underpass structures shall have a minimum height and width of three metres and a maximum length of 50 metres.</p> <p>(f) provision for the installation and vegetation planting of fauna overpasses prior to the commencement of construction;</p> <p>(g) a revegetation strategy to be implemented to increase connectivity adjacent to the SSI and leading to crossing locations, and the provision of vegetation planting on land bridges, to ensure the establishment of the vegetation prior to the commencement of construction;</p> <p>(h) details of the proposed monitoring methodology to ensure the effectiveness of the mitigation measures and the ongoing survival of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka Koala populations. Monitoring shall:</p> <p>(i) include goals that demonstrate the mitigation measures are effective, including clear objectives, milestones, performance measures, corrective actions, and thresholds for corrective actions, and timeframes for completion;</p> <p>(ii) occur until such time as the mitigation measures are demonstrated to be effective for three consecutive monitoring periods, or as agreed by the Secretary, to the satisfaction of the independent ecologist and OEH; and</p> <p>(iii) for the purposes of the Coolgardie/Bagotville population, consider the results of the surveys undertaken in the Koala habitat and population assessment: Ballina Shire Council LGA (Biolink Ecological Consultants Pty Ltd, November 2013) in determining the baseline population;</p> <p>(i) where the results of monitoring undertaken in accordance with condition D9(h) suggests that the mitigation measures are ineffective or changes to the population have occurred, the Applicant shall provide the Secretary, within one month of recording the changes, the corrective actions that have been implemented or proposed to be implemented, or a procedure for demonstrating that this change is not a result of the SSI. Should the Applicant be unable to demonstrate to the satisfaction of the Secretary that any change to the population is not attributable to the SSI, the SSI shall be deemed as the cause of the impact and the Applicant shall, within one month of these findings, provide, to the satisfaction of the Secretary, in consultation with the EPA OEH and DoE, the proposed corrective actions to address the impacts of the SSI. Any required corrective actions shall include, but not necessarily be limited to:</p> <p>(i) installation of further crossings or modifications to existing crossings and the provision of evidence of the complete, safe crossing of these fauna crossings by the Koala. Any additional crossings shall be provided at a sufficient frequency to ensure that habitat connectivity is maintained or improved from pre-construction conditions, within two years of their installation; and</p> <p>(ii) reassessment of all revegetation areas and frequent reporting and maintenance including addressing failures;</p> | Closed | Koala Management Plan (Section 1 to 11) was approved by DPE on 4 August 2016 and DoEE on 11 August 2016. This updated Koala Management Plan includes the management of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka koala populations and a Population Viability Analysis (PVA) for the Ballina koala population. |
| | D9 (j)-(k) | <p>(j) if the measures in condition D9(i) cannot be demonstrated to be successful within one year of their implementation, procedure for the submission of further offsets in accordance with conditions D5 and D6(j), to be provided within one year of these findings. Further offsets may include:</p> <p>(i) the legal protection and conservation management of additional areas of existing habitat that actively regenerated and secured into conservation management; and/or</p> <p>(ii) strategic revegetation of cleared areas to improve connectivity; and/or</p> <p>(iii) development of a supplementary feeding program and/or breeding program; and/or</p> <p>(iv) development of a long term predator control program; and</p> <p>(k) evidence of consultation with species experts, EPA OEH and DoE in addressing the requirements of this condition, and demonstration of how comments provided by the species experts, EPA OEH and DoE, as a result of this consultation, have been addressed.</p> <p>The Koala Management Plan shall be submitted and approved by the Secretary prior to the commencement of construction of the relevant stages of the SSI. The approved Koala Management Plan shall be implemented prior to the commencement of construction of the relevant stages.</p> | Closed | Koala Management Plan (Section 1 to 11) was approved by DPE on 4 August 2016 and DoEE on 11 August 2016. This updated Koala Management Plan includes the management of the Coolgardie/Bagotville, Broadwater and Woombah/Iluka Koala populations and a Population Viability Analysis (PVA) for the Ballina Koala population. |
| NOISE AND VIBRATION LAND USE SURVEY | | | | |
| | D10 | Prior to the commencement of construction, the Applicant shall undertake a land use survey to identify areas that are sensitive to construction vibration and construction ground-borne noise impacts. The results of the survey shall be incorporated into the Construction Noise and Vibration Management Plan. | Closed | Pacific Complete (Delivery Partner of Roads and Maritime Services) has an approved Construction Environmental Management Plan (CEMP) covering Sections 3 to 11. The land use survey was incorporated into the Construction Noise and Vibration Management Plan which was approved by DPE on 3 December 2015. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| NOISE AND VIBRATION OPERATIONAL NOISE REVIEW | | | | |
| | D11 | <p>The Applicant shall prepare 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 prepared in consultation with the EPA, to the satisfaction of the Secretary. The review may be submitted in stages to suit the staged construction of the SSI and shall:</p> <p>(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);</p> <p>(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</p> <p>(c) where necessary, investigate additional feasible and reasonable noise mitigation measures to achieve the criteria outlined in the NSW Road Noise Policy (DECCW, 2011).</p> | Open | These reports are been developed as part of the detailed design process. Secretarial approval was granted on 2/3/2017 for an extension of time to the submission date for the Operational Noise Review Report until 1 July 2017. |
| WATER QUALITY MONITORING PROGRAM | | | | |

| Category | Part | Requirement | Status | Comment |
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| | D12 | <p>The Applicant shall prepare and implement a Water Quality Monitoring Program, to monitor the construction and operation impacts of the SSI on surface and groundwater quality and resources and wetlands, prior to construction. The Program shall be prepared in consultation with the OEH, EPA, DPI (Fisheries), NOW, DoE and Rous Water (in relation to the Woodburn borefields), to the satisfaction of the Secretary, and shall include but not necessarily be limited to:</p> <p>(a) identification of surface and groundwater quality monitoring locations (including watercourses, waterbodies and SEPP14 wetlands) which are representative of the potential extent of impacts from the SSI;</p> <p>(b) the results of any groundwater modelling undertaken;</p> <p>(c) identification of works and activities during construction and operation of the SSI, including emergencies and spill events, that have the potential to impact on surface water quality of potentially affected waterways and known Oxleyan Pygmy Perch habitat;</p> <p>(d) development and presentation of parameters and standards against which any changes to water quality will be assessed, having regard to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (Australian and New Zealand Environment Conservation Council, 2000) or relevant baseline data;</p> <p>(e) representative background monitoring of surface and groundwater quality parameters for a minimum of twelve months (considering seasonality) prior to the commencement of construction, to establish baseline water conditions, unless otherwise agreed by the Secretary;</p> <p>(f) a minimum monitoring period of three years following the completion of construction or until the affected waterways and/or groundwater resources are certified by an independent expert as being rehabilitated to an acceptable condition. The monitoring shall also confirm the establishment of operational water control measures (such as sedimentation basins and vegetation swales);</p> <p>(g) contingency and ameliorative measures in the event that adverse impacts to water quality are identified; and</p> <p>(h) reporting of the monitoring results to Department of Planning and Environment, OEH, EPA, DPI (Fisheries), NOW, DoE and Rous Water (in relation to the Woodburn borefields).</p> | Open | Pacific Highway Upgrade - Woolgoolga to Ballina Sections 3 to 11 Water Quality Monitoring Program (sixth issue, 21 August 2015) was approved on 24 August 2015. The Water Quality Monitoring Program forms part of the approved Pacific Complete CEMP (Appendix B4 - Construction Soil and Water Quality Management Plan). Pacific Complete will manage the procurement of required surface water and groundwater monitoring and reporting etc. during the construction and operational phase of the project as per the requirements of the Water Quality Monitoring Program. |
| HYDROLOGICAL MITIGATION REPORT | | | | |
| | D13 | <p>The Applicant shall prepare and implement a Hydrological Mitigation Report for properties where flooding and/or hydrological impacts are predicted to exceed the relevant flood management objective in the documents listed in condition A2 as a result of the SSI. The Report shall be prepared by a suitably qualified expert and be based on detailed surveys (e.g. floor levels) and associated assessment of potentially flood affected properties in the Corindi, Clarence and Richmond river floodplains. The Report shall:</p> <p>(a) identify properties in those areas likely to have an increased/exacerbated 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, impacts on infrastructure, impacts on stock and agriculture, and impacts to the environment;</p> <p>(b) identify mitigation measures to be implemented to address these impacts;</p> <p>(c) 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 and cause localised soil erosion and/or pasture damage;</p> <p>(d) be developed in consultation with the relevant council, NSW State Emergency Service and directly-affected landowners;</p> <p>(e) identify operational and maintenance responsibilities for items (a) to (c) inclusive; and</p> <p>(f) refer to the assessments described in conditions B31 and B32.</p> <p>The report may be submitted in stages to suit the staged construction of the SSI.</p> <p>Construction shall not commence within those areas likely to have altered flood conditions until such time as works identified in the hydrological mitigation report have been completed, unless otherwise agreed by the Secretary.</p> | Open | The Hydrological Mitigation Reports was submitted to DPE on 17 March 2017. |
| | D14 | Based on the mitigation measures identified in condition D13, the Applicant 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. 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 of Planning and Environment and the relevant council prior to the implementation/construction of the mitigation measures on the property. | Open | The Hydrological Mitigation Reports will advise flood mitigation measures to be implemented at directly affected properties. |
| | D15 | The Applicant shall employ a suitably qualified and experienced independent hydrological expert, whose appointment has been endorsed by the Secretary, to deal with all hydrological matters and assist landowners in negotiating feasible and reasonable mitigation measures. | Closed | Mark Babister from WMA Water has been appointed as the suitably qualified independent hydrological expert for the project. |
| | D16 | The Applicant shall provide feasible and reasonable assistance to the relevant council and/or NSW State Emergency Service, to prepare any new or necessary update(s) to the relevant plans and documents in relation to flooding, to reflect changes in flooding levels, flows and characteristics as a result of the SSI. | Open | Noted. |
| TRANSPORT AND ACCESS. | | | | |
| | D17 | <p>The Applicant shall prepare and implement a Signage Policy to addresses the impact of towns (South Grafton, Ulmarra, Tyndale, Woodburn, Broadwater and Wardell) which are bypassed by the SSI, at least six months prior to operation, unless otherwise agreed by the Secretary. The Policy shall be prepared in consultation with the relevant council and to the satisfaction of the Secretary.</p> <p>The Policy shall be consistent with the Guide: Signposting (RTA July 2007), Tourist Signposting guide (RMS and Destination NSW 2012) and provide for signage that:</p> <p>(a) provides information on the range of services available within the bypassed towns of South Grafton. Ulmarra, Tyndale, Woodburn, Broadwater and Wardell; and</p> <p>(b) informs motorists of routes through the bypassed towns that may be taken as an alternative to the highway.</p> <p>The Policy may be submitted in stages to suit the staged construction of the SSI.</p> | Open | Noted. To be prepared 6 months prior to operation. |
| | D18 | <p>The Applicant shall prepare and implement a Business Access Strategy to address changes to access to businesses along the highway, at least six months prior to operation. The Strategy shall be prepared in consultation with the relevant council, business owners and the New Italy Museum and to the satisfaction of the Secretary.</p> <p>Note</p> <ul style="list-style-type: none"> The Applicant may incorporate the requirements of this condition into the Signage Policy for the SSI under condition D17. | Open | Noted. To be prepared 6 months prior to operation. |
| ROAD DILAPIDATION | | | | |
| | D19 | <p>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. The Report shall assess the current condition of the road and describe mechanisms to restore any damage that may result due to its use by traffic and transport related to the construction of the SSI. The Report shall be submitted to the relevant council for review prior to the commencement of haulage.</p> <p>Following completion of construction, a subsequent Report shall be prepared to assess any damage to the road that may have resulted from the construction of the SSI.</p> <p>Measures undertaken to restore or reinstate roads affected by the SSI shall be undertaken in a timely manner, in accordance with the reasonable requirements of the relevant council, and at the full expense of the Applicant.</p> <p>Note:</p> <ul style="list-style-type: none"> Nothing in this condition restricts the Applicant 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. | Open | Road dilapidation reports have been prepared for haulage roads utilised during the reporting period. Subsequent reports will be prepared following completion of corresponding construction activities. |
| URBAN DESIGN AND LANDSCAPING | | | | |

| Category | Part | Requirement | Status | Comment |
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| | D20 (a)-(d) | <p>The Applicant shall prepare and implement an Urban Design and Landscape 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, the design principles outlined in the EIS, and the revegetation principles outlined in the EIS Working Paper—Biodiversity. The Plan shall be prepared by an appropriately qualified expert in consultation with the relevant council and community, to the satisfaction of the Secretary. The Plan shall include, but not necessarily be limited to:</p> <p>(a) identification of design principles and standards based on:</p> <ul style="list-style-type: none">(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; and(vii) the urban design objectives outlined in Section 4.2 of the EIS Working Paper—Urban Design Landscape Character and Visual Impact; <p>(b) 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, including their appropriateness to the area and habitat for threatened species;</p> <p>(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, watercourse crossings, 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;</p> <p>(d) take into account appropriate roadside plantings and landscaping in the vicinity of heritage items and ensure no additional heritage impacts;</p> | Open | Urban Design and Landscape Plans have been prepared during detailed design. An extension to the submission of the Urban Design and Landscape Plan for Sections 3-11 was approved by DPE on 20/12/2016 with new submission date end June 2016. Submission of the Urban Design and Landscape Plans will be captured in the next 6 monthly reporting period (April 2017 - September 2017). |
| | D20 (e)-(k) | <p>(e) a description of disturbed areas (including borrow sites) and details of the strategies to progressively rehabilitate, regenerate and/or revegetate these areas, including clear objectives and timeframes for rehabilitation works, procedures for monitoring success of regeneration or revegetation, and corrective actions should regeneration or revegetation not conform to the objectives adopted;</p> <p>(f) location and design treatments for any associated footpaths and cyclist elements, and other features such as seating, lighting (in accordance with AS 4282-1997 Control of the Obtrusive Effect of Outdoor Lighting), fencing, materials and signs;</p> <p>(g) 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 Applicant 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>(h) 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>(i) strategies for progressive landscaping and other environmental controls such as erosion and sedimentation controls, drainage and noise mitigation;</p> <p>(j) monitoring and maintenance procedures for the built elements, rehabilitated vegetation and landscaping (including weed control). including performance indicators, responsibilities, timing and duration and contingencies where rehabilitation of vegetation and landscaping measures fail; and</p> <p>(k) evidence of consultation with the relevant council and community on the proposed urban design and landscape measures prior to its finalisation.</p> <p>The Plan may be submitted in stages to suit the staged construction program of the SSI.</p> | Open | Urban Design and Landscape Plans have been prepared during detailed design. An extension to the submission of the Urban Design and Landscape Plan for Sections 3-11 was approved by DPE on 20/12/2016 with new submission date end June 2016. Submission of the Urban Design and Landscape Plans will be captured in the next 6 monthly reporting period (April 2017 - September 2017). |
| ANCILLARY FACILITIES | | | | |
| | D21 | <p>The Applicant shall prepare and implement an Ancillary Facilities Management Plan to detail the management of ancillary facilities associated with the SSI. The Plan shall be prepared in consultation with the EPA, OEH, DPI (Fisheries), DoE, and the relevant council, and to the satisfaction of the Environmental Representative, and shall include, but not necessarily be limited to:</p> <p>(a) a description of the ancillary facility (including a site layout plan), its components and details of the existing environment on and in the vicinity of the site;</p> <p>(b) details of the activities to be carried out at the facility, including the hours of operation, staging of operation and predicted date of commissioning;</p> <p>(c) a description of the plant, equipment and materials to be used and/or stored on the site, including dangerous and hazardous goods;</p> <p>(d) details of the light and heavy construction vehicle movements to and from each facility, including site access and route(s) to be used during the establishment and operation of the facility, and an assessment of potential construction traffic impacts on the local road network and access tracks;</p> <p>(e) a summary of the potential environmental impacts associated with the construction and operation of the facility;</p> <p>(f) demonstrate compliance with the locational and environmental criteria in condition B73(a)—B73(n);</p> <p>(g) details of the mitigation, monitoring and management procedures specific to the facility that would be implemented to minimise environmental and amenity impacts or, where this is not possible, feasible and reasonable measures to offset these impacts;</p> <p>(h) a description of how the management and mitigation measures set out in the documents listed in condition A2 will be implemented on the site, and if not, justification for such decisions particularly on those sites assessed as having a high risk of flood impacts;</p> <p>(i) an assessment of alternative site layouts where either noise management levels are predicted to be exceeded and acoustic treatment of residences is not proposed, or where such treatment is proposed (consequent to the operational impacts of the SSI) but will not be provided prior to establishment of an ancillary facility;</p> <p>(j) a cumulative noise impact statement for the ancillary facility addressing the worst-case cumulative noise impacts resulting from the concurrent operation of the site (including construction traffic movements to and from the site), nearby construction works within the SSI corridor and any other nearby construction activities associated with other road upgrade projects;</p> <p>(k) identification of the timing for the completion of activities at the facility and how the site will be decommissioned (including any necessary rehabilitation); and</p> <p>(l) mechanisms for the monitoring, review and amendment of this plan.</p> <p>The plan shall be approved by the Environmental Representative prior to the establishment of the ancillary facilities described therein. In considering the approval of the plan, the Environmental Representative shall take into account the Applicant's response to public authority and council comments on the plan.</p> <p>The Applicant may prepare a separate plan for the facility or include multiple sites within a single or multiple management plans.</p> | Closed | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete and contractors in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). Ancillary Facility Management Plans are approved by the ER. If required the plan will be submitted to the Secretary for approval. |
| BORROW SITES | | | | |

| Category | Part | Requirement | Status | Comment |
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| | D22 | <p>The Applicant shall prepare and implement a Borrow Sites Management Plan, to manage the construction, operation and rehabilitation of the borrow sites used to source construction material for the SSI, prior to the commencement of construction at the borrow sites, or as otherwise agreed by the Secretary. The Plan shall be prepared in consultation with the EPA, OEH and DPI (Fisheries) and to the satisfaction of the Secretary, and shall include, but not necessarily be limited to:</p> <p>(a) details of construction/extraction methods and activities carried out at the borrow site;</p> <p>(b) management and mitigation measures to be used to minimise surface and groundwater impacts, Aboriginal and non-Aboriginal heritage, air quality, noise and vibration, biodiversity and visual impacts;</p> <p>(c) consultation with sensitive receivers; and</p> <p>(d) details of the rehabilitation of the borrow site, including future landform and use of the borrow site, landscaping and revegetation, and measures that would be implemented to minimise or manage the ongoing environmental effects of the site.</p> <p>The Plan shall demonstrate that the construction and operation of the Lang Hill borrow site has no adverse impact on the known Oxleyan Pygmy Perch habitat waterway.</p> | Open | <p>Pacific Complete will prepare site specific Borrow Site Management Plans as required by the project approval. This requirement will apply to all borrow site management plans prepared by Pacific Complete.</p> <p>The Tyndale Borrow Site Management Plan (Portion A) was approved in August 2016 by DPE. The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. Management Plans are currently being prepared for a number of borrow sites in Portion D such as Lumley's Hill, which will be approved in the next 6 monthly reporting period.</p> |
| ENVIRONMENTAL REPRESENTATIVE | | | | |
| | D23 | <p>Prior to the commencement of construction of the SSI, or as otherwise agreed by the Secretary, the Applicant 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 Applicant 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 Applicant upon the achievement of these plans/programs;</p> <p>(c) have responsibility for considering and advising the Applicant 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 Applicant'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 B17. These works shall be conducted in accordance with the Out of Hours Works Protocol (OOHW Protocol) required in accordance with condition D26(vi);</p> <p>(g) be given the authority to approve/reject ancillary facilities in accordance with conditions B73 and B74 and the Ancillary Facilities Management Plans under condition D21;</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 Applicant and the community is required</p> | Closed | <p>Murray Curtis, from ERM, is the Environmental Representative for the Stage 2 works (i.e. Sections 3 to 11).</p> |
| | D24 | <p>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 D23 for the preceding month. The reports shall be submitted for the duration of construction of the SSI, unless otherwise agreed by the Secretary.</p> | Open | Noted. |
| CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN | | | | |
| | D25 (a)-(c) | <p>The Applicant shall prepare and implement (following approval) 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 the EPA, OEH, DPI (Fisheries), NOW and DoE and outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the Guideline for the Preparation of Environmental Management Plans (Department of Infrastructure, Planning and Natural Resources, 2004). The Plan shall include, but not necessarily be limited to:</p> <p>(a) a description of activities to be undertaken during construction of the SSI (including staging and scheduling);</p> <p>(b) statutory and other obligations that the Applicant is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;</p> <p>(c) a description of the roles and responsibilities for relevant employees involved in the construction of the SSI, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors, are aware of their environmental and compliance obligations under these conditions of approval;</p> | Open | <p>Pacific Complete (Delivery Partner of Roads and Maritime Services) has an approved Construction Environmental Management Plan (CEMP) covering Sections 3 to 11. The Pacific Complete CEMP was approved by DPE on 23 October 2015. Pacific Complete will approve Contractor EMPs, EWWs and ESCPs to ensure compliance with the Pacific Complete CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA.</p> |

| Category | Part | Requirement | Status | Comment |
|----------|---------|--|--------|---|
| | D25 (d) | <p>(d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the SSI). In particular, the following environmental performance issues shall be addressed in the Plan:</p> <ul style="list-style-type: none"> (i) measures to monitor and manage dust emissions including dust from stockpiles, blasting, traffic on unsealed public roads and materials tracking from construction sites onto public roads; (ii) measures to minimise hydrology impacts, including measures to stabilise bed and bank structures as required; (iii) measures for the handling, treatment and management of contaminated materials; (iv) measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; use of secondary waste material in construction wherever feasible and reasonable; procedures or dealing with green waste including timber and mulch from clearing activities; and measures for reducing demand on water resources (including potential for reuse of treated water from sediment control basins); (v) measures to monitor and manage spoil, fill and materials stockpile sites including details of how spoil, fill or material would be handled, stockpiled, reused and disposed in a Stockpile Management Protocol. The Protocol shall include details of the locational criteria that would guide the placement of temporary stockpiles, and management measures that would be implemented to avoid/minimise amenity impacts to surrounding residents and environmental risks (including surrounding water courses). Stockpile sites that affect heritage, threatened species, populations or endangered ecological communities require the approval of the Secretary, in consultation with the EPA, OEH and DPI (Fisheries); (vi) measures to monitor and manage hazard and risks including emergency management and management measures to address potential risks to the Woodburn borefield drinking water catchment. These measures shall be developed in consultation with Rous Water; (vii) the issues identified in condition D26; (viii) details of community involvement and complaints handling procedures during construction, consistent with the requirement of conditions C1 to C4; (ix) details of compliance and incident management consistent with the requirements of condition D27; and (x) procedures for the periodic review and update of the Construction Environmental Management Plan and Plans required under condition D26, as necessary (including where minor changes can be approved by the Environmental Representative). <p>The Plan shall be submitted for the approval of the Secretary no later than one month prior to the commencement of construction, or as otherwise agreed by the Secretary. The Plan may be prepared in stages, however, construction works shall not commence until written approval of the relevant stage has been received from the Secretary.</p> <p>The approval of a Construction Environmental Management Plan does not relieve the Applicant of any requirement associated with this SSI approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this SSI approval, the requirements of this SSI approval shall prevail.</p> | Open | Pacific Complete (Delivery Partner of Roads and Maritime Services) has an approved Construction Environmental Management Plan (CEMP) covering Sections 3 to 11. The Pacific Complete CEMP was approved by DPE on 23 October 2015. Pacific Complete will approve Contractor EMPs, EWWs and ESCPs to ensure compliance with the Pacific Complete CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA. |
| | D26 (a) | <p>As part of the Construction Environmental Management Plan for the SSI, the Applicant shall prepare and implement:</p> <p>(a) a Construction Noise and Vibration Management Plan to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be developed in consultation with the EPA and shall be consistent with the guidelines contained in the Interim Construction Noise Guidelines (DECC, 2009) and shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) identification of sensitive receivers and relevant construction noise and vibration goals applicable to the SSI stipulated in this approval; (ii) details of construction activities and an indicative schedule for construction works; including the identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to generate noise and/or vibration impacts on surrounding sensitive receivers, particularly residential areas; (iii) identification of feasible and reasonable measures proposed to be implemented to minimise and manage construction noise and vibration impacts (including construction traffic noise impacts); (iv) procedures and mitigation measures to ensure relevant vibration and blasting criteria are achieved, including a suitable blast program, applicable buffer distances for vibration intensive works, use of low-vibration generating equipment/vibration dampeners or alternative construction methodology, and pre- and post-construction dilapidation surveys of sensitive structures where blasting and/or vibration is likely to result in damage to buildings and structures (including surveys being undertaken immediately following a monitored exceedance of the criteria); and (v) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, the locations where monitoring would take place, how the results of this monitoring would be recorded and reported, and, if any exceedance is detected, how any non-compliance would be rectified; (vi) an out-of-hours work (OOHW) protocol for the assessment, management and approval of works outside of standard construction hours as defined in condition B15, including a risk assessment process under which the Environmental Representative may approve out-of-hour construction activities. The OOHW protocol shall detail standard assessment, mitigation and notification requirements for high and low risk out-of-hour works, consultation procedures with the EPA, the relevant council and affected landowners; (i) procedures for notifying sensitive receivers of construction activities that are likely to affect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints; (vii) a program for construction noise and vibration monitoring clearly indicating monitoring frequency, location, how the results of this monitoring would be recorded and, procedures to be followed where exceedances of relevant noise and vibration goals are detected; and (viii) mechanisms for the monitoring, review and amendment of this plan. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 - Construction Noise and Vibration Management Plan). The Pacific Complete Construction Noise and Vibration Management Plan was approved by DPE on 3 December 2015. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with the PC CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA. |
| | D26 (b) | <p>(b) a Construction Traffic and Access Management Plan to manage construction traffic and access impacts of the SSI. The Plan shall be developed in consultation with the relevant council and shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) identification of construction traffic routes and construction traffic volumes (including heavy vehicle/spoil haulage) on these routes; (ii) details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points; (iii) identification of construction impacts that could result in disruption of traffic, public transport, pedestrian and cycle access, property access, including details of oversize load movements; (iv) details of management measures to minimise traffic impacts, including temporary road work traffic control measures, onsite vehicle queuing and parking areas and management measures to minimise peak time congestion and measures to ensure safe pedestrian and cycle access; (v) details of measures to manage traffic movements, parking, loading and unloading at ancillary facilities during out-of-hours work; (vi) a response plan which sets out a proposed response to any traffic, construction or other incident; and (vii) mechanisms for the monitoring, review and amendment of this plan. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan) which was approved by DPE on 23 October 2015. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with the PC CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA. |

| Category | Part | Requirement | Status | Comment |
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| | D26 (c) | <p>(c) a Construction Soil and Water Quality Management Plan to manage surface and groundwater impacts during construction of the SSI. The Plan shall be developed in consultation with the EPA, DPI (Fisheries), NOW, Rous Water (in relation to the Woodburn borefield), DoE and the relevant council and include, but not necessarily be limited to:</p> <p>(i) details of construction activities and their locations, which have the potential to impact on water courses, storage facilities, stormwater flows, and groundwater;</p> <p>(ii) surface water and ground water impact assessment criteria consistent with Australian and New Zealand Environment Conservation Council (ANZECC) guidelines or relevant site specific baseline data collected for known Oxleyan Pygmy Perch waterways;</p> <p>(iii) management measures to be used to minimise surface and groundwater impacts, including details of how spoil and fill material required by the SSI will be sourced, handled, stockpiled, reused and managed; erosion and sediment control measures; salinity control measures and the consideration of flood events;</p> <p>(iv) a Groundwater and Soil Salinity report should geotechnical investigations determine the presence, extent and severity of soil salinity within the SSI boundary, The report shall detail the outcomes of geotechnical investigations and identify and mitigate impacts to groundwater resources;</p> <p>(v) an Acid Sulfate Soils contingency plan, consistent with the Acid Sulfate Soils Manual, to deal with the unexpected discovery of actual or potential acid sulfate soils, including procedures for the investigation, handling, treatment and management of such soils and water seepage;</p> <p>(vi) a tannin leachate management protocol to manage the stockpiling of mulch and use of cleared vegetation and mulch filters for erosion and sediment control;</p> <p>(vii) an Oxleyan Pygmy Perch habitat waterway management framework to detail the measures and construction methods that will be employed to avoid direct discharge of construction water to known Oxleyan Pygmy Perch habitat waterways and downstream impacts to suitable habitat;</p> <p>(viii) management measures for contaminated material and a contingency plan to be implemented in the case of unanticipated discovery of contaminated material during construction;</p> <p>(ix) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be undertaken, the locations where monitoring would take place, how the results of the monitoring would be recorded and reported, and, if any exceedance of the criteria is detected how any non-compliance can be rectified; and mechanisms for the monitoring, review and amendment of this plan.</p> | Open | <p>This requirement is a addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan) which was approved by DPE on 23 October 2015. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with the PC CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA.</p> |
| | D26 (d) | <p>(d) a Construction Heritage Management Plan to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The Plan shall be developed in consultation with the EPA OEH, the NSW Heritage Council (for non-Aboriginal heritage) and Registered Aboriginal Parties (for Aboriginal heritage), and include, but not necessarily be limited to:</p> <p>(i) in relation to Aboriginal Heritage:</p> <p>(A) details of further investigation and identification of Aboriginal cultural heritage sites within the SSI boundary;</p> <p>(B) details of management measures to be carried out in relation to Aboriginal heritage, including a detailed methodology and strategies for protection, monitoring, salvage, and conservation, of sites and items associated with the SSI;</p> <p>(C) procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with Department of Planning and Environment, EPA OEH and Registered Aboriginal Parties and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the SSI, and registering of the new site in the EPA OEH's Aboriginal Heritage Information Management System (AHIMS) register;</p> <p>(D) procedures for dealing with human remains, including cessation of works in the vicinity and notification of Department of Planning and Environment, NSW Police Force, EPA OEH and Registered Aboriginal Parties and not recommencing any works in the area unless authorised by the EPA OEH and/or the NSW Police Force;</p> <p>(E) heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval including site identification, protection and conservation of Aboriginal cultural heritage; and</p> <p>(F) procedures for ongoing Aboriginal consultation and involvement for the duration of the SSI; and</p> <p>(ii) in relation to non-Aboriginal Heritage:</p> <p>(A) identification of heritage Items directly and indirectly affected by the SSI;</p> <p>(B) details of management measures to be implemented to prevent and minimise impacts on heritage items (including further heritage investigations, archival recordings and/or measures to protect unaffected sites during construction works in the vicinity);</p> <p>(C) details of monitoring and reporting requirements for impacts on heritage items;</p> <p>(D) procedures for dealing with previously unidentified heritage objects, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the OEH, NSW Heritage Council and Department of Planning and Environment, and assessment of the consistency of any new heritage impacts against the approved impacts of the SSI; and</p> <p>(E) heritage training and induction processes for construction personnel (including procedures for keeping records of inductions and obligations under this approval including site identification, protection and conservation of non-Aboriginal cultural heritage; and</p> <p>(iii) mechanisms for the monitoring, review and amendment of this plan.</p> | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan) which was approved by DPE on 23 October 2015. Pacific Complete will be submitting the Aboriginal and Non-Aboriginal Heritage and Education Training Package which forms Appendix A of the Construction Heritage Management Plan in February 2015 following the completion of the consultation period as of 12 February 2015. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with the PC CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA.</p> |

| Category | Part | Requirement | Status | Comment |
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| | D26 (e) | <p>(e) a Construction Flora and Fauna Management Plan to detail how construction impacts on ecology will be minimised and managed. The Plan shall be prepared by a suitably qualified and experienced ecologist and developed in consultation with the EPA QEH, DPI (Fisheries) and DoE, and shall include, but not necessarily be limited to:</p> <p>(i) details of pre-construction surveys undertaken by a suitably qualified and experienced ecologist to verify the SSI footprint based on detailed design;</p> <p>(ii) plans for impacted and adjoining areas showing vegetation communities; important flora and fauna habitat areas; locations where threatened species, populations or ecological communities have been recorded; including pre-clearing surveys to confirm the location of threatened flora and fauna species and associated habitat features;</p> <p>(iii) the identification of areas to be cleared and details of management measures (such as fencing, clearing procedures, removal and relocation of fauna during clearing, habitat tree management and construction worker education) to avoid any residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat;</p> <p>(iv) a protocol for the removal and relocation of fauna during clearing, including provision for engagement of a suitably qualified and experienced ecologist to identify locations where they would be present; to oversee clearing activities and facilitate fauna rescue and re-location; and consideration of timing of vegetation clearing with consideration to the avoidance of clearing native vegetation during the breeding/nesting periods of threatened species, where feasible and reasonable;</p> <p>(v) details of general work practices and mitigation measures to be implemented during construction and operation to minimise impacts on native fauna and native vegetation (particularly threatened species and their habitats and EEC) not proposed to be cleared as part of the SSI, including, but not necessarily limited to: fencing of sensitive areas; measures for maintaining existing habitat features (such as bush rock and tree branches etc.); seed harvesting and appropriate topsoil management; construction worker education; weed management (including controls to prevent the introduction or spread of <i>Phytophthora cinnamomi</i> and myrtle rust (<i>Puccinia psidii</i> s.l.)); erosion and sediment control, including measures to at least maintain habitat values downstream; and progressive re-vegetation;</p> <p>(vi) rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas;</p> <p>(vii) weed management measures focusing on early identification, suppression and control of invasive weeds and effective management controls;</p> <p>(viii) a protocol for managing aquatic and terrestrial pest animal/invasive species and plant species, and pathogens;</p> <p>(ix) consideration of the Threatened Species Management Plans;</p> <p>(x) a description of how the effectiveness of these management measures would be monitored and linked to the monitoring undertaken as part of the Threatened Species Management Plans;</p> <p>(xi) a procedure for dealing with unexpected EEC/threatened species identified during construction, including cessation of work and notification of the EPA QEH, DPI (Fisheries) and DoE, determination of appropriate mitigation measures in consultation with these agencies (including relevant re-location measures) and updating of ecological monitoring and/or biodiversity offset requirements; and</p> <p>(xii) mechanisms for the monitoring, review and amendment of this plan.</p> | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Sub-Plan). The Pacific Complete CEMP was approved by DPE on 23 October 2015. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with the PC CEMP, relevant RMS/PC environmental specifications and the requirements of this CoA. |
| COMPLIANCE MONITORING AND TRACKING | | | | |
| | D27 | <p>The Applicant shall prepare and implement a Compliance Tracking Program, to track compliance with the requirements of this approval, prior to the commencement of construction and operate from the date of its approval to a minimum of one year following commencement of operation, or as otherwise agreed by the Secretary. The Program shall be prepared for the approval of the Secretary, and 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 a Pre-Construction Compliance Report, prior to the commencement of construction, and a Pre-Operation Compliance Report prior to the commencement of operation. These reports may be staged to suit the staged construction/operation of the SSI;</p> <p>(d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/or Environmental Management Systems Auditing;</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 Secretary 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; and</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.</p> | Open | <p>The Compliance Tracking Program & Pre-Construction Compliance Report for Early Works (Wave 1 and part Wave 3) Soft Soils and the 6 Monthly Compliance Tracking Reports (October 2015 to March 2016 & November 2015 to April 2016) were submitted on 29 August 2016.</p> <p>The 6 Monthly Compliance Tracking Report for Wave 2 Early Works (November 2015 to April 2016) was submitted on 29 August 2016.</p> <p>The Compliance Tracking Program & Pre-Construction Compliance Report, Stage 2 Sections 3 to 11 was submitted to the Secretary on 4 March 2016 and approved on 16 March 2016.</p> <p>The 6 Monthly Compliance Tracking Report (Stage 2) Construction Sections 3 to 11 was submitted to the Secretary DPE for approval on 14/12/2016 (D27 & D27(b)). This submission is the 6 Monthly Construction Compliance Report (October 2016 to March 2017) for Sections 3 to 11 of the Woolgoolga to Ballina Pacific Highway Upgrade Project.</p> |
| OPERATIONAL NOISE AND VIBRATION COMPLIANCE | | | | |
| | D28 | <p>The Applicant 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.</p> <p>The Applicant 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 Applicant 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> <p>Note:</p> <ul style="list-style-type: none"> The audit may be staged to suit the staged operation of the SSI. | Open | The requirements of this CoA relate to the operational phase of the project. |
| ENVIRONMENTAL MANAGEMENT SYSTEMS | | | | |
| | D29 | <p>Prior to the commencement of operation, the Applicant shall incorporate the SSI into existing environmental management systems administered by the Applicant and prepared in accordance with the AS/NZS ISO 14000 Environmental Management System series.</p> <p>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> | Open | The requirements of this CoA relate to the operational phase of the project. |
| INDEPENDENT ENVIRONMENTAL AUDIT | | | | |

| Category | Part | Requirement | Status | Comment |
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| | D30 | <p>Within 12 months of the commencement of operation, and then as required by the Secretary, the Applicant 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;</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> <p>Note:</p> <ul style="list-style-type: none">• This audit team shall be led by a suitably qualified auditor, and include experts in biodiversity, noise and vibration, hydrology and any other fields specified by the Secretary.• The audit may be staged to suit the staged operation of the SSI. | Open | The requirements of this CoA relate to the operational phase of the project. |
| | D31 | <p>Within 60 days of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant 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.</p> | Open | The requirements of this CoA relate to the operational phase of the project. |

COMPLIANCE TRACKING - MITIGATION MEASURES

Woolgoolga to Ballina SSI-4963



Transport
Roads & Maritime
Services

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
|-------------------------------|------------------------|--|--|--------|--|
| HYDROLOGY AND FLOODING | | | | | |
| HF1 | Hydrology and Flooding | Flood models | Flood models for the areas of the project that are in the Clarence, mid Richmond and lower Richmond rivers will be updated to inform detailed design. | Open | Flood modelling (final models) is currently being developed as part of detailed design. Pacific Complete will review relevant detailed design deliverables to ensure that they have taken into account the updated/final flood models. |
| HF2 | Hydrology and Flooding | Flood models | Roads and Maritime will update the bathymetrical data at the relevant crossing of the Clarence River to inform detailed design of the crossing. | Open | Pacific Complete will ensure that bathymetric data at the Clarence River crossing is obtained as part of detailed design. Pacific Complete will review relevant detailed design deliverables to ensure that they have taken into account updated bathymetric data at the Clarence River crossing. |
| HF3 | Hydrology and Flooding | Operational impacts on cane drains | Cane drain diversions will be designed and constructed in consultation with the relevant cane industry stakeholders and impacted landowners. This will consider the potential diversions detailed in the Working Paper – Hydrology and flooding and the additional assessment provided in Chapter 3 of the Submissions / Preferred Infrastructure Report. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in Pacific Complete CEMP. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During construction relevant stakeholders have been consulted as required. |
| HF4 | Hydrology and Flooding | Permanent road fencing | Any permanent fencing at culvert and bridge crossings will consider the potential for blockage and be designed and operated to maintain the existing flood regime. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF5 | Hydrology and Flooding | Permanent road fencing | Detailed design for permanent road fencing will consider hydrology and flooding impacts. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF6 | Hydrology and Flooding | Scour protection | Scour and erosion protection measures at temporary and permanent waterway crossings will be provided upstream and downstream of the highway, particularly within 50 metres of Class 1 waterways or within the range of the Oxleyan Pygmy Perch as identified in section 3.9.6 of the Working paper – Biodiversity and the supplementary biodiversity assessment in Appendix J of the Submissions / Preferred Infrastructure Report. This will be undertaken in consultation with the Department of Primary Industries (Fisheries). | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF7 | Hydrology and Flooding | Waterway diversions | Waterway diversions will be designed in consultation with Office of Environment and Heritage, NSW Office of Water and Department of Primary Industries (Fisheries) so that the final diversion mimics, where feasible and reasonable, the characteristics of the waterway that is being diverted. Characteristics include flow regime, flow velocity, base material, vegetation and habitat for aquatic fauna. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This is also addressed within the approved Pacific Complete Construction Soil and Water Quality Management Plan. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During construction EWMS for waterway diversions/crossings have been developed in consultation with the relevant agencies. |
| HF8 | Hydrology and Flooding | Waterway diversions | Revegetation of waterway diversions and surrounding areas will be undertaken in accordance with the following principles: • Diversions will be stabilised prior to the diversion receiving flows, in conjunction with the establishment of other scour and erosion control measures. • Diversions will establish appropriate vegetation communities along the channel bed and banks, using endemic native species. | Open | This has been addressed within the approved Pacific Complete Construction Soil and Water Quality Management Plan. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HF9 | Hydrology and Flooding | Management of flows for aquatic habitat and movement | Velocities of flood flows through watercourse and floodplain structures (i.e. bridges and culverts) will be assessed during detailed design in areas identified as known and potential habitat for the Oxleyan Pygmy Perch and the Purple-spotted Gudgeon in consultation with Department of Primary Industries (Fisheries). The design of these structures will consider the predicted changes to velocities from the existing case due to the project. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

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| HF10 | Hydrology and Flooding | Picaninny Creek diversion | Batter stability will be assessed and sufficient room provided on both sides of the diversion to allow access for maintenance and to meet batter stability requirements. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF11 | Hydrology and Flooding | Impacts on farm dams | Farm dams located within or partially within the project boundary will be acquired as part of the acquisition process in accordance with the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> . | Open | Noted. |
| HF12 | Hydrology and Flooding | Impacts on farm dams | Potential impacts to farm dams located downstream of the project that are fed by catchments upstream, and that have a diversion of rainfall as a result of the project, will be considered during the relevant property acquisition process. | Open | Noted. |
| HF13 | Hydrology and Flooding | Evacuation and access | Detailed design will consider flood access and evacuation for affected landowners including changes in stock access routes. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF14 | Hydrology and Flooding | Evacuation and access | The level of flood immunity of Eggins Drive into Corindi will be built at a 100 year ARI as agreed with Coffs Harbour City Council. | NA | This six monthly compliance report applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HF15 | Hydrology and Flooding | Construction impacts on cane drains | The potential impacts of ancillary facilities and haul roads on cane drains will be further investigated and addressed when ancillary facility locations are confirmed. The design of these ancillary facilities will be developed in consultation with relevant cane industry stakeholders, affected landowners, and in accordance with the following principles: <ul style="list-style-type: none"> • Maintain conveyance characteristics of existing cane drains. • Provide adequate capacity in temporary drainage to prevent blockages. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete and construction contractors. Ancillary Facilities required for soft soil works will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). |
| HF16 | Hydrology and Flooding | Goodwood Street underpass | A drainage structure with an equivalent capacity of the current Goodwood Street underpass will be installed for the duration of construction. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. Conveyance characteristics of existing cane drains have been maintained. |
| HF17 | Hydrology and Flooding | Bridge pier construction | Any temporary infrastructure associated with the construction of bridges in the Clarence River, Clarence North Arm, Richmond River, Tuckombil Canal and Emigrant Creek will be secured or removed from the river and floodplain during flood events so not to create a debris hazard or blockage during a flood event. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During construction relevant stakeholders have been consulted where required. For example, during this reporting period (October 2016 to March 2017) at Harwood Bridge (Portion E) a Flood Warning and Action Plan has been approved and this plan identifies the risks and appropriate mitigation measures to minimise the potential for material and equipment to contaminate land and waters downstream and to ensure the safety of its project staff in the event of a flood warning or flood watch issued for the Harwood Area (the Clarence River). A temporary jetty is proposed to be constructed on the north side of the Clarence River to transfer bridge materials and components from the site compound to the river. The jetty will be designed to withstand flood events without having to remove the superstructure. |
| HF18 | Hydrology and Flooding | Bridge pier construction | Appropriate span lengths of bridges will be specified during detailed design that considers the susceptibility of individual watercourse crossings to debris blockage. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF19 | Hydrology and Flooding | Bridge pier construction | All work within 40 metres of a permanent watercourse, crossed by the project, will be undertaken in accordance with the NSW Office of Water 'Guidelines for Controlled Actions' and industry best practice including maintaining where feasible and reasonable the geomorphic integrity and natural hydrological flow regime. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During construction relevant stakeholders have been consulted where required. |
| HF20 | Hydrology and Flooding | Temporary fencing | The design of temporary fencing at culvert and bridge crossings will consider the potential for blockage and be designed and operated in a manner that does not result in impacts on flooding. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Where design of temporary fencing is required, Pacific Complete will review relevant design deliverables to ensure that they have taken into account this measure. |
| HF21 | Hydrology and Flooding | Climate change impacts | The need for design modifications to address changes in flood behaviour as a result of climate change will be considered in accordance with Roads and Maritime' Climate Change Plan (Roads and Maritime, 2012). | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

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| HF22 | Hydrology and Flooding | Impacts of ancillary facilities on flooding | Recommendations made in Table 8-8 of Working paper – Hydrology and flooding to minimise the flood impacts of ancillary facilities will be considered in the final location and layout of ancillary facilities. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete and contractors. These will be approved by the ER or the Secretary, if additional impacts are anticipated. If additional impacts are anticipated then the plan will be submitted to the Secretary for approval. All Geotechnical works are considered temporary in nature and do not involve the installation of infrastructure or disturbance of a waterway likely to cause flooding impacts. |
| HF23 | Hydrology and Flooding | Meeting flood management objectives | Design objectives (for road flood immunity and flood management will apply during the detailed design phase. Where these objectives are not met, Roads and Maritime will work to either: <ul style="list-style-type: none"> • Achieve compliance thorough modified embankment or drainage design. • Achieve an acceptable level of mitigation of impacts through alternative design measures (e.g. raised access tracks) in consultation with the affected land owner. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF24 | Hydrology and Flooding | Drainage structures | The design of drainage structures across Chatsworth Island will be further reviewed during detailed design to enable the most appropriate and cost-effective structures to be installed. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF25 | Hydrology and Flooding | Drainage structures | Maintenance regime of drainage structures will be considered during detailed design. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF 26 | Hydrology and Flooding | Drainage structures | Additional culverts north of Chaffin Creek at the overflow channel around station 52.6, will be hydraulically modelled and confirmed during the detailed design to manage potential flood impacts, to meet the flood management objectives detailed in the EIS. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF 27 | Hydrology and Flooding | Drainage structures | Roads and Maritime, in consultation with Clarence Valley Council and the relevant landowner, will consider opportunities to improve the drainage system performance in the Shark Creek area, where feasible and reasonable, during the detailed design phase. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF 28 | Hydrology and Flooding | Drainage structures | The detailed design of the bridges over Shark Creek and Tyndale cane drain 1 and 2 (Crackers and Lee drain) will consider fauna connectivity in addition to the hydraulic function of these structures. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF 29 | Hydrology and Flooding | Drainage structures | Detailed design will investigate viable options to maintain the existing flood behaviour in James Creek. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HF 30 | Hydrology and Flooding | On-going consultation on drainage matters | Consultation with affected landowners will be undertaken during detailed design and construction regarding flooding impacts on properties, residences and other structures. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| SOILS, SEDIMENT AND WATER | | | | | |
| SSW1 | Soils, sediment and water | Design of cut-and-fill batters | Batter slope gradients will be designed to minimise erosion of select topsoil. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW2 | Soils, sediment and water | Design of cut-and-fill batters | Where feasible, bench cuttings will be diverted onto contours and surface flow drainage paths designed to spread flow at the source in preference to concentrating the flow and treating it further downstream. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

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| SSW3 | Soils, sediment and water | Management of soils, sediment and water issues | <p>As part of the Construction Environmental Management Plan, a soils and water management plan will be prepared and include (but not limited to):</p> <ul style="list-style-type: none"> • Erosion and sediment control plans for all stages of construction. • Consideration of soil erodibility. • At-source erosion controls (e.g. check dams). • Sedimentation basin construction and management. • Protection of waterways. • Acid sulfate soil sub-plan issues (including from groundwater drawdown). • Management of stockpiles. • Tannin leachate management control. • Batch plant/ chemical storage controls. • Water quality monitoring and checklists. • Detailed consideration of measures to prevent, where possible, or minimise any water quality impacts. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>CEMPs approved by Pacific Complete include Wave 3, Wave 4, Wave 5a, Wave 5C, Harwood Bridge and two separate CEMP's for geotechnical investigation works.</p> |
| SSW4 | Soils, sediment and water | Management of soils, sediment and water issues | Erosion and sediment control plans will be developed in line with current Roads and Maritime specifications and as detailed in the Working paper – Water quality. | Closed | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>Erosion & Sediment Control Plans are progressively designed to align with the current works program. These are designed and approved in conjunction with qualified Soil Conservationist/s and in line with RMS specifications.</p> |
| SSW5 | Soils, sediment and water | Management of soils, sediment and water issues | A soil conservationist will be engaged during detailed design to inform the soils and water management plan. | Closed | Soil conservations have been engaged to inform erosion and sediment control plans prepared by contractors that form part of the soil and water management plans. |
| SSW6 | Soils, sediment and water | Management of soils, sediment and water issues | Sedimentation basins and water quality ponds will be sized and located in accordance with the principles identified in the Working paper – Water quality. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> <p>All sediment basins design sizes and volumes have been carried out by Soil Conservationist in accordance with RMS Specs G36, G38 and EIS working Paper (Water Quality) and Bluebook guidelines.</p> |
| SSW7 | Soils, sediment and water | Management of soils, sediment and water issues | Exposed areas will be progressively rehabilitated. Methods will include permanent revegetation, or temporary protection with spray mulching or cover crops. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW8 | Soils, sediment and water | Management of soils, sediment and water issues | Any necessary approvals will be obtained in accordance with Roads and Maritime specification G36 for permanent and temporary waterway crossings. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| SSW9 | Soils, sediment and water | Management of soils, sediment and water issues | All work potentially affecting wetlands will be undertaken in consideration of the requirements outlined in the NSW Wetlands Management Policy 2010. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |

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| SSW10 | Soils, sediment and water | Stockpile management | Topsoil, earthworks and other excess spoil material will be stockpiled and managed in accordance with Roads and Maritime Stockpile Management Guidelines (Roads and Maritime, 2011a) and the "Management of Surplus Material" in Section 3.9 of the Submissions / Preferred Infrastructure Report. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW11 | Soils, sediment and water | Stockpile management | Where reasonable and feasible, stockpiles will: <ul style="list-style-type: none">• Not require removal of areas of native vegetation.• Be located outside of known areas of weed infestation.• Be located such that waterways and drainage lines are not directly or indirectly impacted. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW12 | Soils, sediment and water | Stockpile management | Where practicable, stockpiles will be located away from areas subject to concentrated overland flow. Stockpiles located on a floodplain be finished and contoured so as to minimise loss of material in flood or rainfall events. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. |
| SSW13 | Soils, sediment and water | Stockpile management | Topsoil will be stockpiled separately and inspected for noxious weed seedlings at six monthly intervals and controlled with herbicide as required. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW14 | Soils, sediment and water | Stockpile management | All construction stockpiles will comply with the requirements of the <i>Protection of the Environment Operations Act 1997</i> and NSW Waste Avoidance and Resource Recovery Strategy 2007 for any waste activities that involve the generation, storage and/or disposal of waste and also consider the NSW Resource Recovery Exemptions as applying the storage of stockpiled material. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW15 | Soils, sediment and water | Stockpile management | Stockpiles containing potential acid sulfate soils will be lined, bunded and covered in accordance with relevant guidelines. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |

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| SSW16 | Soils, sediment and water | Stockpile management | Management of tannin leaching from vegetation mulch will be in accordance with Roads and Maritime' Environmental Direction – Management of Tannins from Vegetation Mulch (Roads and Maritime, 2012). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW17 | Soils, sediment and water | Management of contamination | A Stage 1 Preliminary Site Investigation will be conducted to verify past and present potentially contaminating activities, potential contaminants of concern and the need for further investigation. This will include a review of past highway crashes and spills and the associated contamination risks. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B8 Construction Contamination Land Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. The EIS identified potential contamination sites along the alignment. Further investigations have been carried out where disturbance of these sites was anticipated from construction activities. |
| SSW18 | Soils, sediment and water | Management of contamination | If necessary, a Stage 2 Detailed Site Investigation will be undertaken to: <ul style="list-style-type: none"> • Provide information on the type, nature, extent and concentrations of contamination present, and the corresponding risks to human health and the environment. • Examine pathways of contaminant dispersal and exposure, the potential for off-site impacts and the management requirements and options. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B8 Construction Contamination Land Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. The EIS identified potential contamination sites along the alignment. Further investigations have been carried out where disturbance of these sites was anticipated from construction activities. Stage 2 investigations have been carried out where required. |
| SSW19 | Soils, sediment and water | Management of contamination | If required, a Stage 3 Remedial Action Plan will be produced, detailing the remediation goals, environmental safeguards, and any necessary approval and licence requirements in accordance with NSW Office of Environment and Heritage guidelines. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B8 Construction Contamination Land Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. The EIS identified potential contamination sites along the alignment. Further investigations have been carried out where disturbance of these sites was anticipated from construction activities. Stage 3 remediation action plans have been /will be carried out where required. |
| SSW20 | Soils, sediment and water | Management of contamination | Where further assessment indicates that further action is not required, Roads and Maritime' Contaminated Land Management Guideline (RTA, 2005a) will be applied to address any contamination issues and prevent any associated adverse impacts. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW21 | Soils, sediment and water | Management of contamination | A hazardous materials buildings assessment will be carried out before the demolition of any structures or buildings to identify the issues of concern and the management requirements. This is required under Clause 1.6 of Australian Standard AS 2601 – 2001 The Demolition of Structures. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B8 Construction Contamination Land Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Hazardous materials buildings assessments have been carried out for structures that have been demolished as part of the project. |
| SSW22 | Soils, sediment and water | Emergency spill response | An emergency spill response plan will be developed and incorporated into the soils and water management plan. This plan will detail measures for the prevention, containment and clean-up of accidental spills of fuels and chemicals. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW23 | Soils, sediment and water | Emergency spill response | The storage, handling and use of the chemicals and fuels will be in accordance with the Work Health and Safety Act 2000 and Workcover's Storage and Handling of Dangerous Goods Code of Practice (WorkCover, 2005). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |

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| SSW24 | Soils, sediment and water | Acid sulfate soils | Strategies to remove / reduce risks associated with acid sulfate soils will be identified. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW25 | Soils, sediment and water | Acid sulfate soils | An acid sulfate soils management plan will be implemented in accordance with Guidelines for the Management of Acid Sulfate Materials (Roads and Maritime 2005) and Waste Classification Guidelines Part 4: Acid Sulfate Soils (DECC 2008), where there is a probability of encountering acid sulfate soils during construction. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW26 | Soils, sediment and water | Soil erosion and sedimentation control | Appropriate erosion and sediment controls, following the guidelines of the 'Blue Books' (Landcom, 2004 and DECC, 2008a), and Roads and Maritime' Technical Guideline – Temporary Stormwater Drainage for Main Road Construction (Roads and Maritime, 2010b) will be established before the start of construction and maintained in effective working order for the duration of the construction period until site stabilisation. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW27 | Soils, sediment and water | Soil erosion and sedimentation control | Works within waterways will consider the need to maintain fish passage, in consultation with the Department of Primary Industries (Fisheries). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. During this reporting period (October 2016 to March 2017) DPI Fisheries were consulted before construction of a temporary rock platform for Geotechnical Investigation works and temporary jetty construction. The Temporary Jetty and Rock Platform EWMS has been reviewed and approved by DPI Fisheries. |
| SSW28 | Soils, sediment and water | Soil erosion and sedimentation control | Flow discharge points will be designed with erosion controls to manage the flow velocities. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. All discharge points from sediment basins are designed and approved by the CPESC and PC. |
| SSW29 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Where appropriate, construction phase sedimentations basins will be designed so they could be retained and used as permanent operational water quality ponds, where required for operational purposes. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW30 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Sizing of sedimentation basins that drain into the Solitary Islands Marine Park will be reviewed to consider the use of 90th percentile sedimentation basins. | NA | Not Applicable for Sections 3 to 11. Only applies to Section 1. |
| SSW31 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Sedimentation basins will be inspected at regular intervals and following significant rainfall events to assess available water storage capacity, water quality, structural integrity and debris levels. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. Sediment basins are inspected regularly by environmental inspectors and Soil Conservationists. |
| SSW32 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Where appropriate, an approved flocculent will be applied to sedimentation basins as early as possible so that early mixing of flocculants occurs. Water quality will be tested prior to discharge in accordance with any licence requirements. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

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| SSW33 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Where sediment has built up in a basin to a point where the total sediment storage zone has reached capacity, sediment will be removed and appropriately disposed of. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW34 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Water from sedimentation basins will be used for construction purposes, such as dust suppression, where feasible. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW35 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | When sedimentation basins require pumping out rather than discharge via a flow outlet, a float will be attached to the suction hose or the hose will be located inside a bucket to prevent sediment from the basin floor from being discharged. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW36 | Soils, sediment and water | Design and maintenance of construction sedimentation basins | Records will be kept of water quality monitoring and erosion and sediment control inspections, including details of rain events, use of flocculants, discharge, sediment removal and dewatering activities. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW37 | Soils, sediment and water | Chemical use and storage | Physical controls to address the potential risks associated with the use and storage of chemicals on site will include: <ul style="list-style-type: none"> • Use of appropriately bunded storage facilities for chemicals and fuels. • Use of appropriately bunded areas for refuelling and washdown. • Availability of effective spill kits at all construction sites. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the ER on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. |
| SSW38 | Soils, sediment and water | Ancillary facility management | At ancillary facilities, management of runoff and spills will include: <ul style="list-style-type: none"> • Restricting vehicle movements to designated pathways where feasible. • Paving areas that will be exposed for extended periods, such as car parks and main access roads, where reasonable and feasible. • Diverting off-site runoff around sites where required. • Locating chemical or other hazardous material storage areas away from areas of known near-surface groundwater supplies, in areas where the water table is more than five metres below the surface; otherwise, areas be lined if they are to be located over a shallow groundwater source less than two metres deep. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the ER on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. |
| SSW39 | Soils, sediment and water | Ancillary facility management | Soil and water management at borrow source sites will be in line with Volume 2E of the Blue Book which covers water management of mines and quarries. | Open | Pacific Complete will prepare site specific Borrow Site Management Plans as required by the project. This requirement will apply to all borrow site management plans prepared by Pacific Complete. The Tyndale Borrow Site Management Plan (Portion A) was approved in August 2016 by DPE. The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. Management Plans are currently being prepared for a number of borrow sites in Portion D, such as Lumley's Hill Borrow Site. |
| SSW40 | Soils, sediment and water | | Discharges from the sediment basins during construction that do not meet the water quality parameters for Oxleyan Pygmy Perch habitat should not be discharged into the waterways that are known habitat for Oxleyan Pygmy Perch. Strategies will be implemented during construction to manage discharge of basin water, so that water depth and physico-chemical conditions are not changed in areas of Oxleyan Pygmy Perch habitat. Discharge protocols and criteria will be developed in consultation with Department of Primary Industries (Fisheries) and Office of Environment and Heritage during detailed design. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Details regarding OPP is also addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Discharge protocols have been developed with DPI Fisheries for works in OPP habitat. |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
|----------------|---------------------------|--|---|--------|--|
| SSW41 | Soils, sediment and water | Management of groundwater intersection | Further assessment involving geotechnical boreholes, monitoring boreholes and water quality testing at cutting sites will be undertaken at Type A cutting sites to monitor impacts on local groundwater reserves. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW42 | Soils, sediment and water | Management of groundwater intersection | Where groundwater is released, recharge of the water table is the preferred option of managing groundwater. This will be facilitated by collecting groundwater in grassed swales for infiltration back to the groundwater source. Where possible, these swales will divert the groundwater around the construction area so that the groundwater does not further mix with construction runoff. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| SSW43 | Soils, sediment and water | Management of groundwater intersection | If recharging is not possible or suitable, then discharging groundwater will be collected via the sedimentation basins before discharge into natural waterways. If discharging to downstream groundwater, then the potential effects of mounding[1] will be mitigated. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| SSW44 | Soils, sediment and water | Management of groundwater intersection | Dewatering of excavations will be undertaken in line with Roads and Maritime' Technical Guideline – Environmental Management of Construction Site Dewatering (Roads and Maritime, 2011c), and in accordance with any licence conditions. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW45 | Soils, sediment and water | Contaminated groundwater | Further investigations will be undertaken to identify any impacts from contaminated groundwater from the former landfill sites at Firth Heinz Road and Crowleys Road. | Open | Groundwater monitoring is being undertaken near Firth Heinz Rd at CH52100 (GWB3-24b and GWB3-23b) and CH64900 (GWB3-41 and GWB3-42b). |
| SSW46 | Soils, sediment and water | Prevention of groundwater impacts | <p>The proposed management strategy to address potential impacts at type A cuttings includes:</p> <ul style="list-style-type: none"> • Pre-works investigations – geotechnical investigations to determine groundwater condition (quality parameters: electrical conductivity, groundwater depth, geological information), presence of actual or potential acid sulfate soils, presence or potential of salinisation, establishing groundwater monitoring sites, and gathering of other pertinent information. • Assessment – including the EIS assessment, the pre-works investigations carried out, groundwater modelling of cuts (and the Rous Water Woodburn borefield site), and predictions made from those results. • Monitoring – to assess whether the investigation and its predictions are accurate and to instigate early intervention in the unlikely case/s that the actual outcomes deviate from predictions. Monitoring start before construction, and continue during construction. Monitoring also continue into the operation phase of the project. • Mitigation – implement environmental and engineering management measures where predictions and/or modelling and monitoring suggest that these are required to minimise impacts on groundwater. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Details regarding OPP is also addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| SSW47 | Soils, sediment and water | Prevention of groundwater impacts | The monitoring of locations in the vicinity of type B cuttings and major embankments will commence before construction to identify the need to implement any mitigation measure. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Details regarding OPP is also addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |

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| SSW48 | Soils, sediment and water | Prevention of groundwater impacts | <p>If required to manage groundwater impacts at type A and type B cuttings and major embankments, the following engineering mitigation measures will be considered:</p> <ul style="list-style-type: none"> • Engineering measures that transfer the seepage water downstream. Standard practice will be to collect the seepage from the cut face in the drainage system for the highway, which will be diverted into water quality basins before being released back into the creek or natural drainage system at some point downstream. • Engineering impact mitigation measures that transfer the seepage water (where present) into the groundwater ecosystem immediately downslope of the cutting or embankments. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> <p>This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Details regarding OPP is also addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| SSW49 | Soils, sediment and water | Prevention of groundwater impacts | Major embankments will be designed to enable distributed flow of surface waters. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| SSW50 | Soils, sediment and water | Prevention of potential impacts on groundwater quality | Measures to manage high-risk groundwater impact areas will continue to be considered through the detailed design process. In identified areas, the design of water quality controls will be reviewed and the need for additional controls may be identified. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| SSW51 | Soils, sediment and water | Prevention of potential impacts on groundwater quality | Where reasonable and feasible, sites used for batch plants, refuelling and chemical storage will be managed so that no groundwater intrusion occurs. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the ER on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facilities during the project.</p> |
| SSW52 | Soils, sediment and water | Prevention of impacts on Rous Water bore fields | All construction runoff to the Rous Water bore fields will be diverted to appropriate sedimentation controls basins. No runoff will bypass the basins untreated, regardless of the size of the footprint of the work. In addition, all basins in the bore fields will be clay lined to prevent seepage. If required, the depth of the basins will be reduced from the standard depth of two metres to one metre in these areas to avoid penetration of the natural clay layer, with the volume of the basins maintained by increasing their footprint where reasonable and feasible. | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.).</p> <p>The project team have consulted with Rous Water regarding ESCP design where required.</p> |
| SSW53 | Soils, sediment and water | Prevention of impacts on Rous Water bore fields | Sizing of sedimentation basins in the Rous Water bore fields will be reviewed to consider the use of 90th percentile basins. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |
| SSW54 | Soils, sediment and water | Prevention of impacts on Rous Water bore fields | <p>The following construction activities will not be permitted within the Rous Water bore field catchment without additional control measures to reduce risk of impact to the borefield and groundwater:</p> <ul style="list-style-type: none"> • Refuelling. • Washdown. • Storage of chemicals or other hazardous substances. • Installation of concrete batch plants. | Closed | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA.</p> |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
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| SSW55 | Soils, sediment and water | Prevention of impacts on Rous Water bore fields | Water quality ponds will be designed to be shallower between stations 131.1 and 134.0 (namely one metre compared to two metres) to avoid penetration of the natural clay layer, where possible. Alternatively, where not feasible, clay capping/ lining of the basin will be undertaken or consideration of appropriately designed swales. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW56 | Soils, sediment and water | Prevention of impacts on Rous Water bore fields | Alternative operational water quality management measures such as the use of biofilters, sand filters or measures used in the Tintenbar to Ewingsdale Pacific Highway upgrade project will be considered during detailed design. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW57 | Soils, sediment and water | | Consultation will be undertaken with Rous Water to co-ordinate mitigation actions including the definition of appropriate buffer zones between the project and bores. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW58 | Soils, sediment and water | | Consultation will be undertaken with Rous Water to address the 12 elements of the Australian Drinking Water Guidelines Management Framework. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW59 | Soils, sediment and water | Protection of water quality | All permanent water quality basins will incorporate measures to contain accidental fuel and chemical spills resulting from vehicle accidents on the highway. Basins will be designed to accommodate a spill volume of up to 40,000 litres. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW60 | Soils, sediment and water | Protection of water quality | For water quality treatment in floodplains and other locations with minimal changes in gradient, grassed swales will be considered during detailed design. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW61 | Soils, sediment and water | Protection of water quality | Appropriate scour protection for drainage measures will be determined during detailed design. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SSW62 | Soils, sediment and water | Monitoring programs | Surface water quality monitoring will be undertaken in accordance with Roads and Maritime' Guideline for Construction Water quality Monitoring (RTA, 2003), and as per the framework outlined in the Working paper – Water quality. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan) which includes the Section 3 to 11 Water Quality Monitoring Program. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. |
| SSW63 | Soils, sediment and water | Monitoring programs | Groundwater monitoring will be undertaken in accordance with the framework outlined in the Working paper – Groundwater (Section 5.2). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan) which includes the Section 3 to 11 Water Quality Monitoring Program. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| SSW64 | Soils, sediment and water | Ordnance contamination | Consultation will be undertaken with Department of Defence regarding the potential for unexploded ordnance to be encountered east of Broadwater. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| BIODIVERSITY | | | | | |
| B1 | Biodiversity | Monitoring strategy | The Ecological Monitoring Program (Appendix K) will be finalised in consultation with relevant State and Commonwealth agencies and incorporate any specific conditions of approval and feedback from the expert review. | Closed | The Ecological Monitoring Program has been superseded by the Biodiversity Mitigation Framework required by MCoA D1. The Biodiversity Mitigation Framework was approved by DoE on 8 May 2015. Pacific Complete is responsible for ensuring that required ecological monitoring is undertaken during the course of the project. Ecological monitoring will be procured directly by Pacific Complete and in some cases included in the scope of works to be undertaken by the contractors. |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
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| B2 | Biodiversity | Fauna connectivity | The Connectivity Strategy will be further developed during detailed design, in consultation with relevant State and Commonwealth agencies, building upon the Connectivity Strategy in Appendix A of the Working paper – Biodiversity and the Supplementary Biodiversity Assessment in Appendix J of the Submissions / Preferred Infrastructure Report. | Closed | This has been considered as part of detailed design. The Connectivity Strategy (Sections 3-11) was submitted to Department of Planning & Environment and the Department of Environment and Energy on 14 December 2016 (this reporting period - October 2016 to March 2017). Approval of this plan was received by DPE on 27 April 2017 and DPEE on 16 May 2017 (ie, in the next 6 monthly reporting period April 2017 to September 2017). |
| B3 | Biodiversity | Fauna connectivity | All fauna connectivity structures will be developed in accordance with the design principles outlined in the Connectivity Strategy in Appendix A of the Working paper – Biodiversity and the Supplementary Biodiversity Assessment in Appendix J of the Submissions / Preferred Infrastructure Report. | Open | This has been considered as part of detailed design. The Connectivity Strategy (Sections 3-11) was submitted to Department of Planning & Environment and the Department of Environment and Energy on 14 December 2016 (this reporting period - October 2016 to March 2017). Approval of this plan was received by DPE on 27 April 2017 and DPEE on 16 May 2017 (ie, in the next 6 monthly reporting period April 2017 to September 2017). Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B4 | Biodiversity | | Opportunities for improved connectivity for koala and Long-nosed Potoroo will be further investigated between station 144.2 and station 146.6. | Closed | This has been developed as part of detailed design with specific connectivity goals for the Long-nosed Potoroo and Koala identified in the Connectivity Strategy for Sections 3-11. The Connectivity Strategy (Sections 3-11) was submitted to Department of Planning & Environment and the Department of Environment and Energy on 14 December 2016 (this reporting period - October 2016 to March 2017). Approval of this plan was received by DPE on 27 April 2017 and DPEE on 16 May 2017 (ie, in the next 6 monthly reporting period April 2017 to September 2017). Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B5 | Biodiversity | Fauna exclusion fencing | Fauna exclusion fencing locations and design will be further developed in accordance with the design principles outlined in the Connectivity Strategy in Appendix A of the Working paper – Biodiversity. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B6 | Biodiversity | Fauna exclusion fencing | Fauna exclusion fencing in low-lying floodplains between stations 35.0 and 80.2 will where feasible and reasonable, be placed higher on fill embankments to reduce damage from flooding. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Sub-Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During this reporting period (October 2016 to March 2017) at Wave 5A temporary and permanent fauna exclusion fencing is currently being installed along Section 3 as per these requirements. |
| B7 | Biodiversity | Arboreal crossings | Tree height surveys will be conducted at proposed arboreal crossing zones to determine the most appropriate location to place rope or pole structures. Where feasible, the design will place arboreal crossing zones where average tree heights exceed 20 metres, and/ or taller trees are able to be safely retained close to the road edge. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B8 | Biodiversity | Widened median | The design and construction of fauna exclusion fencing, drainage or fauna underpass structures in widened medians minimise vegetation clearing. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B9 | Biodiversity | Widened median | Where feasible and reasonable, native vegetation forming part of the identified widened medians will not be disturbed for any ancillary construction purpose including access tracks, stockpiles, materials laydown and ancillary facilities. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Sub-Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B10 | Biodiversity | Flora and fauna management plan | A Flora and Fauna Management Plan will be prepared in accordance with Roads and Maritime Biodiversity Guidelines – Protecting and managing biodiversity on RTA projects (RTA, 2011a). | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
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| B11 | Biodiversity | Threatened species management sub-plans | <p>The threatened species management plans prepared for the project will be finalised, as relevant to the element of the project to be constructed. Development of the plans will include responding, where feasible and reasonable to:</p> <ul style="list-style-type: none"> • Recommendations from expert review undertaken as part of the Submissions / Preferred Infrastructure Report (and detailed in section 1.4 of the management plans). • Any conditions of approval. • Results from baseline monitoring undertaken. <p>The threatened species management plans will be finalised in consultation with the relevant State and Federal government agencies.</p> | Open | <p>The following Threatened Species Management Plans have been prepared and approved: Threatened Flora Management Plan Update 1 (Section 1, Section 2, Waves 1, 2 and 3) DPE Approval 30 April 2015, DoE Approval 5 May 2015. Threatened Flora Management Plan Update 2 (Sections 3 to 11) DPE Approval 21 August 2015, DoE Approval 4 September 2015. Threatened Rainforest Plants Management Plan (Section 10) DPE Approval 11 September 2015. Threatened Mammal Management Plan Update 1 DPE Approval 7 May 2015, DoE Approval 12 May 2015. Threatened Mammal Management Plan Update 2 DPE Approval 21 October 2015, DoE Approval 25 October 2015. Threatened Invertebrates Management Plan DPE Approval 29 July 2015. Threatened Fish Management Plan DPE Approval 30 July 2015. Threatened Frog Management Plan DPE Approval 7 May 2015. Threatened Glider Management Plan DPE Approval 4 May 2015. Coastal Emu Management Plan (Sections 3 and 4, excluding Wave 3) DPE Approval 3 June 2015. Coastal Emu Management Plan (includes updates for Wave 3) DPE Approval 18 December 2015. Microbat Management Plan (Section 3 to 11) DPE approval 25 May 2015. Koala Management Plan (Section 1 to 11), DPE Approval 4 August 2016, DoEE Approval 11 August 2016.</p> |
| B12 | Biodiversity | Re-establishment of native vegetation | <p>A landscape management plan will be developed to provide specific details for the re-establishment of native vegetation on batters, cut faces, surrounding sediment basins and other areas disturbed during construction. This includes details for the appropriate removal and restoration of temporary creek crossings. The landscape management plan will be developed in line with Roads and Maritime Biodiversity Guidelines (RTA, 2011a), the design principles identified in the Connectivity Strategy and the design principles in Working paper – Urban design, landscape character and visual impact.</p> | Open | <p>This is being considered as part of detailed design and the urban design and landscape plans.</p> |
| B13 | Biodiversity | Minimising loss of vegetation and habitat | <p>Disturbance and clearing of vegetation will be minimised, particularly:</p> <ul style="list-style-type: none"> • Avoiding and minimising vegetation removal wherever possible through the detailed design process. • Placing water quality basins in the optimal location for treating surface runoff. During detailed design, the location of water quality treatment measures will consider minimising vegetation removal, particularly where there is the potential for threatened plant species, threatened fauna habitat or in identified regional wildlife corridors. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is addressed by Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2).</p> |
| B14 | Biodiversity | Bridge and culvert design | <p>Instream structures such as bridges and culverts will be designed and managed to minimise any potential impact to flow regimes and fish passage, in accordance with Fairfull and Witheridge (2003).</p> | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> |
| B15 | Biodiversity | Bridge and culvert design | <p>During detailed design, the waterway class will be confirmed and the design will be reviewed to include appropriate crossing structures for the relevant waterway class at the following locations:</p> <ul style="list-style-type: none"> • Unnamed waterway station 114.0 • Oaky Creek station 122.5 • Nortons Gully station 123.6 • Unnamed waterway station 133.4 • Unnamed waterway at station 134.7 • Tributary of Macdonalds Creek at station 135.5 • Montis Gully tributary at station 141.8 • Eversons Creek station 143.6 | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> |
| B16 | Biodiversity | Bridge and culvert design | <p>All drainage structures between stations 134.5 to 143.0 will be reviewed in consultation with Department of Primary Industries (Fisheries) to ensure suitable connectivity for threatened fish species is maintained.</p> | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> |
| B17 | Biodiversity | Bridge and culvert design | <p>Each permanent waterway crossing is to be designed to ensure no physical, hydraulic and behavioural barriers to aquatic fauna movements. Impacts be minimised by ensuring that:</p> <ul style="list-style-type: none"> • The natural stream flow and velocity are maintained as closely as possible. • Surface level of any causeway is the same or lower than the natural stream bed to reduce interference with flow. • Habitat within a culvert is as natural as possible (e.g. allow rock and bed materials to infill the culvert base). • There is the maximum light penetration. • Fauna and fish passage standards are maintained, as detailed in the Connectivity Strategy, including minimum design widths, including for natural banks, while also providing for scour protection and cut and fill batters. • Bridges will be designed and sized to ensure peak flood velocities are not increased by more than one metre per second than the existing flood event, where Oxleyan Pygmy Perch have been confirmed. | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> |
| B18 | Biodiversity | Bridge and culvert design | <p>Bridge structures will be designed to minimise impacts to flow regimes and fish passage. Where feasible and reasonable the following principles will apply:</p> <ul style="list-style-type: none"> • Bridge piers to be located outside the main channel. • Bridge structures to be designed to prevent an increase of backup of water during times of flood that will enable Plague Minnow to access waterbodies where they are currently not found (e.g. Broadwater National Park). • Construction not alter or reduce flow where there are existing or potential Oxleyan Pygmy Perch populations (primarily within Sections 7, 8 and 9). | Open | <p>This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs.</p> |

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| B19 | Biodiversity | Temporary and permanent waterway crossings | Where temporary access tracks are required over drainage lines with no flow, fords may be installed. | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Temporary crossing designs have been developed in consultation / approved by PC in accordance with the CEMP. |
| B20 | Biodiversity | Temporary and permanent waterway diversions/ crossings | Where possible, existing crossings will be used. Where this is not feasible or reasonable, the temporary crossings will be designed to minimise impacts on the existing aquatic ecology and water quality. | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Where possible, low flow pipes have been installed at temporary drainage line crossings in accordance with Blue Book requirements. |
| B21 | Biodiversity | Temporary and permanent waterway diversions/ crossings | Temporary waterway access track mitigation measures include: <ul style="list-style-type: none"> • Installation and subsequent decommissioning of temporary crossings will be undertaken outside of Oxleyan Pygmy Perch spawning seasons (October to December), where Oxleyan Pygmy Perch have been confirmed. • Temporary crossings will be constructed from clean fill using pipe or box culvert cells to carry flows. • All temporary works (e.g. crossings, flow diversion barriers) will be removed as soon as practicable and in a way that does not promote future channel erosion. • The preferred temporary structure for crossing waterways will be consistent with Witheridge (2002). • Scour protection works will be established at temporary crossings as required. • At the completion of construction, the temporary crossings will be removed and rehabilitated. | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Temporary Crossings have been designed and implemented in accordance with the Blue Book and in consultation with ERG, including these provisions. |
| B22 | Biodiversity | Fish translocation | Fish that become stranded due to temporary access crossings or construction of temporary or permanent creek diversions must be captured and translocated following the Department of Primary Industries Fisheries Guidelines – A Guide to Acceptable Procedures and Practices for Aquaculture and Fisheries Research. | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Appropriately qualified aquatic ecologists have been used to clear drainage channels when closing or moving. |
| B23 | Biodiversity | Pre-clearing surveys | The pre-clearing process will be consistent with Roads and Maritime Biodiversity Guidelines: Protecting and Managing Biodiversity on RTA projects (RTA, 2011a) and include: <ul style="list-style-type: none"> • Pre-clearing surveys by an experienced ecologist for large bird nests, particularly for listed species such as the Black-necked Stork, Eastern Osprey, Square-tailed Kite and Little Eagle during the nesting and breeding season (July to December) and tree roosting (e.g. Southern Myotis) or cave dwelling bats in trees or existing culvert/bridge structures. If the species is present in or directly adjacent to the project footprint (including ancillary facilities), measures to manage any species be considered, if required. • Mapping the location of any threatened flora and/or fauna species, Threatened Ecological Communities and habitat. • Construction traffic will be restricted to defined access tracks, fenced prior to the start of construction and maintained until construction is complete. | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Clearing limits and access delineation are clearly shown on relevant construction drawings, surveyed and flagged in the field and closely tracked throughout the project. Suitably Qualified Ecologist is present undertake pre-clearing survey prior to commencement of all clearing in any area and to complete inspections and complete checklist and also during clearing of any habitat trees in accordance with the Construction Flora and Fauna Management Plan and Vegetation Clearing and Ground Disturbance construction procedure. |
| B24 | Biodiversity | Exclusion zones | The location of exclusion zones will be identified, with temporary fencing or flagging tape to indicate the limits of clearing (in accordance with the Roads and Maritime Biodiversity Guidelines (RTA, 2011a)). Permanent fauna exclusion fencing for the project (as described in the Connectivity Strategy), where reasonable and feasible, will be installed prior to clearing and can function as exclusion fencing. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). All exclusion zones created to date have been delineated in accordance with the Pacific Complete Flagging Protocol and verified during inspections. |

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| B25 | Biodiversity | Staged removal process | A staged habitat removal process will be implemented consistent with the Roads and Maritime Biodiversity Guidelines (RTA, 2011a). | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B26 | Biodiversity | Re-use of woody debris and bushrock | Woody debris and bushrock will be re-used on site for habitat improvement where possible and will be detailed in the landscape management plan in accordance with the Roads and Maritime Biodiversity Guidelines (RTA, 2011a). | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B27 | Biodiversity | Weed management | A weed management plan will be developed as part of the CEMP, in accordance with the Roads and Maritime Biodiversity Guidelines (RTA, 2011a) and the Introductory Weed Management Manual (Richards, 2004). | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B28 | Biodiversity | Weed management | A site assessment by an ecologist or person trained in weed identification will be undertaken to identify the presence and extent of Alligator weed. If present, management measures in the Weed Management Plan will be in accordance with the Department of Primary Industries Alligator Weed control manual (van Oosterhout, 2007). | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B29 | Biodiversity | Pathogen management | Measures to prevent the introduction and/or spread of pests and disease causing agents such as bacteria and fungi will be incorporated into the CEMP, in accordance with the Roads and Maritime Biodiversity Guidelines (RTA, 2011a). | Open | This requirement is addressed by the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B30 | Biodiversity | Pathogen management | <p>If pathogens are identified on site:</p> <ul style="list-style-type: none"> • Testing may be required to confirm the presence of pathogens. • Advice from government departments will be sought on practical hygiene management measures. • Fenced exclusion zones will be identified to restrict access into contaminated areas. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete is in the process of procuring an investigation to determine whether Phytophthora is present within Sections 3 to 11. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| B31 | Biodiversity | Nest boxes | <p>Nest boxes be installed as per Roads and Maritime Biodiversity Guidelines (RTA, 2011a) and a nest box strategy developed as part of the CEMP, detailing:</p> <ul style="list-style-type: none"> • The number and type of nest boxes required based on the number, quality and size of the hollows that be removed. • Specifications for nest box dimensions, installation requirements, locations of nest boxes and ongoing monitoring and maintenance. • Installation timeframes, including the installation of 70 % of nest boxes prior to the removal of any vegetation in the vicinity of the hollows. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). To date, 434 Nest Boxes have been installed across Sections 3 to 11. |
| B32 | Biodiversity | Fauna handling | To prevent injury and mortality of fauna during the clearing of vegetation and drainage of farm dams, an experienced and licensed wildlife carer and/or ecologist will be present to capture and relocate fauna where required. Further details regarding fauna handling and vegetation clearing procedures are provided in the Roads and Maritime Biodiversity Guidelines (RTA, 2011a). | Open | <p>This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2).</p> <p>An ecologist is present during all clearing works.</p> |

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| B33 | Biodiversity | Riparian and aquatic habitat management | Prior to any disturbance of waterway banks, a thorough inspection by a qualified ecologist will be undertaken for aquatic fauna such as turtle nests. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Ecologist pre-inspection undertaken in accordance with approved CFFMP |
| B34 | Biodiversity | Riparian and aquatic habitat management | Where possible, streams will be crossed perpendicular to flow, with crossing sites selected to avoid unstable banks, bends in the channel, deep pools and confluences with other channels. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B35 | Biodiversity | Riparian and aquatic habitat management | The bed and banks are to be reinstated to a condition similar to or better than the original condition ensuring that there are no adverse impacts on the aquatic values (different measures may be required for each crossing) and where feasible and reasonable, avoid impacts on geomorphic processes. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). Where possible, disturbance to the bed and banks will be avoided as well as any impacts on geomorphic processes. At Wave 5C, BC52 has been rehabilitated to the satisfaction of DPI Fisheries. |
| B36 | Biodiversity | Riparian and aquatic habitat management | All construction materials used for permanent watercourse crossings (rocks and gravel) are to be free of fine particles to minimise turbidity. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Clean rock is used for the installation of permanent water crossings which is free of fines. |
| B37 | Biodiversity | Riparian and aquatic habitat management | Instream and riparian disturbance will be minimised and sediment, woody snags or debris removed from a stream or stream channel will be minimised. Trimming or 'lopping' of branches and logs will be considered as a first option before moving. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B38 | Biodiversity | Riparian and aquatic habitat management | Any instream woody debris removed during construction will be replaced at the completion of the works within the same waterways from which it was removed, where feasible and reasonable. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B39 | Biodiversity | Riparian and aquatic habitat management | Where feasible and reasonable within the road corridor, existing pools will be retained upstream and downstream of crossings within known habitat of the Oxleyan Pygmy Perch to provide resting and refuge habitat near crossing structures. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B40 | Biodiversity | Riparian and aquatic habitat management | Appropriate plant species will be incorporated into the rehabilitation of disturbed aquatic habitats and drains as a result of construction. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During detailed design, Urban Design and Landscape Plans will be prepared in accordance with MCoA D20. Pacific Complete will review the relevant detailed design deliverables to ensure compliance with MCoA D20. |
| B41 | Biodiversity | Riparian and aquatic habitat management | All construction sediment and erosion control measures will be put in place during the construction process and may include sediment and erosion control curtains in the waterways to control turbidity generated during the construction and restoration process. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Where appropriate, Sediment curtains will be included for works in waterways in consultation with DPI (Fisheries) and EPA. |

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| B42 | Biodiversity | Riparian and aquatic habitat management | No turbid water generated from the construction corridor or construction area is to be discharged to any waterway unless in accordance with relevant Environment Protection Licence conditions and developed in consultation with Environment Protection Authority and Department of Primary Industries (Fisheries). | Open | Pacific Complete has obtained an Environment Protection Licence (EPL) for Sections 3 to 11 (No. 20173, 29 January 2016). This EPL is in addition to those obtained directly by Contractors engaged by RMS to undertake soft soils works (i.e. Waves 1 and 2). This requirement is also addressed in Pacific Complete CEMP (Appendix B4 Construction Soil and Water Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). All discharges to waterways were undertaken in accordance with relevant EPL conditions. |
| B43 | Biodiversity | Timing of in-stream works | No in-stream work will occur in known Oxleyan Pygmy Perch habitat during the Oxleyan Pygmy Perch spawning season (October to December inclusive) or within 24 hours of the commencement of any rainfall event (>10 millimetres). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Required in-stream work in known OPP habitat was carried out prior to October 2016. |
| B44 | Biodiversity | Water quality | Operational spill basins are to be installed at key locations i.e. near Broadwater National Park and other key drainage lines that lead directly into threatened fish habitat. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| B45 | Biodiversity | Water quality | Chemicals and fuels will be appropriately stored and banded, away from waterways and drainage lines. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B46 | Biodiversity | Water quality | Discharges from sediment basins and/or treatment wetlands located in Oxleyan Pygmy Perch habitat that do not meet the water quality parameters for Oxleyan Pygmy Perch (to be determined through pre-construction water quality monitoring) will not be discharged directly into waterways, with other methods or uses employed to discharge. This could include, but not be limited to: <ul style="list-style-type: none"> • Spraying onto adjacent open grass areas or used for construction purposes such as dust. • Treating the water to ensure the pH is between 5.0 and 6.5 and total suspended solids of less than 50 mg/L, before discharging, depending on environmental protection licensing requirements. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B47 | Biodiversity | Water quality | Water quality monitoring will be undertaken to assess the effectiveness of (and where necessary amend) water, sediment and erosion management strategies that aim to protect native fish species, their habitat and other aquatic flora and fauna species. Water quality monitoring program be undertaken in line with details in Appendix B of the Working paper – Biodiversity. | Open | Following project approval water quality monitoring requirements are detailed in the Water Quality Monitoring Program (S3-S11) as required by MCoA D12 and approved by DPE on 24 August 2015 and the Threatened Fish Management Plan which was approved by DPE on 30 July 2015. Both these plans form part of the Pacific Complete CEMP (i.e. Appendix B4 Construction Soil and Water Quality Management Plan and Appendix B2 Construction Flora and Fauna Management Plan respectively). |
| B48 | Biodiversity | Stockpile and ancillary facilities management | Where feasible and reasonable, stockpiles will be located above the 1:100 year flood level with appropriate management control measures in place such as bunding. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the ER on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facilities during the project. PC developed a Stockpile Checklist to ensure appropriate management controls are in place. |
| B49 | Biodiversity | Stockpile and ancillary facilities management | Specific management measures will be implemented to limit impacts from stockpiling of material for bridgeworks at known and potential areas of Oxleyan Pygmy Perch during the spawning seasons of October to December. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. |

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| B50 | Biodiversity | Stockpile and ancillary facilities management | Batch plants will be located at least 300 metres away from Oxleyan Pygmy Perch habitat where sediment erosion not runoff into waterways (due to the risk of high alkaline runoff). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the ER on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facilities during the project. Existing ancillary facilities are in compliance with this condition. |
| B51 | Biodiversity | Stockpile and ancillary facilities management | Ancillary facilities will be located in cleared or sparsely treed portions of the ancillary facility sites, and avoid unnecessary clearing of native vegetation. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the ER on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facilities during the project. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). Clearing has been avoiding where possible for the establishment of ancillary facilities. |
| B52a | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 2 site 1a: <ul style="list-style-type: none"> Flag and avoid hollow bearing trees Revegetation of the section of the site in the road reserve or the entire site (if practicable). | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| B52b | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 2 site 5a: <ul style="list-style-type: none"> Avoid isolated trees and flag and avoid hollow bearing trees where possible. Site to remain cleared to benefit emus. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| B52c | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 2 site 6a and 6b: <ul style="list-style-type: none"> Site to remain clear (not vegetated) to benefit emus. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| B52d | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 3 Site 1: <ul style="list-style-type: none"> This compound site that was used for the Glenugie Upgrade and has been revegetated post-construction. A site inspection and survey is required prior to construction to determine its suitability for future use as an ancillary site. Avoid mature trees. Revegetation of the section of the site in the road reserve or the entire site (if practicable). | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52e | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 3 Site 2: <ul style="list-style-type: none"> Provide a buffer of 50 metres minimum from creek and sediment fencing where required. Avoid mature trees. Revegetation of the section of the site in the road reserve or the entire site (if practicable). | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility management plan/ checklist has been prepared and approved for this site by the ER on 8 September 2016 |

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| B52f | Biodiversity | Stockpile and ancillary facilities management | <p>Ancillary facility - Section 3 Site 4:</p> <ul style="list-style-type: none"> • Ancillary site to be restricted to the western parts of the site adjoining Wooli Road. • Vegetation in the road reserve along Wooli Road to be protected from disturbance. • The population of the Slender Screw Fern plants is to be avoided. • Existing trails or disturbed areas to be used for access to site. Bostock Road not to be used for access. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs).</p> <p>Ancillary facility management plan/ checklist has been prepared and approved for this site by the ER on 30 September 2016.</p> |
| B52g | Biodiversity | Stockpile and ancillary facilities management | <p>Ancillary facility - Section 3 Site 8:</p> <ul style="list-style-type: none"> • Identify and mark Angophora robur during pre-clearing and provide exclusion fencing. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs).</p> <p>Ancillary facility has not been assessed and approved for use.</p> |
| B52i | Biodiversity | Stockpile and ancillary facilities management | <p>Ancillary facility - Section 3 Site 9:</p> <ul style="list-style-type: none"> • Provide buffer to the surrounding forest. • Identify and mark Angophora robur during pre-clearing and provide exclusion fencing • Provide sediment fencing on eastern boundary where required. • Avoid and buffer koala feed trees in the northwest corner of the site. Buffer required from edge of the forest to reduce edge effects, sediment fencing where required. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs).</p> <p>Ancillary facility management plan/ checklist has been prepared and approved for this site by the ER on 19 October 2016.</p> |
| B52j | Biodiversity | Stockpile and ancillary facilities management | <p>Ancillary facility - Section 5 Site 6:</p> <ul style="list-style-type: none"> • Consult with OEH on future use of this site post-construction, which may have offset potential with assisted regeneration and could be considered as a potential addition to Mororo Creek Nature Reserve • Flag and buffer habitat patch on southern boundary. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs).</p> <p>Ancillary facility is proposed for use and the Ancillary Facility Management Plan was approved on 31 August 2016.</p> |
| B52k | Biodiversity | Stockpile and ancillary facilities management | <p>Ancillary facility - Section 5 Additional site 9:</p> <p>Provide buffer around Mororo Creek and sediment fencing to protect riparian areas</p> <p>Flag and buffer habitat patch on southern boundary</p> | Closed | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs).</p> <p>Ancillary facility management plan/ checklist has been prepared and approved for this site by the ER on 31 August 2016.</p> |

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| B52l | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 6 Site 3a and 3b: <ul style="list-style-type: none"> Mark and avoid small dam in north-west corner of site and buffer activities from a large remnant patch adjoining to the north. Avoid scattered mature trees where possible. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52m | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 6 site 5: <ul style="list-style-type: none"> Site is currently being used as a compound site for the Devils Pulpit upgrade. On completion of construction for that project, the site would be stabilised with a quick growing cover crop to stabilise the site. A site inspection and survey is required prior to construction to confirm the suitability of the site. Site to be rehabilitated post- construction. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). The hard stand from the Devils Pulpit Upgrade has not been removed from the site. The ancillary facility is currently being assessed for use on the Ancillary facility management plan/ checklist has been prepared and approved for this site by the ER on 4 December 2016. |
| B52n | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 7 Site 1: <ul style="list-style-type: none"> To be used for only low risk activities, no chemical or fuel storage on site. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility assessment/management plan is currently being prepared for this site. |
| B52o | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 7 Site 2a and 2b: <ul style="list-style-type: none"> To be used for only low risk activities, no chemical or fuel storage on site. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52p | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 7 site 3: <ul style="list-style-type: none"> Provide sediment fencing along eastern boundary. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facilities have not been assessed and approved for use. |
| B52q | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 7 Site 4: <ul style="list-style-type: none"> Provide buffer of minimum 50 metres from the wetland on northern boundary and sediment fencing where required. Avoid tree removal where possible | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility assessment/management plan is currently being prepared for this site. |

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| B52r | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 8 Site 2a, 2b and 2c: • Recommend use for stockpile only, no chemical or fuel storage on site. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52s | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 8 Site 3: • Provide bunding around the site. No chemical storage. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility management plan/checklist has been completed and approved (September 2016) and an impermeable sediment fence was used for this ancillary site. |
| B52t | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 9 Site 1: • Provide buffer and sediment fencing at southern end. • Provide sediment fencing at southern end of site, stockpiling only at northern half, no chemical storage | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility management plan/checklist has been prepared and was approved on 15 February 2017. |
| B52u | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 9 site 2: • Provide sediment fencing at southern end of site, stockpiling only at northern half, no chemical storage | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52v | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 9 site 3: • Provide sediment fencing at southern end of site, stockpiling only at northern half, no chemical storage | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility assessment/management plan is currently being prepared for this facility. |

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| B52w | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 10 site 1b: • Revegetation of the section of the site in the road reserve or the entire site (if practicable). | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52x | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 10 site 3b: • Map and avoid strip of trees along northern boundary | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Ancillary facility has not been assessed and approved for use. |
| B52y | Biodiversity | Stockpile and ancillary facilities management | Ancillary facility - Section 10 site 4: • Revegetate site post-construction, focus on approaches to land bridge and avoid Arthraxon hispidus. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) will be managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Assessment/management plan has not been prepared for this site. |
| B53 | Biodiversity | Slender Screw Fern | The project footprint in section 1 will to be reviewed to identify any opportunities to avoid significant impacts to the existing population. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| B54 | Biodiversity | Slender Screw Fern | The project footprint and placement of sedimentation basins will be evaluated to minimise impacts to Slender Screw Fern. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. |
| B55 | Biodiversity | Biodiversity Offset Strategy | The Biodiversity Offset Strategy (detailed in Appendix C of the Working paper – Biodiversity) will be developed further, in consultation with relevant State and Commonwealth agencies, and implemented during detailed design. | Closed | Biodiversity Offset Strategy Approved (DPE 6 January 2016 and DoE 7 January 2016). |
| B56 | Biodiversity | Interchange at Wardell | Street lighting on the western roundabout at the interchange at Wardell will be designed to reduce light spill during detailed design. This could include using deflection shields around the lights or using a UV light, with reduced UV light emissions. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. |
| B57 | Biodiversity | Interchange at Wardell | Further investigation will be undertaken of the road runoff capture and storage to the east side of the existing Pacific Highway between station 158.2 and 159.4 to protect remaining in situ aquatic habitats south of Laws Road. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. |
| B58 | Biodiversity | Interchange at Wardell | Roads and Maritime owned land surrounding the dedicated landbridge at station 156.0 be revegetated in accordance with the connectivity strategy and the landscape management plan. | Open | This is being considered as part of detailed design. Design Portion D (which includes Section 10) will be required to prepare a Connectivity Strategy as per MCoA D2) and an Urban Design Landscape Plan as per MCoA D20. Pacific Complete will review detailed design deliverables to ensure they comply with their respective requirements. This requirement is also addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Sub-Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| B59 | Biodiversity | Impacts to Lang Hill | The Lang Hill Environmental Management Work Statement be further developed and implemented during the use and rehabilitation of the borrow site. | Open | The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. Draft EWMS prepared for the site that was included in the SPIR has been included in the management plan and was developed in consultation with DPI Fisheries, agencies and RAPs. |

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| B60 | Biodiversity | Impacts to Lang Hill | The creek line on the 'Lang Hill' property will should be fenced off from cattle and the vegetation allowed to regenerate to improve the habitat conditions downstream. | Open | The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE and incorporates this requirement. |
| B61 | Biodiversity | <i>Maundia triglochinoxoides</i> | Detailed design will investigate measures to reduce impacts to <i>Maundia triglochinoxoides</i> : <ul style="list-style-type: none"> Near Redbank Creek (population 14). Near North of New Italy (population 12). | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| URBAN DESIGN AND LANDSCAPE | | | | | |
| UD1 | Urban Design and Landscape | Noise wall visual impacts | If further noise modelling identifies that noise walls are required, further visual assessment address the visual implications of the change. Their location and design will be in accordance with the Noise Wall Design Guideline (RTA, 2007) and the principles identified in Working Paper – Urban design, Landscape Character and Visual Impact (Section 4.6.3). | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| UD2 | Urban Design and Landscape | Clarence River and Richmond River bridge impacts | Changes to the design of the Clarence and Richmond rivers bridges from this EIS, will require further visual assessment. Any changes will consider the principles identified in Working Paper – Urban design, Landscape Character and Visual Impact (Section 4.6.2), the performance criteria outlined in Chapter 5 of the EIS and funding arrangements. | Open | This is being considered as part of detailed design and Urban Design and Landscape Plans . Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| UD3 | Urban Design and Landscape | Landscaping and planting strategy | The project will be carried out in accordance with the urban design and landscaping strategy, as identified in Section 11.4.1 of this EIS. Detailed landscape design for all project batters, and median planting areas will be developed in accordance with the Landscape Guidelines (RTA, 2008), the requirements of the Working Paper – Biodiversity (Section 5.2.2) and the landscape strategy to provide a robust, successful and effective planting design. | Open | This is being considered as part of detailed design and Urban Design and Landscape Plans . Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| UD4 | Urban Design and Landscape | Design of urban design features and road furniture | The built form of the project, including consideration of the height, bulk, scale, materials and finishes for: <ul style="list-style-type: none"> Bridges. Retaining walls. Cuttings and embankments. Road barriers. Signage. Fences. Clear zones. Topsoil management. Water quality control ponds. Fauna crossing. Place marking and cultural plantings. The project will be designed in accordance with the design principles identified in Working Paper – Urban Design, Landscape Character and Visual Impact, and relevant Roads and Maritime guidelines. | Open | This is being considered as part of detailed design and Urban Design and Landscape Plans . Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| UD5 | Urban Design and Landscape | Shadowing | Further assessment will be undertaken of the impact of overshadowing on areas surrounding the project, particularly around Harwood Bridge, interchanges and overpasses near residential properties. | Open | This is being considered as part of detailed design and Urban Design and Landscape Plans . Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| UD6 | Urban Design and Landscape | Visual impacts from viewpoints | Measures to mitigate visual impacts to viewpoints will be implemented, as identified in Table 11-42 and Working Paper – Urban Design, Landscape Character and Visual Impact. If any further viewpoints were identified during detailed design that have a moderate–high or high impact, screen planting also be considered. | Open | This is being considered as part of detailed design and Urban Design and Landscape Plans . Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| UD7 | Urban Design and Landscape | Construction visual impacts | Disturbed areas will be progressively revegetated throughout the construction period. | Open | This requirement forms part of the CEMP and Urban Design and Landscaping for the project. |
| UD8 | Urban Design and Landscape | Visual impacts of ancillary facilities | Where required, typical landscape treatments for ancillary facilities in forest areas will include: <ul style="list-style-type: none"> Providing screen planting. Considering reinstatement of disturbed forest in heavily forested. Considering the importance of the visual landscape at each location and allowing restoration of important forest vegetation to prominent ridge lines or other landscape elements where feasible and reasonable. Negotiating with private landowners, as applicable, to determine future treatments for other non-forested ancillary facility locations. Re-grading disturbed areas to achieve a sustainable and functional landform. Stabilising all surfaces in accordance with good engineering and environmental practice. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) are managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). |
| UD9 | Urban Design and Landscape | Visual impacts of ancillary facilities | Typical landscape treatments for ancillary facilities in agricultural areas will include: <ul style="list-style-type: none"> Considering returning remnant agricultural land to agricultural uses. Providing screen planting. Reinstating riparian vegetation through ancillary facilities, where practicable, in the open landscape. Considering the visual landscape at each ancillary facility and considering restoration of important forest vegetation to prominent ridge lines or other landscape elements where feasible and reasonable. Re-grading disturbed areas to achieve a sustainable and functional landform. Stabilising all surfaces in accordance with good engineering and environmental practice. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete. Ancillary Facilities required for soft soil works (i.e. Waves 1 and 2) are managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). |

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| UD10 | Urban Design and Landscape | Visual impact of borrow sites | The extent of excavation and the landscaping strategy at borrow sites will be reviewed considering material requirements on the project and the visual impact on the resultant cuttings. | Open | Pacific Complete will prepare site specific Borrow Site Management Plans as required by the project approval. This requirement will apply to all borrow site management plans prepared by Pacific Complete. The Tyndale Borrow Site Management Plan (Portion A) was approved in August 2016 by DPE. The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. Management Plans are currently being prepared for a number of borrow sites in Portion D such as Lumley's Hill Borrow Site. |
| UD11 | Urban Design and Landscape | Visual impact of borrow sites | Any backfilling of the Lang Hill and West of Wardell borrow sites will be undertaken with available surplus material from the project. Rehabilitation of the sites will be undertaken in accordance of the landscape strategy (UD3), design principles (UD5) and the intended future land use of the sites. | Open | Pacific Complete will prepare site specific Borrow Site Management Plans as required by the project approval. This requirement will apply to all borrow site management plans prepared by Pacific Complete. The Tyndale Borrow Site Management Plan (Portion A) was approved in August 2016 by DPE. The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. |
| UD12 | Urban Design and Landscape | Visual impact of borrow sites | Any backfilling of the Eatons and Gibson borrow sites will be undertaken with available surplus material from the project. Landscaping on the site use indigenous species, including those species suitable for Koala. The landscaping will connect to the existing vegetation to the east of the project by a fauna land bridge to be constructed at station 147.6. Rehabilitation of the sites will be undertaken in accordance of the landscape strategy (UD3) and design principles (UD5). | Open | Pacific Complete will prepare site specific Borrow Site Management Plans as required by the project approval. This requirement will apply to all borrow site management plans prepared by Pacific Complete. The Tyndale Borrow Site Management Plan (Portion A) was approved in August 2016 by DPE. The Lang Hill Borrow Site Management Plan (Portion C) was approved 23 November 2016 by DPE. Management Plans are currently being prepared for a number of borrow sites in Portion D. |
| UD13 | Urban Design and Landscape | Monitoring of landscaping and rehabilitation | Landscape and rehabilitation works will be monitored and remedial measures implemented where required until vegetation has stabilised. | Open | Noted. |
| UD14 | Urban Design and Landscape | Earth mounds | The mounding profile of any earth mound will blend suitably into the existing landscape setting. Any mounding to be landscaped will be compacted in 1.5 metre layers with 1:3 maximum batter slopes where reasonable in consideration of constraints within the project corridor. Where feasible and reasonable, permanent mounds will be treated with ameliorants and overlaid with topsoil to minimum 150 millimetres to ensure suitable planting conditions are achieved. | Open | Noted. |
| ABORIGINAL HERITAGE | | | | | |
| AH1 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | Where artefact concentrations per square metre (over all depths) encountered are 50 per cent greater than previously encountered, additional salvage excavation using hand tools will be undertaken. If these artefact concentrations are encountered during machine excavation, then machine excavation will stop within 20 metres of the artefact concentrations. Up to, but no more than, an additional six square metres will be excavated in this situation at that site, unless rare features are encountered, in which case discussions with the registered Aboriginal stakeholders and NSW Office of Environment and Heritage will be undertaken to agree on a suitable approach. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). The methodologies proposed by RPS Group and Navin Officer Heritage consultant incorporate actions to take, if substantially rich deposits of artefacts are located. These actions go over and above the requirements of this management measure. |
| AH2 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | For areas avoided by construction, exclusion zones will be put in place. These will be fenced with high visibility construction webbing or other similar fencing and have a 'Do Not Enter' sign. Exclusion zones will be marked on construction plans and be maintained until construction is completed. A representative of the Local Aboriginal Land Council will be present during establishment of the fencing. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Ancillary facilities required for soft soil works (i.e. Waves 1 and 2) are managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). All required fencing has been installed prior to commencement of works during the reporting period. A representative of the local Aboriginal Land Council was present for the establishment of heritage exclusion fencing. |
| AH3 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | If any part of the project (such as an ancillary facility) is located in an area which has not been subject to Aboriginal heritage field survey and assessment, an assessment will be undertaken before that part of the project proceeds. | Open | This requirement is addressed in the Pacific Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detail how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Ancillary facilities required for soft soil works (i.e. Waves 1 and 2) are managed separately via existing approved CEMPs and associated management plans (e.g. AFMPs). Due diligence heritage assessments have been carried out prior to any works outside the SSI project boundary. |

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| AH4 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | <p>Salvage excavation and systematic collection of previously recorded artefacts that will be impacted by the project, along with any other impacted sites that are identified prior to or during construction, are to be undertaken by qualified archaeologists in conjunction with the registered Aboriginal stakeholders:</p> <p>The location of excavations will be within the area of the site to be impacted, and be decided upon in the field by a qualified archaeologist and registered Aboriginal stakeholders.</p> <p>If any datable material is located, a minimum of two samples (per archaeological site) will be subject to radiocarbon, standard or accelerated mass spectrometry dating.</p> <p>For all salvaged material, suitable storage will be agreed upon with the registered Aboriginal stakeholders prior to commencing salvage in those areas.</p> | Open | As per RMS salvage program of works carried out prior to construction. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH5 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | Heritage evidence collected will be curated in an appropriate manner, as determined in consultation with the registered Aboriginal stakeholders and the NSW Office of Environment and Heritage and in accordance with the National Parks and Wildlife Act 1974, details of the material's nature and context will also be provided. | Open | As per RMS salvage program of works carried out prior to construction. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH6 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | A detailed technical report documenting the results of the salvage excavations and the archaeological material analysis will be prepared. A summary report (to be made public) will be developed to accompany the technical report. | Open | As per RMS salvage program of works carried out prior to construction. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH7 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | Site records will be lodged with NSW Office of Environment and Heritage for any previously unrecorded evidence that is identified and for any evidence that is salvaged. | Open | As per RMS salvage program of works carried out prior to construction. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH8 | Aboriginal Heritage | General impacts to Aboriginal archaeological sites | Aboriginal Site Impact Recording (ASIR) forms will be lodged with the Aboriginal Heritage Information Management Systems (AHIMS) Register within three months of sites being impacted. | Open | As per RMS salvage program of works carried out prior to construction. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH9 | Aboriginal Heritage | Human skeletal remains | An unexpected finds (including human skeletal remains) procedure will be developed in accordance with Roads and Maritime' Standard Management Procedures: Unexpected Archaeological Finds 2012. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH10 | Aboriginal Heritage | Aboriginal stakeholder consultation | Aboriginal focus group consultation (through letters or meetings); will occur at least once every six months, prior to and during construction (unless management actions have been completed). | Open | RMS has an established AFG meeting schedule in place. |
| AH11 | Aboriginal Heritage | Awareness of Aboriginal heritage | Aboriginal culture awareness training for all relevant staff and contractors will occur prior to commencing work on-site. This could include information about the Aboriginal culture and history of the locality, the location of sites and items that require protection and movement corridors within the project boundary, heritage management measures and protocols, and legal obligations. This training will be developed in consultation with suitably trained personnel from local Aboriginal organisations represented by the relevant registered stakeholders for that area. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan) which was approved by DPE on 23 October 2015. Pacific Complete will be submitting the Aboriginal and Non-Aboriginal Heritage and Education Training Package which forms Appendix A of the Construction Heritage Management Plan in February 2015 following the completion of the consultation period as of 12 February 2015. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH12 | Aboriginal Heritage | Awareness of Aboriginal heritage | An Aboriginal heritage interpretation strategy will be prepared as part of the Aboriginal heritage management plan. Measures will include opportunities for promoting salvage and investigation, the recovery of information, permanent installations and ways of marking the presence of Aboriginal people in the landscape, including, signage, interpretation products such as written materials, and through place naming. | Open | As per RMS salvage program of works (prior to construction). This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| AH13 | Aboriginal Heritage | Awareness of Aboriginal heritage | Compliance auditing of the cultural heritage management measures will be undertaken as part of the environmental management audit regime. | Open | This requirement is addressed by the Pacific Complete CEMP (main document). Separate and approved CEMPs are in place for soft soil works (i.e. Waves 1 and 2). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

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| AH14a | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 1, Site 1a (at Taylors Run 2):</p> <ul style="list-style-type: none"> All previously recorded artefacts must be recovered and removed off-site, and passed to registered Aboriginal stakeholders for reburial or storage at a chosen location, subject to a care agreement being established. If the Aboriginal archaeological site is not to be impacted, an exclusion zone will be established as per management measure AH2. <p>Ancillary facility - Section 1, Site 1a (at Taylors Run 3):</p> <ul style="list-style-type: none"> Exclusion zones will be established as per management measure AH2. <p>Ancillary facility - Section 1, Site 1a (at Taylors Run 1):</p> <ul style="list-style-type: none"> The surface scatter portion of this Aboriginal archaeological site outside the proposed ancillary facility will be avoided. An exclusion zone with a buffer of 15 metres of the surface artefact point will be established as per management measure AH2. Any ground disturbance impacts to the archaeological site in the ancillary facility, will require the top soil down to the sterile clay layer to be graded, stockpiled separately (within a portion of the ancillary facility area), and reinstated at the same area following completion of the activity. Any portions of the Aboriginal archaeological site not to be impacted will be protected by exclusion zones as per management measure AH2. <p>Ancillary facility - Section 1, Site 1a (at WWC37 (22-1-0344)):</p> <ul style="list-style-type: none"> Within the Aboriginal archaeological site in the boundary of the project, after salvage activities, but before any other ground disturbance, the top soil down to the sterile clay layer will be graded from the area, stockpiled separately and used in batters (not fill) of the road/bridge. This will be undertaken in consultation with the relevant registered Aboriginal stakeholders and will be engaged to direct this activity. In addition: The salvage to be excavated by machine is 30 % of the Aboriginal archaeological site. The older house nearest to the river within the Aboriginal archaeological site will be removed, with minimal ground disturbance, before salvage excavations being undertaken, so that this area may be targeted for a portion of the salvage. Their nominated site officers are present during removal of the plastic covering the blueberry bush rows, to identify artefacts on the surface under the plastic – an archaeologist will also be present to document finds. All cultural material recovered will be subject to detailed analysis, which will be included in a technical report, including detailed discussion and interpretation. Any portions of the Aboriginal archaeological site that are not to be impacted will be protected by exclusion zones as per management measure AH2. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14b | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 1, Site 1a, 1b (at WWC39 (22-1-0343)):</p> <ul style="list-style-type: none"> If impact to WWC39 is necessary, salvage excavation of the portion of the Aboriginal archaeological site to be impacted will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. If impacts to the Aboriginal archaeological site are necessary, following archaeological salvage the top soil down to the sterile clay layer will be graded from the area, stockpiled separately and placed in batters. Where ground disturbance is not necessary, geotextile fabric and crushed rock or similar will be used to protect the ground from compaction. The area of the Aboriginal archaeological site not to be impacted will be protected by an exclusion zone as per management measure AH2. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14c | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 1, Additional site 5:</p> <ul style="list-style-type: none"> Sub-surface test excavation will be undertaken prior to the use of the ancillary facility. This will be conducted in accordance with the methodology used in the working paper, and will occur several months before any ground disturbance in this location. Further recommendations for the Aboriginal archaeological site will then be made in consultation with the registered Aboriginal stakeholders. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14d | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 2, Site 1b (at Lemon Tree Road 1 (13-4-0180)):</p> <ul style="list-style-type: none"> An exclusion zone will be established around this Aboriginal site as per management measure AH2. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14e | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 2, Site 3 (at Kungala Road 1 (13-4-0181)):</p> <ul style="list-style-type: none"> Sub-surface test excavation will be undertaken prior to construction, conducted in accordance with the methodology used in the working paper, and occur several months before any ground disturbance at this location. Further recommendations for the Aboriginal archaeological site will then be made in consultation with the registered Aboriginal stakeholders, including potentially establishing a care agreement will be necessary to enable this. Any portions of the Aboriginal archaeological site that are not to be impacted will be protected by exclusion zones as per management measure AH2. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14f | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 2, Site 4 (at Wells Crossing Artefacts 1 (13-4-0183)):</p> <ul style="list-style-type: none"> If this Aboriginal archaeological site is to be impacted, salvage excavation of the portion of the Aboriginal archaeological site to be impacted will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14g | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 2, Site 5b (at WWC139 (13-4-0157)):</p> <ul style="list-style-type: none"> The Aboriginal archaeological site that is not to be impacted will be protected by exclusion zones as per management measure AH2. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH14h | Aboriginal Heritage | Ancillary facilities | <p>Ancillary facility - Section 3, Site 3b (at WX2I Site 8 (09-4-0108)):</p> <ul style="list-style-type: none"> All previously recorded artefacts will be recovered and removed off-site before construction, subject to a care agreement being established. All cultural material recovered will be subject to detailed analysis, which will be included in a technical report, including detailed discussion and interpretation. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>An ancillary facility management plan/checklist has not been prepared for this site.</p> |

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| AH14i | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 3, Site 6b (at Old Tucabia Dump 1 (13-4-0184)): <ul style="list-style-type: none"> An exclusion zone will be established at the boundary of the Aboriginal archaeological site (including a buffer based on the drip zone of the tree) as per management measure AH2. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>An ancillary facility management plan/checklist has not been prepared for this site.</p> |
| AH14j | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 3, Site 9 (at Upper Coldstream 1 (13-4-0182)): <ul style="list-style-type: none"> All previously recorded artefacts will be recovered and removed off-site, subject to a care agreement being established. Any portions of the Aboriginal archaeological site not to be impacted will be protected by exclusion zones as per management measure AH2. | Closed | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Site specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>Ancillary site Section 3, Site 9 has been approved for use. A heritage assessment was included as part of the ancillary facility management plan. Fencing will be established in accordance with this condition and the ancillary facility management plan during establishment of the site. The Ancillary Facility Assessment was approved on 19 October 2016.</p> |
| AH14k | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 4, Site 1: <ul style="list-style-type: none"> Sub-surface test excavations will be undertaken in accordance with the methodology used in the working paper, and will occur before any ground disturbance at this location. Further recommendations for the Aboriginal archaeological site will then be made in consultation with the registered Aboriginal stakeholders. | Closed | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>An ancillary facility management plan/checklist has been prepared and was approved on 26 August 2016.</p> |
| AH14l | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 4, Site 3: <ul style="list-style-type: none"> This property could not be accessed for field investigations. Sub-surface test excavations are to be undertaken. This will be conducted in accordance with the methodology used in the working paper, and will occur before ground disturbing work for the project or ancillary activities being undertaken at this location. Further recommendations for the Aboriginal archaeological site will then be made in consultation with the RAPs. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>An ancillary facility management plan/checklist has not been prepared for this site.</p> |
| AH14m | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 4, Site 5 (at Hirst 3 (13-1-0192)): <ul style="list-style-type: none"> This Aboriginal archaeological site is to be avoided if possible unless agreement can be reached with the RAPs. An exclusion zone will be established as per management measure AH2. If agreement to use the site is reached with RAPs, salvage excavation of the portion of the Aboriginal archaeological site to be impacted will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. | Closed | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>Section 4, Site 5 has been approved for use on 16 August 2016. The Hirst 3 pad has been salvaged. The clearance letter for the site advises no further mitigation measures are required.</p> |

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| AH14n | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 5, Site 7 (at Mororo Creek 1 (13-1-0191)): <ul style="list-style-type: none"> This Aboriginal archaeological site within the ancillary facility location will be avoided. An exclusion zone at least five metres outside the boundary of the Aboriginal archaeological site will be established as per management measure AH2. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>Section 5, Site 7 has been approved for use. During this reporting period (October 2016 to March 2017) Mororo Creek 1 has been fenced by establishment of an exclusion zone of at least five metres outside the boundary of the Aboriginal archaeological site, prior to the establishment of the site in accordance with management measure AH2.</p> |
| AH14o | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 5, Site 5 and Site 7 (at Mororo Creek 2 (13-1-0193)): <ul style="list-style-type: none"> This Aboriginal archaeological site within the ancillary facility location will be avoided. An exclusion zone at least five metres outside the boundary of the Aboriginal archaeological site will be established as per management measure AH2. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>Section 5, Site 7 has been approved for use. Mororo Creek 1 has been fenced during the establishment of the site in accordance with this condition and the ancillary facility management plan. An Ancillary Facility Checklist/Assessment has not yet been prepapred for this site.</p> |
| AH14p | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 7, Site 1: <ul style="list-style-type: none"> A site walk over survey will be undertaken to confirm whether sub-surface test excavations are required. This will be conducted in accordance with the methodology used in the working paper, and will occur several months before any ground disturbance at this location. Further recommendations and use of the Aboriginal archaeological site will be developed in agreement with the registered Aboriginal stakeholders. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>Section 7, Site 1 is proposed for use. During the preparation of the ancillary facility management plan a site walkover will be carried out.</p> |
| AH14q | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 7, Site 3 (Dubaijeen Site (New Italy 1)): <ul style="list-style-type: none"> Salvage excavation of the portion of the Aboriginal archaeological site to be used will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. The excavations apply to the portion of the site that be impacted by the project as well as the ancillary facility. Any portions of the Aboriginal archaeological site that are not to be impacted will be protected by exclusion zones as per management measure AH2. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>An ancillary facility management plan/checklist has not been prepared for this site. Salvage complete, Site Clearance Letter received.</p> |
| AH14r | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 7, Site 4 (The Gap Rd 1(13-1-0194)): <ul style="list-style-type: none"> If impact to The Gap Rd 1 is necessary, salvage excavation of the portion of the Aboriginal archaeological site to be impacted will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. Any portions of the Aboriginal archaeological site that are not to be impacted will be protected by exclusion zones will be established as per management measure AH2. | Open | <p>Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016).</p> <p>An ancillary facility management plan/checklist has not been prepared for this site. Gap Road 1 – this site is located outside the approved project boundary (EIS/SPIR). Section 8 CH125,250. 250m west of project boundary. Near an ancillary site, will only be affect if ancillary site is used.</p> |

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| AH14s | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 10, Site 1a: <ul style="list-style-type: none"> A site walk over survey will be undertaken to confirm whether sub-surface test excavation is required. This will be conducted in accordance with the methodology used in the working paper, and will occur several months before any ground disturbance at this location. Further recommendations for the Aboriginal archaeological site will then be made in consultation with the registered Aboriginal stakeholders. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). An ancillary facility management plan/checklist has not been prepared for this site. |
| AH14t | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 10, ancillary facility 5At Rudgley Site 1 (04-4-0167): <ul style="list-style-type: none"> This Aboriginal archaeological site will be avoided, where practical, using an exclusion zone as per management measure AH2. If avoidance is not possible, salvage excavation of the portion of the Aboriginal archaeological site to be impacted will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. Any portions of the Aboriginal archaeological site that are not to be impacted will be protected by exclusion zones as per management measure AH2. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). An ancillary facility management plan/checklist has not been prepared for this site. |
| AH14u | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 10, Site 6 (Site 12 (11-2-0082)): <ul style="list-style-type: none"> If avoidance is not possible, salvage excavation of all portions of the Aboriginal archaeological site to be impacted will be undertaken as detailed in the Ancillary facility and design change CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. Any portions of the Aboriginal archaeological site that are not to be impacted will be protected by exclusion zones as per management measure AH2. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). An ancillary facility management plan/checklist has not been prepared for this site. |
| AH14v | Aboriginal Heritage | Ancillary facilities | Ancillary facility - Section 11, Site 1a: <ul style="list-style-type: none"> The ground will be inspected for any Aboriginal archaeological material by an archaeologist and registered Aboriginal stakeholders during and following clearing activities. Any archaeological material will be recorded, removed from the Aboriginal archaeological site, and a suitable location for the material determined in consultation with the stakeholders. An AHIMS record will be submitted for any finds and any locations where the material is to be stored – unless reburied on or near Aboriginal archaeological site, establishing a care agreement will also be necessary. | Closed | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). A separate and approved CEMP is in place for soft soil work (i.e. Wave 2). Section 11, Site 1a was inspected for Aboriginal archaeological material, salvaged, recorded, excavation and test pitting completed. Recommended management measures have been implemented in the Ancillary Facility Checklist for this site, which was approved on 5 December 2016. |
| AH15 | Aboriginal Heritage | Impacts on WWC39 | Salvage excavation will be undertaken within the portion of the site to be impacted by the project footprint as detailed in the Working paper Aboriginal Cultural Heritage (Woolgoolga to Wells Crossing) and in consultation with RAPs. An exclusion zone will be erected around 40% of the site that will be avoided by construction as per management measure AH2. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH16 | Aboriginal Heritage | Impacts on WWC46 | Salvage excavation will be undertaken within the portion of the site to be impacted by the project footprint as detailed in the Working paper Aboriginal Cultural Heritage (Woolgoolga to Wells Crossing) and in consultation with RAPs. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH17 | Aboriginal Heritage | Impacts on WWC Dirty Creek 1 | Prior to ground disturbance to WWC Dirty Creek 1c (22-1-0403), the ground surface be inspected within 50 m of the site for any Aboriginal archaeological material by an archaeologist and RAP nominated site officers. Any archaeological material be recorded, removed from the site, and a suitable location for the material determined in consultation with the RAPs. The AHIMS record will be updated with any new finds and any locations where the material is to be stored – unless reburied on or near site, establishing a care agreement be necessary. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH18 | Aboriginal Heritage | Impacts on Tyndale 2 | Salvage excavation be undertaken within the portion of the site to be impacted by the project footprint as detailed in the Working paper Aboriginal Cultural Heritage (Wells Crossing to Iluka Road) and in consultation with RAPs. | Closed | Salvage completed. Additional mitigations outlined in the site clearance letter received. |
| AH19 | Aboriginal Heritage | Impacts to Chaffin Creek Scarred tree | Chaffin Creek scarred tree (Chaffin Creek Tree 2): <ul style="list-style-type: none"> Before construction, an exclusion zone will be established as per management measure AH2. An arborist will be consulted to develop a management strategy to ensure the health and preservation of the tree. | Closed | Salvage completed, clearance letter received. Exclusion fencing and signage has been established outside the drip zone of the tree. |
| AH20 | Aboriginal Heritage | Impacts on IR2W4 | Salvage excavation will be undertaken within the portion of the site to be impacted by the project footprint as detailed in the Working paper Aboriginal Cultural Heritage (Iluka Road to Woodburn) and in consultation with RAPs. | Closed | Salvage completed. Additional mitigations outlined in the site clearance letter received. |

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| AH21 | Aboriginal Heritage | Impacts on Gittoes Jali | <p>For the Gittoes Jali (09-1-0204, 09-1-0205, 09-1-0203) site:</p> <ul style="list-style-type: none"> Where possible, impacts on the Gittoes Jali site will be reduced or avoided. Avoided areas will be protected by an exclusion fence as per management measure AH2. If avoidance is not an option, then extensive salvage will be undertaken as per the methodology detailed in the Ancillary facilities and design change CHAR (refer to Appendix D of the Submissions/ Preferred Infrastructure Report). Any sediment from the site to 0.6 metre depth proposed to be used outside the site will be sieved to remove any cultural material. <p>Paint wells and grinding rock:</p> <ul style="list-style-type: none"> Residue analysis will be undertaken to determine if any pigment is found within the wells. This will be undertaken by a suitably qualified consultant. The location of these paint wells will be accurately plotted and drawn. If the paint wells cannot be avoided, they will be relocated; this requires consultation with the registered Aboriginal stakeholders. <p>Geomorphology assessment:</p> <ul style="list-style-type: none"> A geomorphology assessment will be undertaken. The assessment will be non-invasive, but could use observations of the machine salvage excavation. <p>Borrow site:</p> <ul style="list-style-type: none"> Haul routes from the project formation to the borrow source that limit direct impacts to Aboriginal heritage will be confirmed in consultation with Registered Aboriginal Parties. | Open | Salvage completed. Additional mitigations outlined in the site clearance letter received. Works still to be completed (residue analysis) and geomorphological assessment to be done. Letter from Navin Officer Heritage Consultants dated 20/9/2016 advised that residue analysis on the paint wells will not be completed as paint wells are in a "no-go" zone where impacts are anticipated. This area is to be fenced off/conserved without impact. This will be taken to the Aboriginal Focus Group meeting on 4 October 2016. |
| AH22 | Aboriginal Heritage | Impacts on E2/2 | <p>For the E2/2 (13-1-01-09) site:</p> <ul style="list-style-type: none"> Salvage excavation will be undertaken at and around the shell midden by the project footprint as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment from the site to 1.5 m metre depth proposed to be used outside sites will be sieved to remove any cultural material. <p>Shell Midden:</p> <ul style="list-style-type: none"> A sequence of dates (radiocarbon or AMS) will be collected from the hand excavation. All shell recovered will be subject to analysis including minimum number of individuals (MNI) and weight (g). An analysis of the number of individual specimens (NISP) may also be undertaken if deemed appropriate. <p>Overburden:</p> <ul style="list-style-type: none"> All overburden will be removed and sieved for cultural materials. <p>Geomorphology assessment:</p> <ul style="list-style-type: none"> A geomorphology assessment will be undertaken. The assessment will be non-invasive, but could use observations of the machine salvage excavation. | Open | Salvage completed. Additional mitigations outlined in the site clearance letter received. |
| AH23 | Aboriginal Heritage | Impacts on Aboriginal heritage Site 11 | <p>For Site 11 (13-1-0189):</p> <ul style="list-style-type: none"> Salvage excavation will be undertaken by the project footprint as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment from the sites to 1.5 metre depth proposed to be used outside the site will be sieved to remove any cultural material. <p>Geomorphology assessment:</p> <ul style="list-style-type: none"> A geomorphology assessment will be undertaken. The assessment will be non-invasive, but could use observations of the machine salvage excavation. | Open | Salvage completed. Additional mitigations outlined in the site clearance letter received. |
| AH24 | Aboriginal Heritage | Impacts on Melino site | <p>For the Melino (04-4-0173) site:</p> <ul style="list-style-type: none"> Salvage excavation will be undertaken at the artefact scatter including a discrete knapping floor as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment from the sites to 1.5 metre depth proposed to be used outside the site will be sieved to remove any cultural material. <p>Shell Midden:</p> <ul style="list-style-type: none"> Salvage excavations as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. A sequence of dates (radiocarbon or AMS) will be collected from the hand excavation. All shell recovered will be subject to analysis including minimum number of individuals (MNI) and weight (g). An analysis of the number of individual specimens (NISP) may also be undertaken if deemed appropriate. <p>Area surrounding the shell midden:</p> <ul style="list-style-type: none"> Salvage excavations will be undertaken as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. <p>Geomorphology assessment:</p> <ul style="list-style-type: none"> A geomorphology assessment will be undertaken. The assessment will be non-invasive, but could use observations of the machine salvage excavation. | Closed | Salvage completed. Additional mitigations outlined in the site clearance letter received. All geomorphological investigations were undertaken within the Phase 1 and 2 excavation areas. Site fencing has been installed along project boundary, and around four scarred trees (MST2, MST3, MST4 & C21). Sign has been posted indicating exclusion zone. Construction may commence subject to Unanticipated Discovery Protocols. |
| AH25 | Aboriginal Heritage | Impacts on Site 1 | <p>For Site 1 (04-4-0179):</p> <ul style="list-style-type: none"> Further salvage excavations will be undertaken as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment to one metre depth from the site proposed to be used outside the site will be sieved to remove any cultural material. | Open | Salvage complete. Additional mitigations outlined in the site clearance letter received 4 November 2016 - site fencing to be installed. |
| AH26 | Aboriginal Heritage | Impacts on Site 2 | <p>For Site 2 (04-4-0178):</p> <ul style="list-style-type: none"> Salvage excavation will be undertaken as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment to 1.5 metres depth from the site proposed to be used outside the site will be sieved to remove any cultural material. Excavation at Site 2 will be undertaken at a time of the year when the water table is at its lowest, to ensure maximum depth can be reached with a machine. | Closed | Salvage completed. Additional mitigations outlined in the site clearance letter received - construction may commence subject to protocol in the event of discovery of human remains. |
| AH27 | Aboriginal Heritage | Impacts on Site 3 | <p>For Site 3 (04-4-0175):</p> <ul style="list-style-type: none"> Further salvage excavations will be undertaken as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment to 1.5 metres depth from the site proposed to be used outside the site will be sieved to remove any cultural material. Excavation at Site 3 will be undertaken at a time of the year when the water table is at its lowest, to ensure maximum depth can be reached with a machine. | Open | Salvage completed. Additional mitigations outlined in the site clearance letter received - site fencing. |
| AH28 | Aboriginal Heritage | Impacts on Site 4 | <p>For Site 4 (04-04-0132):</p> <ul style="list-style-type: none"> Further salvage excavations will be undertaken as detailed in the Working paper Aboriginal Cultural Heritage (Woodburn to Ballina) and in consultation with RAPs. Any sediment to 0.5 metre depth from the site proposed to be used outside the site will be sieved to remove any cultural material. | Open | Salvage completed. Additional mitigations outlined in the site clearance letter received. |

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| AH29 | Aboriginal Heritage | Impacts on Site 12 | For Site 12 (04-4-0176): • An exclusion zone be established at the boundary of the site where construction is to occur within 10 m of the site, as per management measure AH2. | Open | Salvage completed. Additional mitigations outlined in the site clearance letter received. |
| AH30 | Aboriginal Heritage | Impacts on the Gumi Site | For the Gumi site (04-4-0180): • The tree (registered on AHIMS database) will be removed and the trunk will be relocated to an area agreed to with the registered stakeholder groups and Roads and Maritime – an arborist will be consulted to guide in the removal of the tree. • The final tree location will be visually protected with culturally sensitive plantings or by existing vegetation. • Access to the tree will be provided for local Aboriginal people to enable them to be able to use the tree as a teaching site. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Arborist report has been prepared. Negotiations for relocation are ongoing with stakeholders. |
| AH31 | Aboriginal Heritage | Impacts on the Melino Scarred Tree | For the Melino Scarred Tree 4 (04-4-0166) site: • Prior to construction a 15 metre exclusion zone will be established around the scarred tree as per management measure AH2. • An arborist will be consulted to develop an ongoing management strategy to ensure the preservation and health of the tree. | Closed | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Arborist report has been prepared. Site fencing has been installed along the project boundary and around the scarred trees. |
| AH32 | Aboriginal Heritage | Impacts on the MST3 Scarred Tree | For the MST3 (04-4-0131) site: • Prior to construction a 15 metre exclusion zone will be established around the scarred trees as per management measure AH2. • An arborist will be consulted to develop an ongoing management strategy to ensure the preservation and health of the tree. | Closed | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Site fencing has been installed along the project boundary where the project boundary crossed the Melino site boundary. Site fencing has been installed around the scar tree MST3. Arborist report has been prepared. |
| AH33 | Aboriginal Heritage | Impacts on the C21 Scarred Tree | For the C21 (04-4-0107) site: • Prior to construction a 15 metre exclusion zone will be established around the scarred trees as per management measure AH2. • An arborist will be consulted to develop an ongoing management strategy to ensure the preservation and health of the tree. | Closed | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Site fencing has been installed along the project boundary where the project boundary crossed the Melino site boundary. Site fencing has been installed around the scar tree C21. Arborist report has been prepared. |
| AH34 | Aboriginal Heritage | Impacts on the MSRT2 Scarred Tree | For the MSRT2 (04-4-0130) site: • Prior to construction a 15 metre exclusion zone will be established around the scarred trees as per management measure AH2. • An arborist will be consulted to develop an ongoing management strategy to ensure the preservation and health of the tree. | Closed | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Site fencing has been installed along the project boundary where the project boundary crossed the Melino site boundary. Site fencing has been installed around the scar tree MST2. Arborist report has been prepared. |
| AH35 | Aboriginal Heritage | Impacts on the Rudgley Scarred Tree | For the Rudgley Scarred Tree (04-4-0170) site: • Prior to construction a 15 metre exclusion zone will be established around the scarred trees as per management measure AH2. • An arborist will be consulted to develop an ongoing management strategy to ensure the preservation and health of the tree. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Site clearance received 4/11/2016 with fencing required to be installed prior to commencement of works around two scarred trees. An Arborist report has been prepared. |
| AH36 | Aboriginal Heritage | Coolgardie Road, Rudgley Scarred Tree 2 | An exclusion zone will be established 5 metres from the boundary of Rudgley Scarred Tree 2 as per management measure AH2. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Arborist report has been prepared. Fencing to be established as per report. |
| AH37 | Aboriginal Heritage | Coolgardie Road, Rudgley Site 2 | The area of site to be impacted be subject to salvage excavation as detailed in the Addendum CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. All cultural material recovered will be subject to detailed analysis, interpretation and reporting. | Closed | Salvage completed. Additional mitigations outlined in the site clearance letter received. |
| AH38 | Aboriginal Heritage | Impacts to Corridors of Movement | Educational and cultural signage will be placed at viable locations along the highway in this locality, potentially describing the history of Aboriginal occupation of the area. At a minimum, signage will include acknowledging the area as the traditional lands of the Gumbaynggir peoples. Any signage will be subject to approval by the registered Aboriginal stakeholders. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| AH39 | Aboriginal Heritage | Impacts to Corridors of Movement | Tyndale and Woodford Island Corridors of Movement: • Pedestrian access across the project will be provided, if reasonable and feasible within the existing local road network, to maintain the connectivity of this corridor of movement. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |

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| AH40 | Aboriginal Heritage | Impacts to Corridors of Movement | Pillar Valley Corridors of Movement: • Pedestrian access across the project will be provided, if reasonable and feasible within the existing local road network, to maintain the connectivity of this corridor of movement. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |
| AH41 | Aboriginal Heritage | Direct impact on culturally significant places | Place B: • To maintain connectivity, access will be provided across the project area, from the end of Richmond Road, Pine Tree Road, or Fischer Street to Broadwater National Park during construction and operation, in consultation with the traditional owners. • Pedestrian access within the project boundary will be provided, where feasible and reasonable from the eastern side of the project to the western side of Broadwater National Park. A connection from the existing Pacific Highway to Broadwater National Park along Eversons Lane be considered, in consultation with traditional owners and relevant land owners. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |
| AH42 | Aboriginal Heritage | Direct impact on culturally significant places | Place D: • Welcome to country signage will be installed within the highway corridor between Woodburn and Wardell and information on culture installed at the rest area in Section 10, as agreed with the registered Aboriginal parties. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |
| AH43 | Aboriginal Heritage | Direct impact on culturally significant places | Place K: • A geomorphological assessment will be undertaken, including the geomorphological setting of the archaeological sites within this landscape, and how the landscape has formed and changed over the last 40,000 years. This take into account both the cultural and scientific significance of the place. • A report will be produced by a geomorphologist in conjunction with an archaeologist / anthropologist. | Open | To be carried out as per RMS salvage program of works (prior to construction). |
| AH44 | Aboriginal Heritage | Indirect impact on culturally significant places | Place E: • This place will be fenced prior to and during construction to avoid incidental impact. • Surface water runoff from the construction site or from the highway pavement during operation of the project will be prevented from directly entering into Place E. | Open | Also known as LilyPad. Covered under E2/2 clearance letter. Fencing to be established. |
| AH45 | Aboriginal Heritage | Indeterminate impact on culturally significant places | Place C: • An education package will be prepared. This will include at a minimum a printed document detailing the story of the occupation of this area and the ensuing massacre. Further research and interviews will be undertaken for this purpose. Where possible, oral recordings and/or video footage will also be compiled into the package. • Caution will be undertaken in and around the project in this area with regard to potential human remains. | Open | RMS carrying out consultation at AFGs. |
| AH46 | Aboriginal Heritage | Mororo Road cutting site | Before construction at Mororo Road, between station 97.45 and 98.9, a field inspection of the area to be cleared and excavated will be undertaken by an Aboriginal heritage consultant with Registered Aboriginal Parties. | Open | Works carried out as per RMS salvage program of works. |
| AH47 | Aboriginal Heritage | Old Bagotville Road Lot 109 DP1137975 | As the property occurs in an area of low-moderate Aboriginal heritage potential, survey, and if necessary test excavation, should be undertaken to determine the presence and extent of potential archaeological evidence. This will be conducted in accordance with the methodology agreed with RAPs, and prior to ground disturbing works for the project and/or proposed design change. Further recommendations for the site will then be made in consultation with the RAPs. | Open | Works carried out as per RMS salvage program of works. |
| AH48 | Aboriginal Heritage | Saezza 1 artefact scatter: salvage excavation | The area of this site to be impacted will be subject to salvage excavation as detailed in the Addendum CHAR (Appendix D of the Submissions/ Preferred Infrastructure Report) and in consultation with RAPs. All cultural material recovered will be subject to detailed analysis, interpretation and reporting. The portion of the site that not be impacted (at least 70%), will be protected by fencing as per management measure AH2. | Open | Works to be carried out as per RMS salvage program of works. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. Fencing to be installed. |
| NON-ABORIGINAL (HISTORICAL HERITAGE) | | | | | |
| HH1 | Non-Aboriginal (Historical) heritage | Unidentified historical heritage materials, features and/or deposits | If at any time during construction associated with the project, unidentified historical heritage materials, features and/or deposits are found, the Roads and Maritime Standard Management Procedure: Unexpected Archaeological Finds (20121) will be followed. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Appendix B Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). |
| HH2 | Non-Aboriginal (Historical) heritage | Awareness of non-Aboriginal heritage items | Contractors will be given awareness training on non-Aboriginal historical heritage prior to commencement of construction works to ensure understanding of potential heritage items and the procedure in the event of discovery of historical heritage materials, features or deposits, or the discovery of human remains. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan, Appendix A Aboriginal and Non Aboriginal Heritage Education and Training Package). Pacific Complete will conduct site induction/awareness training of all contractors to ensure compliance with this requirement. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). All staff inducted onto the project have received Aboriginal and non-Aboriginal cultural heritage induction training. |
| HH3 | Non-Aboriginal (Historical) heritage | Awareness of non-Aboriginal heritage items | The Heritage management plan will be developed in consultation with the Heritage Council of NSW. | Closed | This requirement was addressed during the preparation of the Pacific Complete Construction Heritage Management Plan which forms Appendix B5 of the Pacific Complete CEMP for Sections 3 to 11. Pacific Complete CEMP was approved by DPE on 23 October 2015. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). |

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| HH4 | Non-Aboriginal (Historical) heritage | Awareness of non-Aboriginal heritage items | Should the impact to any historic heritage item change during detailed design, further assessment of impacts on the items will be undertaken. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete will review detailed design lot reports to ensure compliance with relevant CoAs. |
| HH5 | Non-Aboriginal (Historical) heritage | Ancillary facilities | At project section 1, site 2: a temporary barrier fence will be erected between item 39 and the ancillary site. The fence will remain in place until the conclusion of the use of the ancillary site at which time it will be removed. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH6 | Non-Aboriginal (Historical) heritage | Ancillary facilities | At project section 10, site 4: a temporary barrier fence will be erected to protect the drainage channel that is not directly impacted by the project (item 43). The fence will remain in place until the conclusion of the use of the ancillary site at which time it will be removed. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). An ancillary facility management plan/checklist has not been prepared for the site. |
| HH7 | Non-Aboriginal (Historical) heritage | Ancillary facilities | Where local or state significant heritage items not previously identified are identified on an ancillary site and use of the site will impact on the heritage significance of the item, the site will not be used for ancillary facilities. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). |
| HH8 | Non-Aboriginal (Historical) heritage | Ancillary facilities | Where local or state significant heritage items are identified on an ancillary site and use of the site will not impact on the heritage significance of the item, appropriate management measures (such as barrier fencing) will be put in place to clearly identify the heritage item and exclude use of the ancillary site within the heritage item's curtilage. Use of these ancillary facilities may commence: <ul style="list-style-type: none"> • When the appropriate protective measures have been implemented. • When the relevant records have been updated and/or completed. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). Appropriate management measures such as barrier fencing and exclusion fencing have been put in place as required. |
| HH9 | Non-Aboriginal (Historical) heritage | Ancillary facilities | Any new ancillary facility and spoil placement locations not identified as part of this EIS will require a non-Aboriginal heritage assessment, with a database search and site walkover to identify any potential heritage items. If items are found, HH4, HH7-HH8 will be followed. | Open | Pacific Complete has an approved Ancillary Facilities Management Plan (Appendix B9 of the Pacific Complete CEMP). The AFMP was approved by the Environmental Representative on 10 February 2016. The purpose of the AFMP is to detailed how Pacific Complete will assess, consult, gain approval and manage individual ancillary facility sites during the project. Specific ancillary facility management plans will be prepared by Pacific Complete in accordance with the requirements of Appendix B9 Ancillary Facilities Management Plan (ER approved 10 February 2016). |
| HH10 | Non-Aboriginal (Historical) heritage | Impacts on item 2: House, sheds and stockyards, Milleara | A temporary barrier fence will be erected between the stockyards and the works area prior to road construction works commencing. The fence will remain in place until the conclusion of the works in the vicinity of the items at which time it will be removed. The batter slope will not be constructed within five metres of the stockyards. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH11 | Non-Aboriginal (Historical) heritage | Impacts on item 2: House, sheds and stockyards, Milleara | Architectural noise treatment to the house will be investigated and provided where reasonable and feasible and in consultation with a qualified heritage consultant. Consideration will be given for the need to revise the SOHI for this item when the specific architectural noise treatment options are identified. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH12 | Non-Aboriginal (Historical) heritage | Impacts on item 7: Service station complex, Halfway Creek | Salvage excavation (of the coach way station and early coach road) will be undertaken from the project boundary along the front of the complex buildings to the edge of the existing highway before construction starts in the vicinity of the heritage item. Excavations will be undertaken in accordance with Heritage Branch guidelines and under the supervision of an appropriately qualified and experienced historical archaeologist. An appropriate research design and methodology will be prepared to best realise the research potential of this area of the site. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH13 | Non-Aboriginal (Historical) heritage | Impacts on item 7: Service station complex, Halfway Creek | The batter slope for the motorway upgrade will not be constructed within eight metres of the bar/restaurant building. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH14 | Non-Aboriginal (Historical) heritage | Impacts on item 7: Service station complex, Halfway Creek | A temporary fence will be erected between the bar/restaurant building and the motorway upgrade construction before work starts in the vicinity of the heritage item. The fence will remain in place until construction is completed, at which time it will be removed. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH15 | Non-Aboriginal (Historical) heritage | Impacts on item 7: Service station complex, Halfway Creek | A photographic condition survey will be undertaken of the current condition of the heritage items with any damage to the item from construction to be repaired once construction is complete. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |

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| HH16 | Non-Aboriginal (Historical) heritage | Impacts on item 7: Service station complex, Halfway Creek | Architectural noise treatment to the house will be investigated and provided where reasonable and feasible and in consultation with a qualified heritage consultant. Consideration will be given for the need to revise the SOHI for this item when the specific architectural noise treatment options are identified. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH17 | Non-Aboriginal (Historical) heritage | Impacts on item 36: North Coast Railway Branch Tramway | Archival photographic recording will be undertaken in accordance with the Heritage Branch guidelines How To Prepare Archival Records Of Heritage Items (NSW Heritage Office, 1998) prior to its removal. | N/A | This Tracking Program applies to sections 3 to 11. For Sections 1 and 2, refer to Stage 1 Compliance Program. |
| HH18 | Non-Aboriginal (Historical) heritage | Impacts on item 11: Tyndale residence, Tyndale | Prior to the start of construction, the location and condition of the mature bunya trees will be recorded by an arborist. In consultation with an arborist, protective fencing will be erected adjacent to the property boundary to control impacts on the trees. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measures. Arborist Report has been received for the Tyndale Residence. |
| HH19 | Non-Aboriginal (Historical) heritage | Impacts on item 11: Tyndale residence, Tyndale | Architectural noise treatment to the house will be investigated and provided where reasonable and feasible and in consultation with a qualified heritage consultant. Consideration will be given for the need to revise the SOHI for this item when the specific architectural noise treatment options are identified. | Open | To be addressed during detailed design. Pacific Complete will review the relevant detailed design lot deliverable to ensure compliance with this measure. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH20 | Non-Aboriginal (Historical) heritage | Impacts on item 12: Cane barge and former Ashby ferry, Maclean | A photographic condition survey will be undertaken of the current condition of the heritage items with any damage to the item from construction to be repaired once construction is complete. | Open | Pacific Complete will arrange for an appropriate photographic survey of heritage items to be undertaken in accordance with the requirements of this measure. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH21 | Non-Aboriginal (Historical) heritage | Impacts on item 12: Cane barge and former Ashby ferry, Maclean | Where appropriate, and before construction commences, any loose or unstable components of the heritage item will be secured to minimise vibration impacts and remain secured until the conclusion of construction, at which time the securing mechanism/s will be removed. Any methods to secure the heritage item will be reversible and not cause damage to the item. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH22 | Non-Aboriginal (Historical) heritage | Impacts on item 17: Harwood tram tracks, Harwood | The Petticoat Lane tram tracks section will have a protective covering placed over them, (e.g. a geo textile fabric and heavy duty metal sheeting or similar) to minimise impacts from construction in the area. The covering will be secured before construction and will remain in place until the end of construction. | Closed | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During this reporting period (October 2016 to March 2017), the Petticoat Lane Tram Tracks have been covered with 100mm-200mm steel plates for protection. T his will remain in place until the end of construction. |
| HH23 | Non-Aboriginal (Historical) heritage | Impacts to item 20: Harwood Bridge, Harwood | The design of the new bridge will be undertaken in accordance with Bridge Aesthetics: Design Guidelines to Improve the Appearance of Bridges in NSW Roads and Maritime 2012 with specific reference to section 6.1, New bridges next to existing bridges. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HH24 | Non-Aboriginal (Historical) heritage | Impacts on item 21: Convent, Harwood | An archival photographic recording will be made of the convent building and its surrounds in accordance with the Heritage Branch guidelines How to Prepare Archival Records of Heritage Items (NSW Heritage Office, 1998) prior to its removal or relocation. | Closed | Archival photographic record has been prepared for Item 21: Convent, Harwood. Report has been received. |
| HH25 | Non-Aboriginal (Historical) heritage | Impacts on item 21: Convent, Harwood | The feasibility of relocating the building to an appropriate site within the Harwood Heritage Conservation Area will be investigated. The investigation will be undertaken in consultation with an appropriately qualified house removal contractor and an appropriately qualified heritage consultant. | Closed | Further historical research and investigation has been carried out for options to relocate the convent building. Community and agency consultation has been carried out. No compliant tenders were received for the removal and relocation of the Harwood Convent building and no suitable land in or adjacent to the Harwood Heritage Conservation Area where the building could be relocated to was identified. DPE has provided approval for the demolition of the convent building, letter dated 5 December 2016 and the Harwood Convent was demolished in December 2016 (in this reporting period - October 2016 to March 2017). |
| HH26 | Non-Aboriginal (Historical) heritage | Impacts on item 34: Townsend Residence, Townsend | Architectural noise treatment to the house will be investigated and provided where reasonable and feasible and in consultation with a qualified heritage consultant. Consideration will be given for the need to revise the SOHI for this item when the specific architectural noise treatment options are identified. | Open | To be addressed following approval of the Operational Noise Design Report |

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| HH27 | Non-Aboriginal (Historical) heritage | Impacts on New Italy Settlement (State Heritage Register 1648), New Italy Museum Complex (item 23: New Italy Settlement sites, New Italy) | A photographic condition survey will be undertaken of the current condition of the heritage items with any damage to the item from construction to be repaired once construction is complete. | Closed | Noted. Pacific Complete will arrange for an appropriate photographic survey of heritage items to be undertaken in accordance with the requirements of this measure. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. A photographic archival record has been completed of Item 23, within this reporting period - October 2016 to March 2017. |
| HH28 | Non-Aboriginal (Historical) heritage | Impacts on New Italy Settlement (State Heritage Register 1648), New Italy Museum Complex (item 23: New Italy Settlement sites, New Italy) | Monitoring of dust will be undertaken at this location in accordance with the project dust management plan. | Open | Pacific Complete will establish a dust monitoring station (deposition gauge) at this location to ensure compliance with this measure. This requirement is addressed in the Pacific Complete CEMP (Appendix B4 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. |
| HH29 | Non-Aboriginal (Historical) heritage | Impacts on New Italy Settlement (State Heritage Register 1648), New Italy Museum Complex (item 23: New Italy Settlement sites, New Italy) | A temporary fence will be erected between the State Heritage Register boundary and the construction works before work starts in the vicinity of the heritage item. The fence will remain in place until construction is completed at which time it be removed. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH30 | Non-Aboriginal (Historical) heritage | Impacts on New Italy Settlement (State Heritage Register 1648), New Italy Museum Complex (item 23: New Italy Settlement sites, New Italy) | Appropriate directional signage to the New Italy Museum Complex will be installed at both the interchange at Woodburn and interchange at Iluka Road to divert visitors onto the service road in order to access the museum complex. Signage will comply with relevant Pacific Highway signage policy. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH31 | Non-Aboriginal (Historical) heritage | Impacts on New Italy Memorial and Stone-lined well (item 23: New Italy Settlement sites, New Italy) | Monitoring of dust will be undertaken at this location in accordance with the project dust management plan. | Open | Pacific Complete will establish a dust monitoring station (deposition gauge) at this location to ensure compliance with this measure. This requirement is addressed in the Pacific Complete CEMP (Appendix B6 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH32 | Non-Aboriginal (Historical) heritage | Impacts on New Italy Memorial and Stone-lined well (item 23: New Italy Settlement sites, New Italy) | A temporary fence will be erected between the location of the memorial and flagpole and the construction works (within five metres of the heritage items) before work starts in the vicinity of the heritage item. The fence will remain in place until conclusion is completed at which time it will be removed. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH33 | Non-Aboriginal (Historical) heritage | Impacts on Roder's stone-lined well and orchard (item 23: New Italy Settlement sites, New Italy) | Salvage excavation will be undertaken to salvage any subsurface artefacts related to the well and adjacent wall. Excavations will be undertaken under the supervision of an appropriately qualified and experienced historical archaeologist and in accordance with the Heritage Branch guidelines, including an appropriate research design and methodology to best realise the research potential of this area of the site. Consideration will be given to providing salvaged artefacts to the New Italy Museum. | Closed | Investigation and photogrammetric recording of the stone-lined well, and excavation and recording of the adjacent stone wall structure has been completed. Glass and ceramic artefacts recovered from the excavation were collected from the site for artefact analysis. Timber and metal artefacts were recorded and left on site. Letter of completion dated 14 April 2016 |
| HH34 | Non-Aboriginal (Historical) heritage | Impacts on Roder's stone-lined well and orchard (item 23: New Italy Settlement sites, New Italy) | Before construction starts in the vicinity of the orchard, the location and condition of each of the mango trees will be recorded by an arborist. | Closed | Arborist survey of the mango orchard has been completed. Report received. |

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| HH35 | Non-Aboriginal (Historical) heritage | Impacts on Roder's stone-lined well and orchard (item 23: New Italy Settlement sites, New Italy) | Protective barrier fencing to protect the mango orchard will be erected between the construction area and the trees with a buffer of at least five metres. This will be erected before construction starts in the vicinity of the items and remain in place until the end of construction at which time it will be removed. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH36 | Non-Aboriginal (Historical) heritage | Impacts on Roder's stone-lined well and orchard (item 23: New Italy Settlement sites, New Italy) | An archival photographic recording will be made of the mango orchard and its surrounds in accordance with the Heritage Branch guidelines How To Prepare Archival Records Of Heritage Items (NSW Heritage Office, 1998) prior to its demolition. | Closed | Archival photographic recording completed. Report has been prepared. |
| HH37 | Non-Aboriginal (Historical) heritage | Impacts on Historic New Italy Village Area | If any historical heritage remains are discovered at the New Italy Village Area during construction, management measure HH1 will be applied. | Open | Noted. This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |
| HH38 | Non-Aboriginal (Historical) heritage | Impacts on item 26, Broadwater | An archival photographic recording will be made of the buttery/creamery, the dairy and its surrounds in accordance with the Heritage Branch guidelines How To Prepare Archival Records Of Heritage Items (NSW Heritage Office, 1998) prior to demolition. | Closed | Archival photographic record has been prepared. Report has been received. |
| HH39 | Non-Aboriginal (Historical) heritage | Impacts on item 26, Broadwater | Architectural noise treatment to the house will be investigated and provided where reasonable and feasible and in consultation with a qualified heritage consultant. Consideration will be given for the need to revise the SOHI for this item when the specific architectural noise treatment options are identified. | Open | This is being considered as part of detailed design. For detailed design Portion C that covers Section 9, an Operational Noise Review is to be completed in accordance with CoA D11. Pacific Complete will review the relevant detailed design lot deliverable to ensure compliance with this measure. This requirement is also addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH40 | Non-Aboriginal (Historical) heritage | Impacts on item 26, Broadwater | Further investigations for gold shafts within and adjacent to the project corridor will occur near item 26. | Closed | Investigation carried out. Report received. Report determined that gold shafts are not considered to be heritage items and are located well outside the W2B project corridor, therefore there will be no heritage impacts to the Broadwater Gold Shafts. No management measures required. |
| HH41 | Non-Aboriginal (Historical) heritage | Impacts on item 27: Meerscham Vale brickworks, Wardell | If brick material or any other historical heritage remains are discovered during works, management measure HH1 will be applied. | Open | Noted. This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |
| HH42 | Non-Aboriginal (Historical) heritage | Impacts on item 28, Broadwater | An archival photographic recording will be made of the stone quarry and small clay pit in accordance with the Heritage Branch guidelines How To Prepare Archival Records Of Heritage Items (NSW Heritage Office, 1998) prior to construction. | Closed | Archival photographic record has been prepared. Report has been received. |
| HH43 | Non-Aboriginal (Historical) heritage | Impacts on item 28, Broadwater | Salvage excavations to the south of the quarry will be undertaken under the supervision of an appropriately qualified and experienced historical archaeologist. Salvage excavation will be undertaken in accordance with the Heritage Branch guidelines including an appropriate research design and methodology to best realise the research potential of this area of the site. | Closed | Archaeological investigation report has been prepared. Report has been received. |
| HH44 | Non-Aboriginal (Historical) heritage | Impacts on item 28, Broadwater | A photographic condition survey and structural audit of the brick-lined well will be undertaken of the current condition of the heritage item with any damage to the item from construction to be repaired once construction is complete. | Closed | Structural inspection report has been prepared. Report has been received. |
| HH45 | Non-Aboriginal (Historical) heritage | Impacts on item 28, Broadwater | Should blasting be required in the vicinity of this item, a detailed assessment of the level of vibration at the brick-lined well will be undertaken based on factors including distance from the blast site and the quantity of the explosive, and modelling of the predicted vibration levels. This assessment may result in additional mitigation measures for the structure including, but not limited to: <ul style="list-style-type: none"> • Construction of temporary or permanent supports or shoring within the brick-lined well. • Stabilisation of the brick-lined well. • Installation of vibration monitoring devices. | Open | Noted. This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH46 | Non-Aboriginal (Historical) heritage | Impacts on item 28, Broadwater | Protective barrier fencing will be erected around the brick-lined well with a 15-metre buffer before the start of construction and will remain in place until the conclusion of the work, at which time it will be removed. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH47 | Non-Aboriginal (Historical) heritage | Impacts on item 28, Broadwater | Due to the proximity of the well to the roadway, the well may be closed for safety reasons. Any measures to close the well will enable access in the future for heritage research or other purposes and that no detrimental physical impact on the well occurs. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. |
| HH48 | Non-Aboriginal (Historical) heritage | Impacts on item 29: 'Stonehenge' Property, Wardell | An archival photographic recording will be made of the main residence and the drainage system and its surrounds in accordance with the Heritage Branch guidelines How To Prepare Archival Records Of Heritage Items (NSW Heritage Office, 1998) prior to its demolition. A detailed survey and recording of the location of the drainage system within the 'Stonehenge' property will also be undertaken. | Open | Archaeological investigation report has been prepared. Report has been received. |
| HH49 | Non-Aboriginal (Historical) heritage | Impacts on item 29: 'Stonehenge' Property, Wardell | Architectural noise treatment to the house will be investigated and provided where reasonable and feasible and in consultation with a qualified heritage consultant. Consideration will be given for the need to revise the SOHI for this item when the specific architectural noise treatment options are identified. | Open | To be addressed following approval of the Operational Noise Design Report |

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| HH50 | Non-Aboriginal (Historical) heritage | Impacts on item 38: Cemetery reserve | To protect the heritage item from construction activities, the boundary of the reserve will be clearly identified on site/construction plans as an area of exclusion, and temporary barrier fencing will be constructed continuously along the project boundary: <ul style="list-style-type: none"> • Immediately south of the cemetery reserve. • Where it crosses the south east corner of the cemetery reserve. • Where it follows the east boundary of the cemetery reserve. | Open | Noted. Fencing to be established. This requirement is addressed in the Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| HH51 | Non-Aboriginal (Historical) heritage | Impacts on Item 33: High Conservation Value Old Growth Forest | Detailed design will consider the extent to which clearing High Conservation Value Old Growth Forest within the project boundary may be minimised. | Open | This will be covered during detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| HH52 | Non-Aboriginal (Historical) heritage | Impacts on Item 33: High Conservation Value Old Growth Forest | The area to be cleared will be clearly identified on-site. High Conservation Value Old Growth Forest adjacent to areas to be cleared will be delineated to avoid accidental disturbance on further areas. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| HH53 | Non-Aboriginal (Historical) heritage | Impacts on Item 43: Drainage channels, Broadwater | An archival photographic recording be made of the drainage channels and its surrounds in accordance with the Heritage Branch guidelines prior to its destruction. | Closed | Archaeological investigation report has been prepared. Report has been received. |
| TRAFFIC AND TRANSPORT | | | | | |
| T&T1 | Traffic and Transport | Construction traffic management | Construction traffic management plans will be prepared and implemented for work sites. They will include: <ul style="list-style-type: none"> • Identification of all public roads to be used by construction traffic. • Management methods to direct construction traffic to use identified roads. • Identification of all public roads that may be partially or completely closed during construction, and the expected timing and duration of closures. • Details on likely impacts on existing traffic (including pedestrians, vehicles, cyclists and disabled persons). • Temporary traffic arrangement measures, including property access. • Details on access to construction sites, including entry and exit locations, and measures to prevent construction vehicles queuing on public roads. • A response plan for any incident involving construction traffic. • Mechanisms for monitoring, reviewing and amending the success of the plans. The traffic management plans be prepared in consultation with councils. | Open | This requirement is addressed in Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Construction Traffic Management Plans are included in Audit Checklists for construction sites. |
| T&T2 | Traffic and Transport | Bulk earthworks haulage | A strategy will be prepared for bulk earthworks haulage between the crossing of the Richmond River and the interchange at Wardell. The strategy will seek to maximise the extent of haulage within the project boundary and limit the need to haul material through the town of Wardell. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T3 | Traffic and Transport | Inspection of roadwork traffic schemes | Traffic control schemes will be inspected as follows: <ul style="list-style-type: none"> • Pre-start and pre-closedown inspections of short-term traffic controls. • Weekly inspections of long-term traffic controls. • Night-time inspections of long-term traffic controls. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T4 | Traffic and Transport | Vehicle movement | Vehicle movement plans and haulage route plans will be prepared. Drivers will be briefed on these vehicle movement plans during project induction. Deliveries be planned to occur outside peak traffic periods, where possible. To minimise queuing of construction vehicles on the highway, site personnel use two-way radios to call up haulage trucks from layover areas on a 'just in time' basis. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T5 | Traffic and Transport | Road occupancy | Applications for Road Occupancy licences will be submitted to Roads and Maritime Services and the relevant council at least 10 working days prior to proposed occupancy. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

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| T&T6 | Traffic and Transport | Road damage | Pre-construction road dilapidation reports will be prepared for all roads likely to be used by construction traffic. Post-construction road dilapidation reports will be prepared following the completion of construction for all roads assessed prior to construction. Dilapidation resulting from construction activity will be repaired. Copies of road dilapidation reports will be sent to the relevant roads authority. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T7 | Traffic and Transport | Property and road access | Access be maintained to properties during construction including, where necessary and feasible, temporary alternative access unless otherwise agreed with property owners. Where any legal access is permanently affected, alternative access to an equivalent standard to and from a public road will be provided where a property has no other legal means of access and where such alternative access is feasible and practical. Where alternative access arrangements are not feasible or practical and a property is left with no access to a public road, negotiations will be undertaken with the relevant property owner for acquisition of the property in accordance with the provisions of the Land Acquisition (Just Terms Compensation) Act 1991. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T8 | Traffic and Transport | Bus services | Where changes in access affect bus stop locations, temporary alternatives will be provided in conjunction with bus operators and affected schools to maintain access during construction. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T9 | Traffic and Transport | Access to State forests | Where access to State forest land is affected during construction, a new access route will be provided in consultation with the Department of Primary Industries (Forests NSW). | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T10 | Traffic and Transport | Maritime traffic | Where maritime traffic access to the Clarence and Richmond rivers is affected during construction of bridge crossings, appropriate signage will be provided indicating alternative means of access and the timing of the works. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T11 | Traffic and Transport | Waterway access | Access to the Clarence and Richmond rivers will be maintained for industry and recreational waterway users. | Open | Pacific Complete will plan and execute it material haulage works with the aim of maximising the extent of haulage within the Project Boundary and limit the need to haul material through the town of Wardell. This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Pan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| T&T12 | Traffic and Transport | Access and connectivity | Access to Glenugie State Forest around the interchange at Eight Mile Lane and Lookout Road will be further reviewed in consultation with State Forest Corporation. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| T&T13 | Traffic and Transport | Access and connectivity | The layout of the intersection at Yamba Road will be reviewed to better meet the needs of truck movements from Harwood Mill, where reasonable and feasible. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| T&T14 | Traffic and Transport | Access and connectivity | The need for a full interchange at Yamba Road will be investigated should traffic growth warrant it in the future and when funding is available. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

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| T&T15 | Traffic and Transport | Access and connectivity | The need for a full interchange with south facing ramps at Watts Lane, Harwood will be investigated should traffic growth warrant it in the future and when funding is available. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| T&T16 | Traffic and Transport | Access and connectivity | The need for the overpass and the arrangement of local access at Chatsworth Road will be reviewed at the detailed design stage depending on specific staging and delivery of the highway. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| T&T17 | Traffic and Transport | Access and connectivity | The need for the overpass and arrangement of local access at Carrols Lane will be reviewed at the detailed design stage depending on specific staging and delivery of the highway. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| T&T18 | Traffic and Transport | Access and connectivity | Connectivity between the shared user path from Harwood Bridge to Yamba Road would be reviewed to refine pedestrian and cyclist access | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| CONSTRUCTION NOISE AND VIBRATION | | | | | |
| CNV1 | Construction Noise and Vibration | Noise | Affected receivers will be notified prior to the commencement of out of hours work. Notification includes contact details of project personnel in charge of the out of hours works. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan), in particular Appendix C out of hours works procedure. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV2 | Construction Noise and Vibration | Noise | Construction will be timetabled to minimise noise impacts where feasible and reasonable. This may include time and duration restrictions and respite periods. These measures will be considered after consultation with affected receivers. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV3 | Construction Noise and Vibration | Noise | Haulage routes will be located as far away as possible from residential receivers, where this is reasonable and feasible. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Traffic Control Plans are prepared prior to commencement of works and these are assessed for suitability of haulage routes and their proximity to sensitive receivers. |
| CNV4 | Construction Noise and Vibration | Noise | To be addressed following approval of the Operational Noise Design Report | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Pre-start checklists for Plant & Equipment are performed prior to commencement of daily works. |
| CNV5 | Construction Noise and Vibration | Noise | Quieter construction methods will be used, where there are sensitive receivers potentially affected and where this is considered reasonable and feasible. These may include grinding, rock splitting or terrain levelling instead of hydraulic rock breaking. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV6 | Construction Noise and Vibration | Noise | Where acceptable from a work health and safety perspective, quieter alternatives to reversing alarms (such as spotters, closed circuit television monitors and 'smart' reversing alarms) will be used, particularly during night-time activities. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV7 | Construction Noise and Vibration | Noise | All noise complaints received will be dealt with promptly. Construction methods may need to be altered to reduce noise impacts at the affected locations. | Open | All complaints (including noise) will be managed as per the Pacific Complete CEMP (main document - Section 6.3.2) which is aligned to the Communications and Stakeholder Engagement Strategy. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
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| CNV8 | Construction Noise and Vibration | Noise | Machinery will not be turned on prior to the work hours outlined in this EIS. This will include daily maintenance activities and/or 'warming up' of engines. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During the reporting period unapproved out of hours works occurred within the Wave 4 site in September 2016. Category 2 incident was reported. No environmental harm occurred. During this reporting period (October 2016 - March2017), no unapproved out of hours works occurred. |
| CNV9 | Construction Noise and Vibration | Noise | Truck movements will be restricted to identified haulage routes and the routes outlined in the Construction Traffic Management Plan. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV10 | Construction Noise and Vibration | Noise | Where it has been identified as necessary (e.g. in response to community complaints), noise monitoring will be undertaken to check that the noise mitigation measures are effective. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV11 | Construction Noise and Vibration | Noise | The use of temporary noise shielding will be considered at locations where substantial exceedances of noise criteria are predicted. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV12 | Construction Noise and Vibration | Noise | Static noise sources, such as generators, pumps and lighting towers, will be located as far as possible from sensitive receivers. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV13 | Construction Noise and Vibration | Noise | Regular noise monitoring will be undertaken during proposed construction hours at a representative receiver location, between: <ul style="list-style-type: none"> • 6am to 7pm, Monday to Friday. • 8am to 5pm, Saturday | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV14 | Construction Noise and Vibration | Noise | The selection of plant and equipment will be based on noise emission levels. This equipment will be operated and maintained so that noise emissions are minimised. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV15 | Construction Noise and Vibration | Vibration | Where piling, hydraulic hammering or dynamic compaction is proposed within 50 metres of any structure or service, a building condition survey will be conducted and preliminary vibration monitoring undertaken by a qualified contractor. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV16 | Construction Noise and Vibration | Vibration | Where piling, hydraulic hammering or dynamic compaction is proposed within 50 metres of any heritage structure or potentially structurally unsound service, a building condition survey will be conducted and preliminary vibration monitoring undertaken by a qualified contractor. A follow-up survey will be conducted in response to any vibration complaints. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV17 | Construction Noise and Vibration | Vibration | Appropriately sized equipment will be selected to minimise vibration emissions, where required. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Appropriately sized equipment is chosen for works activities. |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
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| CNV18 | Construction Noise and Vibration | Blasting (controlled) | A blast management plan will be prepared prior to the start of blasting activities. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). A Blast Management Plan for Wave 3 has been prepared and approved by Pacific Complete. |
| CNV19 | Construction Noise and Vibration | Blasting (controlled) | Where sensitive receivers are located close to the blast site, a series of trials will be undertaken at a reduced scale to determine site-specific blast response characteristics, to define allowable blast sizes to occur within the criteria. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). A blast management plan for Wave 3 has been prepared and approved by PC. Trial blasts were carried out prior to production blasts to inform the blast design. |
| CNV20 | Construction Noise and Vibration | Blasting (controlled) | Controlled blasting activities will only be undertaken between the hours of: <ul style="list-style-type: none"> • 9am to 5pm, Monday to Friday. • 9am to 1pm, Saturday. These times may be increased with the written agreement of affected residents. Where the blast management plan has identified potential impacts on sensitive receivers, these hours will be subject to change. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Blasts that occurred during the reporting period took place within the Wave 3 works. All blasts were carried out within the appropriate time periods. |
| CNV21 | Construction Noise and Vibration | Blasting (controlled) | A minimum of 24 hours' notice will be provided to all residences located within 500 metres of any blast, including an indication of blasting times and a contact name and telephone number. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Blasts that occurred during the reporting periods took place within the Wave 3 works. All residences within 500m of the blast radius were actively consulted before, during and after each blast. |
| CNV22 | Construction Noise and Vibration | Construction Blasting (controlled) | Monitoring of overpressure and vibration levels will be undertaken for each blast at the potentially most affected receivers. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Blasts that occurred during the reporting period took place within the Wave 3 works. Overpressure and vibration monitors were utilised during every blast. |
| CNV23 | Construction Noise and Vibration | Blasting (controlled) | A building condition survey will be undertaken for all buildings located within 200 metres of the proposed blasting area prior to the start of blasting. The proponent will be responsible for rectifying any damage occurring from the blasting, with the cost to be borne by the proponent. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Building condition surveys were completed (as required) as per Pacific Complete specifications. |
| CNV24 | Construction Noise and Vibration | Blasting (controlled) | Should blasting be required within 200 metres of the water reservoirs at the Lang Hill borrow source, a dilapidation or preconstruction condition survey will be undertaken before blasting work commences in consultation with Richmond Valley Council and Rous Water. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). No blasting in this area during the reporting period. |
| CNV25 | Construction Noise and Vibration | Blasting (controlled) | The maximum instantaneous charge (MIC) will be reduced to the lowest possible level by the use of delays, reduced diameter holes, and/or deck loading. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV26 | Construction Noise and Vibration | Blasting (controlled) | Adequate stemming will be provided and exposed detonating cord be eliminated (by covering with at least 300 millimetres of quarry dust or road base). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

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| CNV27 | Construction Noise and Vibration | Blasting (controlled) | Secondary blasting will be eliminated. (A rock breaker or drop hammer will be used instead of popping). Effort will be made to eliminate the need for toe shots (e.g. by better control of drill patterns). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). |
| CNV28 | Construction Noise and Vibration | Blasting (controlled) | Weather conditions at the time of the blast will be assessed. Blasting will be avoided where possible during heavy cloud cover and/or if a strong wind is blowing towards residences. Days of severe temperature inversion will be avoided where possible or, (if not possible) blasting will occur between 11am and 1pm. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV29 | Construction Noise and Vibration | Blasting (controlled) | Strict control will be exercised over the spacing and orientation of all blast drill holes. Holes will be spaced in such a manner that the explosive force is just sufficient to break the stone to the required size. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV30 | Construction Noise and Vibration | Blasting (controlled) | Controlled blasting times will be determined in consideration of site-specific conditions and in consultation with affected residents and take place, where possible, when impacts are likely to be the least intrusive (e.g. all blasts be fired at a set time acceptable to residents and preferably when the background noise is highest). | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| CNV31 | Construction Noise and Vibration | Consultation | <p>Identified receivers will be notified by letter of the proposed hours and asked for comment and feedback. This will include justification for the proposed extended working hours along with the benefits the community can expect.</p> <p>Where the community or individual residents wish to receiver further clarification on the proposed hours, individual interviews or public meetings will be organised to address any further issues. Discussions will be sufficiently detailed to provide a general summary of the expected impacts but also how this relates to individual receivers. At this stage, more detail will be available regarding the proposed construction activities to be undertaken in the extended hours.</p> <p>Property owners will be provided with the complaints management procedures to be in place for extended working hours.</p> <p>Feedback will be collected to help determine the final adopted working hours for the project, with community consultation continuing throughout the project.</p> | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). The Out of Hours Work Approval Procedure implements the Conditions of MCoA B16 and EPL 20713, in particular B16 (d) and (e) and EPL L5.2 and L5.3. |
| OPERATION NOISE AND VIBRATION | | | | | |
| ONV1 | Operation Noise and Vibration | Road traffic noise | Architectural treatments will be considered for noise-affected receivers identified in the EIS and Submissions / Preferred Infrastructure Report (Appendix F), subject to confirmation at the detailed design stage. | Open | This is being considered as part of detailed design and operational noise design reports. |
| ONV2 | Operation Noise and Vibration | Road traffic noise | Low noise wearing surface will be implemented in areas identified in section 5.3.21 of the EIS. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| ONV3 | Operation Noise and Vibration | Road traffic noise | <p>No later than one year after commencement of operation of the project stages as they are constructed, Roads and Maritime will undertake operational noise monitoring to compare the actual noise performance of the project against predicted noise performance. The report will include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> • Noise monitoring to assess compliance with the operational noise levels predicted. • A review of the operational noise levels in terms of criteria and noise goals. • Methodology, location and frequency of noise monitoring undertaken. • Details of any complaints and enquiries received in relation to operational noise. • Any required recalibrations of the noise model. • An assessment of the performance and effectiveness of applied noise mitigation measures. • Any additional feasible and reasonable measures required. | Open | RMS will arrange for the Operational Noise Compliance Report as per MCoA D28 to be undertaken to ensure compliance with this measure. |
| LAND USE AND PROPERTY | | | | | |
| LU1 | Land use and property | Property acquisition and managing surplus land | Ongoing communication and consultation will be undertaken with directly affected property owners about the property acquisition process. This includes the provision of information on the timing of acquisitions, and the process for property acquisitions under the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> and Roads and Maritime' Land Acquisition Policy (RTA, 1999). | Open | RMS is managing the ongoing communication and consultation requirements with support from Pacific Complete. |
| LU2 | Land use and property | Property acquisition and managing surplus land | Ongoing consultation will be undertaken with directly affected property owners during the detailed design phase to identify measures to mitigate potential impacts on the use and viability of land. This will relate to matters such as adjustments to fencing, access, farm infrastructure and relocation of impacted ancillary structures, as required. | Open | RMS is managing the ongoing consultation requirement with support from Pacific Complete. During detailed design, Pacific Complete will review relevant detailed design deliverables/design lot reports to ensure compliance with this requirement. |
| LU3 | Land use and property | Fencing Strategy | Property adjustments will be completed for fencing, access tracks, cattle underpasses and other farm infrastructure in consultation with the impacted land owner. | Open | RMS is managing the ongoing consultation requirement with support from Pacific Complete. During detailed design, Pacific Complete will review relevant detailed design deliverables/design lot reports to ensure compliance with this requirement. |

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| LU4 | Land use and property | Fencing Strategy | The Fencing Strategy will be further developed during detailed design, in consultation with relevant stakeholders. This will build upon the principles of the strategy described in Chapter 3 of the Submissions and Preferred Infrastructure Report (Roads and Maritime, 2013). | Open | RMS and Pacific Complete are working together to ensure a consistent, practical, environmentally efficient and cost effective fencing strategy is developed and applied to the project. Pacific Complete will review relevant detailed design deliverables/design lot reports to ensure compliance with this requirement. |
| LU5 | Land use and property | Property acquisition and managing surplus land | Sterilisation and severance of land uses and lots will be minimised by amalgamating severed parcels of land together, where possible, with provision of road access, in accordance with the project's remnant land use strategy. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| LU6 | Land use and property | Property acquisition and managing surplus land | Where required, acquisition of State forests will be minimised in accordance with the provisions of the <i>Forestry Act</i> 2012. Revocation of land dedicated or reserved as national parks or nature reserves will be in accordance with the <i>National Parks and Wildlife Act 1974</i> . Acquisition of land owned by Local Aboriginal Land Councils will be in accordance with the provisions of the <i>Aboriginal Land Rights Act 1983</i> . | Open | RMS is managing the property acquisition process. During detailed design, Pacific Complete will review relevant detailed design deliverables/design lot reports to ensure compliance with this measure. |
| LU7 | Land use and property | Property acquisition and managing surplus land | A remnant land strategy to minimise land use severance and sterilisation, and a mitigation strategy for final land uses will be developed in consultation with cane industry stakeholders, Coffs Harbour City, Clarence Valley, Richmond Valley and Ballina Councils. | Open | RMS is managing this process. Pacific Complete will support RMS via the detailed design phase. |
| LU8 | Land use and property | Property acquisition and managing surplus land | The requirement for a retaining wall structure at station 83.2, between the road reserve and adjoining property, will be confirmed during detailed design. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| LU9 | Land use and property | Property access during construction | Access to properties near construction works will be maintained, including where required for the movement of farm equipment and livestock between properties, unless otherwise agreed with landowners. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| LU10 | Land use and property | Property access during construction | Where temporary changes to property access are required during construction, alternative access will be determined in consultation with affected property owners and tenants. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| LU11 | Land use and property | Property access during construction | There will be ongoing communication with local communities about changes to the local road network, including likely delays and disruptions and alternative accesses if required. | Open | Ongoing communication will be managed in accordance with the Communications and Stakeholder Engagement Strategy which the Pacific Complete CEMP (main document) is aligned too. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). During the reporting period notification letters have been sent out to residents where required. |
| LU12 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | Where possible, onsite reuse of any spoil is the preferred solution for managing the impacts, although alternative options for the reuse or disposal of spoil will be identified in the surplus material management plan. | Open | During detailed design, each design Portion (A, B, C and D) which covers Section 3 through to Section 11 is required to prepare a Surplus Spoil Strategy which outlines the decision making framework to manage excess spoil that may be potentially generated during the construction phase of the project. Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan) is in place. Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). |
| LU13 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | The management of surplus material will be further developed during detailed design, in consultation with relevant stakeholders. This will build upon the principles of the strategy described in Chapter 3 of the Submissions and Preferred Infrastructure Report (Roads and Maritime, 2013). | Open | During detailed design, each design Portion (A, B, C and D) which covers Section 3 through to Section 11 is required to prepare a Surplus Spoil Strategy which outlines the decision making framework to manage excess spoil that may be potentially generated during the construction phase of the project. Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan) is in place. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
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| LU14 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | Forestry Corporation of NSW will be able to harvest millable timber in affected State forests prior to works commencing. However, consideration will also be given to opportunities for the productive use of trees removed from non-State forest areas of the project, including ancillary facilities where necessary. | Open | Pacific Complete Mulch Management Strategy. Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this requirement. Separate and approve CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). Forestry Corporation have been given opportunities to harvest timber, of which the harvest of millable timber is maximised during clearing operations. |
| LU15 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | Environmental management measures will be implemented to minimise potential for impacts on adjoining agricultural uses, including from changes in water quality and spread of weeds and pests. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B2 Construction Flora and Fauna Management Sub-Pan and Appendix B4 Construction Soil and Water Quality Management Plan). Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). |
| LU16 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | Where pesticides are required during construction, implement appropriate environmental management measures to avoid potential impacts on adjoining agricultural properties. | Open | Pesticide use must be in accordance with the requirements of the Pesticides Act 1999, Protection of the Environment Operations Act 1997 and the Pacific Complete CEMP (main document). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Herbicides are only applied by appropriately qualified personnel. |
| LU17 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | There will be ongoing consultation and communication with managers of agricultural properties to identify any potential impacts on nearby construction workers from farm operations (i.e. use of pesticides on agricultural properties). | Open | Ongoing communication will be managed in accordance with the Communications and Stakeholder Engagement Strategy. Pacific Complete will undertake the coordination of communications and engagement with managers of agricultural properties in the vicinity of construction work sites. |
| LU18 | Land use and property | Construction impacts to primary industry, including forestry, and agriculture uses | Ongoing consultation and communication will be undertaken with commercial fishing and relevant aquaculture operators about construction activities within and near the Clarence and Richmond rivers. Stakeholders include the estuary prawn trawl fishery, and estuary general fishery within the Clarence River, the NSW Department of Primary Industries (Fisheries) and licensed fishing interests within the Richmond River regarding the timing and duration of construction, potential impacts (including changes to river access) and proposed mitigation measures. | Open | Ongoing consultation and communication will be undertaken in accordance with the Communications and Stakeholder Engagement Strategy. Pacific Complete will implement the Strategy. |
| LU19 | Land use and property | Utilities and infrastructure | Relocation or adjustment of infrastructure will be planned to minimise disruptions and impacts on surrounding properties. | Open | Pacific Complete will liaise and co-ordinate with utility/service owners to ensure any relocation or adjustment is planned and undertaken so as to minimise disruption and impacts on surrounding properties. |
| LU20 | Land use and property | Utilities and infrastructure | Communication will be undertaken with nearby communities about the timing and duration of potential disruptions to infrastructure. | Open | Communication will be managed in accordance with the Communications and Stakeholder Engagement Strategy. Pacific Complete's CEMP is aligned to the Strategy. Pacific Complete will implement the Strategy. |
| LU21 | Land use and property | Property management | Roads and Maritime' land that is required for the project will be appropriately maintained. This will be undertaken by regional Roads and Maritime officers or a designated local authority. Roads and Maritime manage the leasing and maintenance of property identified as suitable for tenants. | Open | Noted. Operational phase requirement. |
| LU22 | Land use and property | Property management | Excavation works near Lot7008 DP92609 will be carefully managed in consultation with Richmond Valley Council to minimise potential impacts on any unknown heritage items including potential burials. | Open | Noted. Pacific Complete CEMP (Appendix B5 Construction Heritage Management Plan - Appendix B Roads and Maritime Standard Management Procedures - Unexpected Archaeological Finds). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| LU23 | Land use and property | Operational impacts to primary industries | Ongoing consultation will be undertaken with owners of agricultural properties affected by the project – through acquisition, changes to local access or fragmentation of properties – about potential impacts on farming operations and potential measures to manage or mitigate identified impacts. | Open | Noted. Operational phase requirement. |
| LU24 | Land use and property | Operational impacts to primary industries | Consultation with Forestry Corporation will be undertaken regarding access to and within State forests where required, in accordance with the <i>Forestry Act</i> 2012. | Open | Noted. Operational phase requirement. |
| LU25 | Land use and property | Operational impacts to primary industries | Consultation with Forestry Corporation will be undertaken regarding the relocation of fire trails directly impacted by the project's construction or operation. | Open | Noted. Operational phase requirement. |
| LU26 | Land use and property | Cane Farm Strategy | The Cane Farm Strategy will be further developed during detailed design, in consultation with relevant stakeholders. This will build upon the principles of the strategy described in Chapter 3 of this Submissions and Preferred Infrastructure Report. | Open | This is being considered as part of detailed design. Consultation held with relevant stakeholders to capture design requirements. Property acquisition plans include drainage. |
| LU27 | Land use and property | Property access | As far as possible, property accesses will be reinstated or new access provided, in consultation with impacted landowners. | Open | New property accesses have been designed to replace those that are lost or modified. This has been undertaken in consultation with impacted landowners. |
| LU28 | Land use and property | Property access | Access to national parks and nature reserves will be reinstated in consultation with the relevant department in Office of Environment and Heritage. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
|----------------------------|-----------------------|---------------------------------|--|--------|--|
| LU29 | Land use and property | Mining and petroleum production | Consultation will be undertaken with land owners operating quarries adjacent to the project, including those near Tucabia, Broadwater and Bagotville, and relevant NSW State government agency. Consultation aim to identify appropriate management measures for each affected quarry, particularly regarding operational approvals in terms of site access, extraction limits, blasting limits, and timing of works, noise and vibration. | Open | This requirement is addressed in the Pacific Complete CEMP (Appendix B3 Construction Noise and Vibration Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| LU30 | Land use and property | Mining and petroleum production | Consultation will be undertaken with the relevant State Government agency to consider any future coal seam gas production in the vicinity of the project. | Open | Noted. |
| LU31 | Land use and property | Utilities and infrastructure | Consultation will be undertaken with service and utility providers to verify locations, impacts and any relocation or construction protection work required. | Open | Noted. It is anticipated that during detailed design consultation with utility owners will be undertaken where the project design interfaces/interacts with existing utilities. |
| LU32 | Land use and property | Utilities and infrastructure | Consultation will be undertaken with Rous Water and local Aboriginal stakeholders before the removal of part or any of the abandoned pipelines through Lang Hill will be undertaken in consultation | Open | This requirement is addressed in the Pacific Complete CEMP (main document). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. |
| LU33 | Land use and property | Utilities and infrastructure | Consultation will be undertaken with Richmond Valley Council during the detailed design phase, regarding the location and timing of the Broadwater Sewerage Scheme rising pump station, located off Broadwater-Evans Head Road. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SOCIAL AND ECONOMIC | | | | | |
| SE1 | Social and economic | Consultation | Consultation will be undertaken with local business owners, industry and tourism operators directly affected by construction and located closest to construction works. The focus will be on the timing, duration and likely impact of construction activities, to identify appropriate measures to manage potential impacts. | Open | Consultation will be managed in accordance with the Communications and Stakeholder Engagement Strategy. Pacific Complete will implement the strategy. The Pacific Complete CEMP is aligned to the strategy. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and Waves 2). |
| SE2 | Social and economic | Consultation | Consultation will be undertaken with managers of community services and facilities near the proposed construction works, to ensure that potential impacts are appropriately managed. | Open | Consultation will be managed in accordance with the Communications and Stakeholder Engagement Strategy. Pacific Complete will implement the strategy. The Pacific Complete CEMP is aligned to the strategy. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and Waves 2). |
| SE3 | Social and economic | Consultation | Consultation will be undertaken with residents and local communities closest to construction works about construction activities, including timing, duration and likely impacts. | Open | Consultation will be managed in accordance with the Communications and Stakeholder Engagement Strategy. Pacific Complete will implement the strategy. The Pacific Complete CEMP is aligned to the strategy. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and Waves 2). During the reporting period notification letters have been sent out to residents where required. |
| SE4 | Social and economic | By-passed towns | Signage will be implemented for bypassed towns in accordance with Roads and Maritime signage guidelines and in consultation with relevant councils. Signage on the project will identify bypassed townships (Grafton, Ulmarra, Tyndale, Maclean, New Italy, Woodburn, Broadwater and Wardell) as places for 'stopovers' for fuel, supplies and short term accommodation, to support demand for goods and services within these townships. | Open | Noted. RMS Responsibility (Signage Policy as per CoA D17) |
| SE5 | Social and economic | By-passed towns | Roads and Maritime will work with Councils affected by the upgrade, where relevant, to support strategies by local councils and/or chamber of commerce and industry to promote townships and villages as stopovers for tourist. | Open | Noted. RMS responsibility (Business Access Strategy as per CoA D18). |
| SE6 | Social and economic | Existing Pacific Highway | Roads and Maritime will work with Councils affected by the upgrade, during detailed design, to discuss the classification of the existing Pacific Highway and, where appropriate, the required transfer process of state road assets to Council. | Open | Noted. To be addressed during detailed design by RMS. |
| SE7 | Social and economic | Access and connectivity | Maintain access to properties near to the project during construction, including, where required, for the movement of farm equipment and livestock between properties, and for access to the Berry Exchange and other affected agribusinesses. | Open | Pacific Complete CEMP (Appendix B1 Construction Traffic and Access Management Plan). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs to ensure compliance with this measure. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). |
| SE8 | Social and economic | Access and connectivity | Where temporary changes to property access are required during construction, alternative access will be determined in consultation with affected property owners and tenants. | Open | To be addressed during detailed design. Pacific Complete will review relevant detailed design deliverables / design lot reports to ensure compliance with this measure. Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Consultation was carried out with affected landowners during the reporting period. |
| SE9 | Social and economic | Access and Connectivity | Undertake consultation with the Harwood Island Public School and other community facilities located adjacent to the project about proposed changes to local access. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SE10 | Social and economic | Access and Connectivity | Undertake early and ongoing communication and consultation with emergency services to allow planning for potential changes to response patterns and input into the design development. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| SE11 | Social and economic | Access and Connectivity | Access to Broadwater mill land between MacDonalds Street and River Road will be reviewed at the detailed design stage. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
|--------------------------|--------------------------|--|--|--------|--|
| SE12 | Social and economic | Access and Connectivity | The access arrangements for local traffic at Whytes Lane and the tie into the Ballina bypass upgrade will be reviewed together with any potential boundary refinements at the detailed design stage. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| GREENHOUSE GAS EMISSIONS | | | | | |
| GH1 | Greenhouse gas emissions | Embodied carbon in concrete production | Flyash content within concrete will be specified where feasible. Contractors will be required to propose recycled content construction materials where they are cost, quality and performance competitive. | Open | This requirement is addressed in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs and apply relevant RMS/Pacific Complete specifications to ensure compliance with this measure. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). Fly ash is included in concrete mix designs where feasible. |
| GHG2 | Greenhouse gas emissions | Re-use of excavated road materials | Reuse of excavated road materials will be maximised as far as possible where they are cost, quality and performance competitive to reduce use of materials (with embedded energy). | Open | This requirement is addressed in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Where feasible, unsuitable material excavated on site has been reused under stockpile pads and under the rock drainage layer. |
| GHG3 | Greenhouse gas emissions | Embodied carbon in steel | Steel with high recycled content will be specified where feasible where they are cost, quality and performance competitive. Contractors will be required to propose recycled content construction materials where they are cost, quality and performance competitive. | Open | This requirement is addressed in approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Where available from commercial steel suppliers within RMS specification and cost, quality and performance competitive; recycled steel will be sourced |
| GHG4 | Greenhouse gas emissions | Carbon in fuel | The feasibility of using biofuels (biodiesel, ethanol, or blends such as E10 or B80) will be investigated by the contractor, taking into consideration the capacity of plant and equipment to use these fuels, ongoing maintenance issues and local sources. Works will be planned to minimise fuel use. | Closed | This requirement is addressed in Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete will approve Contractor EMPs, EWMSs and ESCPs and apply relevant RMS/Pacific Complete specifications to ensure compliance with this measure. Separate and approved CEMP documentation is in place for soft soil works (i.e. Waves 1 and 2). Assessed and not considered feasible for large scale infrastructure projects. |
| GHG5 | Greenhouse gas emissions | Energy consumption: construction | An energy management plan will be developed during the construction of the project. The plan will include a commitment to monitor on-site energy consumption and identify and address on-site energy waste. | Closed | This requirement is included in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Energy consumption is recorded in accordance with reporting requirements of the National Greenhouse and Energy Reporting Act and the National Pollution Inventory, as applicable. Contractors have implemented energy saving measures in accordance with their Construction Waste Management Plans |
| GHG6 | Greenhouse gas emissions | Energy consumption: operation | Roads and Maritime will investigate the use of LED lighting in place of incandescent lamps as part of the project's detailed design, and use them where practicable to reduce electrical energy consumption. Any energy-efficient alternatives will have to meet lighting standards for major roads. | Open | This is being considered as part of detailed design. Detailed design is currently underway for all portions of the project. Pacific Complete reviews detailed design lot reports to ensure compliance with relevant MCoAs. |
| GHG7 | Greenhouse gas emissions | Education | An education program will be developed and delivered to the construction personnel to promote energy-efficient work practices. | Open | Requirements for site environmental inductions are addressed in the Pacific Complete CEMP (main document). Pacific Complete will conduct site environmental inductions for all personnel undertaking activities at project work sites. Included as part of project inductions. |
| AIR QUALITY | | | | | |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
|-------------------------|------------------|--|---|--------|--|
| AQ1 | Air Quality | Air quality management during construction | <p>An air quality management plan will be prepared and implemented by the contractor during construction to mitigate dust. The air quality management plan will address all aspects of construction including spoil handling, machinery operating procedures, soft soil treatments, stockpile management, traffic management, haulage, dust suppression and monitoring. The following dust mitigation measures will be used on-site and included as part of the management plan:</p> <ul style="list-style-type: none"> • Covering materials transported to and from construction sites. • Covering or spraying water on stockpiles of soil or other potential dust generating materials, particularly during dry or windy conditions. • Temporarily seed and stabilise temporary stockpiles that are planned to be in place for long periods. • Imposing speed limits for vehicles and equipment travelling on unsealed surfaces. • Minimising the extent of disturbed areas as far as practicable. This will be achieved by staging the works to minimise the number of disturbed areas at any one time. • Progressively rehabilitating disturbed areas as soon as practicable. • Suppressing dust on unsealed surfaces, temporary roadways, stockpiles and other exposed areas using water trucks, hand held hoses, temporary vegetation and other practices. • Modifying or stopping dust generating activities during very windy conditions. • Installing wheel wash facilities at appropriate locations to reduce tracking of mud and soil off-site. • Monitoring air quality, both visually, using instrumentation and/or depositional dust gauges, near representative sensitive receptors to verify the effectiveness of controls. • Amend controls where necessary to minimise any impacts identified through monitoring, consider the use of mitigation measures (such as covers) where dust is impacting water tanks or other drinking water sources, and cannot be controlled at the dust source. | Closed | This requirement is addressed in the Pacific Complete CEMP (Appendix B6 Construction Air Quality Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| WASTE MANAGEMENT | | | | | |
| WM1 | Waste management | Sustainable management of resources | The cut-and-fill balance of the project will be further refined to obtain as much material as possible for reuse on the project. | Open | The cut and fill balance of the project will be continually assessed and refined through the duration of the project and project phases (e.g. detailed design and construction) by Pacific Complete. |
| WM2 | Waste management | Sustainable management of resources | <p>A resource management strategy will be prepared for construction of the project to identify the hierarchy for sourcing and use of resources. It include the following provisions:</p> <ul style="list-style-type: none"> • Available project cutting material (including Select Material Zone (SMZ) and verge material) will be used for the construction of embankments, SMZ and verge within that section to the extent that it is suitable. • Project sections with a deficit in material import surplus material from other project sections in preference to external sources. • Where possible, the distances that earthworks materials are moved across the project as a whole be minimised, notwithstanding the above two requirements. • Contractors will reduce the amount of unsuitable waste generated during excavations, where feasible (e.g. treatment at source). • The generation and management of unsuitable material during project earthworks will be monitored to ensure appropriate management of the issue. <p>The resource management strategy will also identify:</p> <ul style="list-style-type: none"> • Details on materials that be sourced from the project (including location and type). • Viable material suppliers (including water) near the project. • Proposed sustainable material sources practices (such as use of recycled materials or wastewater). • Materials that could be recycled and re-used on-site or transferred to other project sections. | Closed | Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| WM3 | Waste management | Minimising construction waste | A waste register will be maintained by each contractor, detailing types of waste collected, amounts, date, time, and details of disposal. | Open | Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). The project maintains a current waste register which is continually updated. |
| WM4 | Waste management | Minimising construction waste | Where possible, materials will be bought in bulk to minimise the amount of package required. Sources of material that have sustainable packaging design, recycled and recyclable packaging will be favoured over other material sources where cost effective. | Open | Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). All materials are purchased in bulk where possible to reduce packaging. |
| WM5 | Waste management | Minimising construction waste | Waste material generated on-site (including chemical, fuel and lubricant containers, and solid and liquid wastes) will be classified and disposed of in accordance with the Protection of the <i>Environment Operations Act 1997</i> and Waste Classification Guidelines Part 1: Classifying Waste (DECCW, 2009). | Open | Included in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| WM6 | Waste management | Minimising construction waste | <p>Waste minimisation and management measures will be developed based on the principles in the Waste Avoidance and Resource Recovery Act 2001, the NSW Government's Waste Reduction and Purchasing Policy, and waste exemptions including:</p> <ul style="list-style-type: none"> • Excavated Natural Material Exemption (EPA, 2008)). • Excavated Public Road Material Exemption (EPA, 2012)). • Raw Mulch Exemption (EPA, 2008). • Reclaimed Asphalt Pavement Exemption (EPA, 2012). • Recovered Aggregate Exemption (EPA, 2010). • Stormwater Exemption (EPA, 2008). • Treated Drilling Mud Exemption (EPA, 2011). <p>Measures seek to avoid, minimise, re-use, recycle, treat or dispose of waste streams during construction and address transport and disposal arrangements.</p> | Open | Included in the approved Pacific Complete Mulch Management Strategy. Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |

| Mitigation No. | Aspect | Issue | Management Measure | Status | Reference / Comment |
|----------------|------------------|-------------------------------|---|--------|--|
| WM7 | Waste management | Minimising construction waste | Millable timber will be harvested for reuse off site. All other felled timber will be reused on-site in the form of habitat recreation or mulch in landscaping and erosion and sedimentation controls. Where mulch cannot be reused on-site, consideration will be given to making the mulch available to the public in accordance with the Roads and Maritime Environmental Direction 25 (2012) and the Raw Mulch Exemption (EPA, 2008). | Open | Pacific Complete Mulch Management Strategy. Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management Plan). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). |
| WM8 | Waste management | Minimising construction waste | Sediment removed from sedimentation basins will be used, where appropriate, on-site in landscaping and/or flattening of batters. | Open | This requirement is addressed by approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Where appropriate, accumulated sediment removed from sediment basins check dams has been used within the general fill layers. |
| WM9 | Waste management | Minimising construction waste | Where feasible, the contractor will be required to re-use materials. This could include, but is not limited to, concrete formwork or surplus concrete pours. | Open | This requirement is addressed in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Reuse of concrete, timber, plastic, fabric regularly occurs on the project within the various disciplines wherever possible. |
| WM10 | Waste management | Minimising construction waste | Site inductions and on-site training will be required to include waste minimisation principles and measures. | Open | Requirements for site environmental inductions are addressed in the approved Pacific Complete CEMP (main document). Pacific Complete conducts site environmental inductions for all personnel undertaking activities at project work sites and the Environmental Induction includes sustainability and waste reduction principles. |
| WM11 | Waste management | Minimising construction waste | At site compounds, on-site recycling facilities will be provided for recycling paper, plastic, glass and other re-useable materials. | Open | This requirement is addressed in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Recycling bins are provided at Ancillary Facilities and Site Compounds, as appropriate. |
| WM12 | Waste management | Minimising construction waste | Regular visual inspections will be conducted to ensure that work sites are kept tidy and to identify opportunities for reuse and recycling. | Open | This requirement is addressed in the approved Pacific Complete CEMP (Appendix B7 Construction Waste, Resources and Energy Management). Pacific Complete approves Contractor EMPs and EWMSs and RMS/PC specifications are used to ensure compliance with this MCoA. Separate and approved CEMP documentation is in place for soft soil works (Wave 1 and Wave 2). Site housekeeping is regularly discussed at daily toolboxes, induction, pre-starts and continually enforced by Pacific Complete. Appropriate waste segregation and waste storage are inspected as part of weekly inspections. |

Appendix B1 Noise Monitoring Results

Noise Monitoring - November 2016 to March 2017

| Nov-16 | | | | | | | | | | |
|-------------------------------------|--------------------------|--------------------------|---|--------------------------|--------|-------|--------|-------|-------|--|
| Wave / Portion | Date of noise monitoring | Time of Noise Monitoring | Location | Noise Monitoring Results | | | | | | Comments |
| | | | | Laeq | Lafmax | Lzpk | Lafmin | Laf10 | Laf90 | |
| Wave 5a | 30/11/2016 | 11:55 | Wave 5a - 961 Wooli Road | 56.8 | 77.9 | | 38.9 | 46.4 | 41.9 | |
| Wave 5a | | 12:35 | Wave 5a - 625 Tucabia-Tyndale Road | 65.3 | 68.4 | | 58.4 | 65.4 | 61.8 | |
| Background Noise Monitoring | | | | | | | | | | |
| Wave 3 | 19/11/2016 | 16:44 | Wave 3 - South Tyndale - Marcus Property | 56.9 | 74 | 105.8 | 42.6 | | | Background Noise Monitoring DW1530. Dominant noise = highway traffic. No construction. Sample taken within property boundary |
| Wave 3 | | 16:26 | Wave 3 - South Tyndale - DW1527 Caravan Park | 56.9 | 77.1 | 110 | 43.6 | | | Caravan park. Back ground monitoring. Dominant noise = pacific highway traffic. No construction. |
| Wave 3 | | 15:52 | Wave 3 - South Tyndale - DW1534 Pink House Property | 52.5 | 69.2 | 103.7 | 43.4 | | | No construction. Background monitoring. Sample taken within property boundary. Dominant noise is highway traffic |
| Wave 3 | | 15:36 | Wave 3 - South Tyndale - DW1535 Neighbours Property | 53.2 | 71.5 | 106.4 | 46.9 | | | No construction. Pacific highway traffic. Background monitoring. Sample taken within property boundary |
| Wave 3 | 5/12/2016 | 18:30 | Wave 3 - Maclean Line Marking Works - Cameron St Residences | 61.3 | 87.4 | 110.7 | 34 | | | Evening monitoring. Noise observations during sample include traffic on Pacific Highway and traffic on Cameron St and this was the dominat noise source |
| Wave 3 | | 6:01 | Wave 3 - Maclean Line Marking Works - Cameron St Residences | 56.7 | 85.4 | 113.6 | 36.5 | | | Noise observations during sample included Pacific highway traffic, traffic to Cameron St and bats roosting. Dominant noise source being road traffic |
| Wave 3 | | 22:04 | Wave 3 - Maclean Line Marking Works - Cameron St Residences | 54.4 | 75.9 | 100 | 29.6 | | | Background measurement for Night (22:00 to 0:700) taken at Cameron St residences. Noise observations during sample was night insects, Pacific and Cameron St traffic |
| Wave 3 | 2/12/2016 | 12:20 | Wave 3 - DW1624 Adjacent to Shark Creek site | 53.2 | 80.3 | 108.5 | 27.7 | | | Standard day time period. RBL set at 41. No construction activities at time of sample being collected |
| Wave 3 | | 17:28 | Wave 3 - DW1624 Shark Creek | 59.4 | 84.2 | 111.9 | 40.2 | | | Approx. 4 cars in background = background noise. Sample taken from 241m from proposed works |
| Monitoring in response to complaint | | | | | | | | | | |
| Wave 3 | 12/11/2016 | 11:35 | Wave 3 - 2826 Pacific Highway Residence | 60.4 | 71.1 | 95.5 | 38.6 | | | Background noise sampling at sensitive receiver in response to complaint made to PC. No construction activities at time of sample collection. This sample to be used for determining RBL specific to this SR. dominant noise source at time of sample = Adjacent highway traffic (highway traffic at approx. 70% normal activity. Highway approx. 30m from dwelling. |
| | | 11:50 | Wave 3 - 2826 Pacific Highway Residence | 61.2 | 80 | 110.2 | 43.7 | | | |
| Wave 3 | 14/11/2016 | 9:19 | Wave 3 - 2826 Pacific Highway Residence | 60.4 | 78.4 | 106.2 | 48.9 | | | FKG construction activities same as for during Friday shift. Trucks entering/ leaving site and grader. Seymour White site moxys beign loaded on hill same as friday. Seymour White ripping materials at compound during Friday shift compelted and now being loaded out (1 x excavator and 1 x moxy) |
| | | 9:35 | Wave 3 - 2826 Pacific Highway Residence | 70.8 | 107.5 | 141.8 | 47.8 | | | |

| Monitoring during construction | | | | | | | | | |
|--------------------------------|-----------|-------|---|------|------|-------|------|--|--|
| Wave 3 | 5/12/2016 | 11:57 | Wave 3 - Shark Creek | 60.4 | 82.1 | 109.2 | 29.2 | | Operational monitoring during construction. Demo works at Sharks Creek. Jack hammering |
| Wave 3 | | 9:10 | Wave 3 - South Tyndale - DW1527, DW1530 | 64.3 | 86.3 | 111.8 | 52.4 | | Measured Background Level = 56.9. During construction - clearing works located between 5a & 4a catchments. This result is over modeled RBL, but not more than 10dB over measured back ground level |
| Wave 3 | | 8:22 | Wave 3 - South Tyndale - DW1527 & DW1530 | 58.1 | 70.5 | 95.7 | 51.7 | | Measured background level = (DW1534 = 52.1 and DW1535 = 53.2). Noise monitoring during construction - clearing works between 5a & 4a catchments. Results are more than 10dB over modeled RBL, but not more than 10dB over measured background level |
| Wave 3 | | 20:54 | Wave 3 - Maclean Line Marking Works - Cameron Street | 56.7 | 78.7 | 97 | 30.3 | | Result are above this NML, but are no more than 5db over the measured background level. Measured background level for eveing = 61.3db. These results during this sample are below the measured background level. |
| Wave 3 | 8/12/2016 | 20:06 | Wave 3 - Maclean Line Marking Works - Cameron St Residences | 50.5 | 70.4 | 110.7 | 40.3 | | Results is above this NL, but are no more than 5db over the measured background level. Measured background level for evening = 61.3 db. These results during this sample are below the measured background level. Dominant noise soure was trafic. Works not audible at this location. |

| Dec-16 | | | | | | | | | | |
|--------------------------------|--------------------------|--------------------------|------------------------------|--------------------------|--------|-------|--------|-------|-------|---|
| Wave / Portion | Date of noise monitoring | Time of Noise Monitoring | Location | Noise Monitoring Results | | | | | | Comments |
| | | | | Laeq | Lafmax | Lzpk | Lafmin | Laf10 | Laf90 | |
| Background Noise Monitoring | | | | | | | | | | |
| Wave 3 | 5/12/2016 | 18:30 | Wave 3 - Maclean Interchange | 61.3 | 87.4 | 110.7 | 34 | | | Background OOHW evening - Maclean Interchange works |
| Wave 3 | 5/12/2016 | 6:01 | Wave 3 - Maclean Interchange | 56.7 | 85.4 | 113.6 | 36.5 | | | Background OOHW night - Maclean Interchange works |
| Wave 3 | 5/12/2016 | 22:04 | Wave 3 - Maclean Interchange | 54.4 | 75.9 | 100 | 29.6 | | | Background OOHW night - - Maclean Interchange works |
| Wave 3 | 2/12/2016 | 12:20 | Wave 3 - Sharks Creek | 53.2 | 80.3 | 108.5 | 27.7 | | | Background - Sharks Creek |
| Monitoring during construction | | | | | | | | | | |
| Wave 3 | 5/12/2016 | 20:54 | Wave 3 - Maclean Interchange | 56.7 | 78.7 | 97 | 30.3 | | | During works OOHW evening - Maclean Interchange works |
| Wave 3 | 8/12/2016 | 20:06 | Wave 3 - Maclean Interchange | 50.5 | 70.4 | 110.7 | 40.3 | | | During works OOHW evening - Maclean Interchange works |
| Wave 3 | 5/12/2016 | 11:57 | Wave 3 - Sharks Creek | 60.4 | 82.1 | 109.2 | 29.2 | | | During construction (Demo) - Sharks Creek |
| Wave 3 | 5/12/2016 | 9:10 | Wave 3 - South Tyndale | 64.3 | 86.3 | 111.8 | 52.4 | | | During Construction - South Tyndale |
| Wave 3 | 5/12/2016 | 8:22 | Wave 3 - South Tyndale | 58.1 | 70.5 | 95.7 | 51.7 | | | During Construction - South Tyndale |

| Jan-17 | | | | | | | | | | |
|----------------|--------------------------|--------------------------|---|--------------------------|--------|-------|--------|-------|-------|---|
| Wave / Portion | Date of noise monitoring | Time of Noise Monitoring | Location | Noise Monitoring Results | | | | | | Comments |
| | | | | Laeq | Lafmax | Lzpk | Lafmin | Laf10 | Laf90 | |
| Portion E | 9/01/2017 | 11:22am | 16 River Street - Measured at Project Boundary (30m from dwelling) | 57.7 | 76.6 | 96.9 | 46.4 | 60 | 49.5 | Background monitoring at Project Boundary - 16 River St while demolition contractors on Crib Break. Passing traffic 63dB - 73dB for passing truck and dog |
| Portion E | 9/01/2017 | 7:41am | 16 River Street - Measured at Project Boundary (30m from dwelling) | 60.1 | 75.5 | 99.9 | 49.1 | 61.5 | 52.6 | Monitoring of Convent Property demolition. Highway and passing vehicles on River St also dominant noise sources. Passing traffic 65dB. |
| Portion E | 13/01/2017 | 12:00pm | 16 River Street - Measured at Project Boundary (30m from dwelling) | 61.3 | 80 | 97 | 51.8 | 63.5 | 53.3 | Highway and passing vehicles on River St also dominant noise sources. Passing traffic 66dB, Excavator 69dB and Demolition 74dB. |
| Wave 3 | 30/01/2017 | 20:23 | Wave 3- adjacent to BP service station | 64.4 | 83.6 | 111.4 | 34.1 | | | Background OOHV evening - BP works |
| Wave 3 | 31/01/2017 | 5:58 | Wave 3- adjacent to BP service station | 64.7 | 79.9 | 105.8 | 42.4 | | | Background OOHV night - BP works |
| Wave 3 | 10/01/2017 | 14:05 | Wave 3- Tyndale adjacent to alignment | 66.3 | 92 | 122 | 62.4 | | | Resident requested - Background |
| Wave 3 | 11/01/2017 | 8:13 | Wave 3- Tyndale adjacent to alignment | 63.7 | 75.7 | 100.8 | 58.6 | | | Resident requested - During works |
| Wave 3 | 16/01/2017 | 12:56 | Wave 3- Visitors centre on Pacific Hwy and cameron street | 68.6 | 85.9 | 108.7 | 53.9 | | | Background |
| Wave 3 | 16/01/2017 | 14:18 | Wave 3- Ulmarra Street- Maclean adjacent to end of alignment | 60.5 | 84.1 | 129.9 | 28.8 | | | Background |
| Wave 3 | 16/01/2017 | 14:18 | Wave 3- Jubilee street Maclean - adjacent to end of alignment | 60.5 | 84.1 | 129.9 | 28.8 | | | Background |
| Wave 3 | 16/01/2017 | 9:00 | Wave 3- corner of Jubilee street Maclean adjacent to end of alignment | 63.2 | 75.3 | 97.8 | 46.8 | | | Background |
| Wave 3 | 16/01/2017 | 9:17 | Wave 3-Hillcrest Rd- Maclean- adjacent to end of alignment | 60.7 | 78 | 107.5 | 48 | | | Background |
| Wave 3 | 16/01/2017 | 13:43 | Wave 3-Hillcrest Rd- Maclean- adjacent to end of alignment | 54.2 | 71.2 | 95.9 | 47.1 | | | Background |
| Wave 3 | 16/01/2017 | 13:59 | Wave 3-Hillcrest Rd- Maclean- adjacent to end of alignment | 53.6 | 69.3 | 93.7 | 47.9 | | | Background |
| Wave 3 | 23/01/2017 | 13:59 | Wave 3- Annes Place- Maclean- adjacent to end of alignment | 53.6 | 69.3 | 93.7 | 47.9 | | | During works |
| Wave 3 | 23/01/2017 | 12:30 | Wave 3- Ulmarra Street- Maclean adjacent to end of alignment | 57.6 | 86.6 | 110.3 | 46.1 | | | During works |
| Wave 3 | 23/01/2017 | 12:30 | Wave 3- Jubilee street Maclean - adjacent to end of alignment | 57.6 | 86.6 | 110.3 | 46.1 | | | During works |
| Wave 3 | 23/01/2017 | 11:25 | Wave 3- corner of Jubilee street Maclean adjacent to end of alignment | 65.6 | 86.1 | 109.3 | 50.5 | | | During works |
| Wave 3 | 23/01/2017 | 11:41 | Wave 3-Hillcrest Rd- Maclean- adjacent to end of alignment | 62.1 | 79.8 | 102.6 | 52.7 | | | During works |
| Wave 3 | 23/01/2017 | 12:07 | wave 3-Hillcrest Rd- Maclean- adjacent to end of alignment | 56 | 75.7 | 105.6 | 47.4 | | | During works |

| | | | | | | | | | | |
|---------|------------|-------|---|------|------|--------|------|------|------|--|
| Wave 3 | 18/01/2017 | 15:04 | Wave 3 - Sharks Creek North | 69.4 | 83.6 | 112 | 59.4 | | | During works |
| Wave 3 | 9/01/2017 | 16:57 | Wave 3 - Sharks Creek North | 47.3 | 76.6 | 1112.2 | 37.4 | | | Background |
| Wave 5a | 18/01/2017 | 9:12 | NCA1 Oxenbridge property | 61.1 | 72.4 | | 57.4 | 60 | 58.8 | Cicarda's & birds the dominant noise source. The existing Pacific Highway could be heard continuously. Grader travelled through site and a reversing beeper could be heard periodically |
| Wave 5a | 18/01/2017 | 10:04 | NCA3b 148 Firth Heinz Road | 68.4 | 79 | | 65.2 | 68.1 | 67 | Cicarda's & birds were the dominant noise source. Reseident passed by once on local road and Plant could be very faintly heard in the background |
| Wave 5a | 18/01/2017 | 11:07 | NCA4a Lot 1 625 Tucabia-Tyndale Road | 69.4 | 72.5 | | 65.6 | 69.5 | 67.5 | Clearing and mulching works occurring adjacent to the property and could be heard. Cicarda's were also a continuous background noise. Predicted noise levels for mulching are 63 as referenced from table 7-4 NVMP |
| Wave 5a | 18/01/2017 | 10:36 | NCA4b 165 Sommervale Road | 74.9 | 81.5 | | 72 | 74.4 | 73.2 | Cicarda's were the dominant noise source with the noise being ear piercing at times. Kookaburras were also heard nearby periodically. Plant could be heard faintly in the background. Noise levels recorded are not considered to be related to construction works |
| Wave 5a | 18/01/2017 | 11:46 | NCA5 2762 Sheehy's Lane | 58.4 | 68.3 | | 39.5 | 57.3 | 50.9 | Highway dominant noise source. Birds nesting in tree adjacent. Resident passed by once on local road. No construction noise could be heard |
| Wave 5a | 18/01/2017 | 13:02 | NCA5 2762 Sheehy's Lane | 54.9 | 76.2 | | 41.8 | 50.6 | 47.1 | Highway traffic & construction noise could be heard in background. Birds and cicarda's also present but not loud. 5x site vehicles passed by on Sheehy's Lane during this 15min period |

Feb-17

| Wave / Portion | Date of noise monitoring | Time of Noise Monitoring | Location | Noise Monitoring Results | | | | | | Comments |
|----------------|--------------------------|--------------------------|--|--------------------------|--------|-------|--------|-------|-------|---|
| | | | | Laeq | Lafmax | Lzpk | Lafmin | Laf10 | Laf90 | |
| Wave 3 | 2/02/2017 | 13:39 | Wave 3- Tyndale adjacent to alignment | 68.8 | 92.7 | 124.1 | 61.5 | 71.5 | 64.5 | Complaint |
| Wave 3 | 6/02/2017 | 10:42 | Wave 3- Tyndale adjacent to alignment | 65.3 | 71.7 | 98.3 | 60.7 | 67 | 63.5 | Complaint |
| Wave 3 | 8/02/2017 | 11:05 | Wave 3- Tyndale adjacent to alignment | 66.2 | 84.2 | 101.7 | 56.4 | 68 | 61.5 | During works |
| | 8/02/2017 | 14:22 | Wave 3- Tyndale adjacent to alignment | 63.2 | 81.9 | 111.9 | 44.4 | 66.5 | 54 | During works |
| Wave 3 | 9/02/2017 | 16:14 | Wave 3- Tyndale adjacent to alignment | 60.7 | 72.6 | 106.2 | 49.6 | 64 | 55 | During works |
| Wave 3 | 13/02/2017 | 21:33 | Wave 3- adjacent to BP service station | 59.6 | 76.9 | 102.9 | 48.1 | 62 | 53 | During works - EVENING |
| Wave 3 | 15/02/2017 | 23:46 | Wave 3- adjacent to BP service station | 59.3 | 78.9 | 107.2 | 51.9 | 62.5 | 54 | During works - NIGHT |
| Wave 3 | 15/02/2017 | 21:41 | Wave 3- adjacent to BP service station | 58.3 | 78.5 | 106.2 | 49.5 | 62.5 | 52 | During works - EVENING (shift 2 & 3 activities) |
| Wave 3 | 15/02/2017 | 22:10 | Wave 3- adjacent to BP service station | 59.5 | 77.5 | 104.2 | 49.9 | 63.5 | 51.5 | During works - NIGHT |
| Wave 5a | 19/02/2017 | 10:08 | #813 - Tyndale, Highway haulage entry / exit | 62.2 | 71.6 | | 44.4 | | | Pacific Highway traffic dominant Nosie source. Sunday servicing crusher no Nosie impacts |
| Wave 5a | 19/02/2017 | 9:46 | #813 - Tyndale, Between Highway / Carpark | 55.4 | 64.9 | | 43.8 | | | Pacific Highway traffic dominant Nosie source. Sunday servicing crusher no Nosie impacts |
| Portion E | 27/02/2017 | 12:53pm | 19 James Creek Road (R1256) | 49.2437731 | 72 | | 39 | | | Below NML 55dB(A) No construction works occuring. Dominant Noise source was existing Highway Traffic. |
| Portion E | 27/02/2017 | 1:25pm | 40 Morpeth Street (R1396) | 50.8405787 | 68.7 | | 41.7 | | | Below NML 55dB(A) No construction works occuring. Dominant Noise source was School and existing highway. |
| Portion E | 27/02/2017 | 1:56pm | 8 Martin Road (R1283) | 58.6411761 | 83.3 | | 43.9 | | | Above NML 55dB(A) however Mulcher operating as part of RMS bridge maintenance works. No construction works occuring. Dominant Noise source was RMS works occuring on existing Harwood Bridge. |
| Portion E | 27/02/2017 | 2:18pm | 1 Petticoat Lane (R1331) | 51.28 | 69.2 | | 39.3 | | | Below NML 55dB(A). No construction works occuring. Dominant Noise source was loud TV from inside Dwelling and Rooster in adjacent yard. |

| Mar-17 | | | | | | | | | | |
|----------------|--------------------------|--------------------------|--|--------------------------|--------|------|--------|-------|-------|---|
| Wave / Portion | Date of noise monitoring | Time of Noise Monitoring | Location | Noise Monitoring Results | | | | | | Comments |
| | | | | Laeq | Lafmax | Lzpk | Lafmin | Laf10 | Laf90 | |
| Portion E | 27/02/2017 | 12:53pm (28/03/17) | Portion E - 19 James Creek Road (R1256) | 55.6 | 86.1 | | 38.5 | 47.1 | 42.1 | Just exceeding NML 55dB(A) Unable to hear construction work occurring at B4 culvert works. Dominant Noise source was existing Highway Traffic (approx 45.9dB) |
| Portion E | 27/02/2017 | 1:25pm (28/03/17) | Portion E - 40 Morpeth Street (R1396) | 63.3 | 96.9 | | 42 | 60.5 | 45.7 | Above NML 55dB(A) Dominant Noise source was School (lunch time - kids playing), existing highway (52dB) and local traffic in Morpeth St (71dB). Site compound construction and welding of test pile were construction activities occasionally heard. |
| Portion E | 27/02/2017 | 1:56pm (28/03/17) | Portion E - 8 Martin Road (R1283) | 55 | 87.5 | | 39.6 | 51.6 | 44.5 | Equal to NML 55dB(A) however unable to hear construction work occurring at Main Site Compound. Dominant Noise source was Highway (50dB) and local traffic (65dB) |
| Portion E | 27/02/2017 | 2:18pm (28/03/17) | Portion E - 1 Petticoat Lane (R1331) | 50.2 | 71.5 | | 41.8 | 51.1 | 44.9 | Below NML 55dB(A). Construction works occurring at Main Site Compound and test pile welding. Other dominant noise sources included local traffic and residents in Petticoat Lane and highway (51dB) |
| Wave 3 | 1/03/2017 | 0700 to 1800 | Wave 3 - South Tyndale | 57 | 75 | | 42 | 59 | 48 | During works. Results are averages over full day unattended monitoring (15 min intervals) |
| Wave 3 | 2/03/2017 | 0700 to 1800 | Wave 3 - South Tyndale | 57 | 75 | | 41 | 59 | 48 | During works. Results are averages over full day unattended monitoring (15 min intervals) |
| Wave 3 | 3/03/2017 | 0700 to 1800 | Wave 3 - South Tyndale | 57 | 75 | | 41 | 58 | 48 | During works. Results are averages over full day unattended monitoring (15 min intervals) |
| Wave 3 | 4/03/2017 | 0700 to 1130 | Wave 3 - South Tyndale | 57 | 78 | | 38 | 59 | 47 | During works. Results are averages over full day unattended monitoring (15 min intervals) |
| Wave 5a | 5/03/2017 | 12:43 | Wave 5a - Tyndale - Adjacent Aurther residence | 53.9 | 82.9 | | 62.5 | 51.5 | 45.7 | |

Appendix B2 Blast Monitoring Results

Blast Monitoring - October 2016 to March 2017

| Oct-16 | | | | | |
|--------------------------|--------------------------|-----------------------|---|--|----------------|
| Wave / Portion | Date of blast monitoring | Location | Overpressure Reading (dB)L | Ground Vibration peak particle velocity (PPV) (mm/s) | Comments |
| | | | EPA requirements: - Readings must not >125dB at any time - Overpressure level must not exceed 120dB for 95% of blasts over each reporting period (calendar month) | EPA Requirements: c) PPV must not >10mm/second at any time d) GPPV must not exceed 5mm/s for 95% of blasts over each reporting period (calendar month) | |
| Wave 3 | 11/10/2016 | Wave 3: Tyndale Cut | 109.2 | 1.524 | Shot No. PB009 |
| | | Monitor A – 2991 PHWY | | | |
| | | Wave 3: Tyndale Cut | Not Monitored | Not monitored | |
| | | Monitor B | | | |
| | | Wave 3: Tyndale Cut | 108 | 2.032 | |
| | | Monitor C – 130 Fitz | | | |
| | | Wave 3: Tyndale Cut | No Trigger | No trigger | |
| | | Monitor D – 2963 PHWY | | | |
| | | Wave 3: Tyndale Cut | No Trigger | No trigger | |
| | | Monitor E – 2878 PHWY | | | |
| Wave 3: Tyndale Cut | No Trigger | No trigger | | | |
| Monitor F – 1050 Sth Arm | | | | | |
| Wave 3 | 19/10/2016 | Wave 3: Tyndale Cut | 106.5 | 2.921 | Shot No. PB010 |
| | | Monitor A – 2991 PHWY | | | |
| | | Wave 3: Tyndale Cut | Not monitored | Not monitored | |
| | | Monitor B | | | |
| | | Wave 3: Tyndale Cut | 105.5 | 3.255 | |
| | | Monitor C – 130 Fitz | | | |
| | | Wave 3: Tyndale Cut | 102.7 | 0.969 | |
| Monitor D – 2963 PHWY | | | | | |
| Wave 3 | 24/10/2016 | Wave 3: Tyndale Cut | 114.2 | 3.81 | Shot No. PB011 |
| | | Monitor A – 2991 PHWY | | | |
| | | Wave 3: Tyndale Cut | Not monitored | Not monitored | |
| | | Monitor B | | | |
| | | Wave 3: Tyndale Cut | 107.8 | 4.816 | |
| | | Monitor C – 130 Fitz | | | |
| | | Wave 3: Tyndale Cut | 112.8 | 2.667 | |
| Monitor D – 2963 PHWY | | | | | |
| Wave 3 | 27/10/2016 | Wave 3: Tyndale Cut | 112 | 4.201 | Shot No. PB012 |
| | | Monitor A – 2991 PHWY | | | |
| | | Wave 3: Tyndale Cut | Not Monitored | Not monitored | |
| | | Monitor B | | | |
| | | Wave 3: Tyndale Cut | 113.8 | 3.048 | |
| | | Monitor C – 130 Fitz | | | |
| | | Wave 3: Tyndale Cut | 114.4 | 2.921 | |
| | | Monitor D – 2963 PHWY | | | |
| Wave 3: Tyndale Cut | No Trigger | No trigger | | | |
| Monitor E – 2878 PHWY | | | | | |

| Nov-16 | | | | | |
|----------------|--------------------------|--|--|--|----------------|
| Wave / Portion | Date of blast monitoring | Location | Overpressure Reading (dB)L | Ground Vibration peak particle velocity (PPV) (mm/s) | Comments |
| | | | EPA requirements: - Readings must not >125dB at any time - Overpressure level must not exceed 120dBL for 95% of blasts over each reporting period (calendar month) | EPA Requirements: c) PPV must not >10mm/second at any time d) GPPV must not exceed 5mm/s for 95% of blasts over each reporting period (calendar month) | |
| Wave 3 | 18/11/2016 14:00 | Wave 3 - Tyndale Cut Location A - 2991 PHWY | 108.4 | 2.032 | Shot No. PB014 |
| | | Wave 3 - Tyndale Cut Location B | Not monitored | Not monitored | |
| | | Wave 3 - Tyndale Cut Location C - 130 Fitz | 105.0 | 3.066 | |
| | | Wave 3 - Tyndale Cut Location D - 2963 PHWY | 101.0 | 1.651 | |
| Wave 3 | 23/11/2016 14:00 | Wave 3 - Tyndale Cut Location A - 2991 PHWY | 111.8 | 0.843 | Shot No. PB015 |
| | | Wave 3 - Tyndale Cut Location B | Not monitored | Not monitored | |
| | | Wave 3 - Tyndale Cut Location C - 130 Fitz | 104.1 | 1.576 | |
| | | Wave 3 - Tyndale Cut Location D - 2963 PHWY | No trigger | No trigger | |
| Wave 3 | 1/11/2017 | Wave 5a Cut 30 | 112.3 | 2.443 | |
| | | | 107.5 | 2.218 | |
| | | | 116.9 | 8.444 | |

| Dec-16 | | | | | |
|----------------|--------------------------|------------------------------------|--|--|----------|
| Wave / Portion | Date of blast monitoring | Location | Overpressure Reading (dB)L | Ground Vibration peak particle velocity (PPV) (mm/s) | Comments |
| | | | EPA requirements: - Readings must not >125dB at any time - Overpressure level must not exceed 120dBL for 95% of blasts over each reporting period (calendar month) | EPA Requirements: c) PPV must not >10mm/second at any time d) GPPV must not exceed 5mm/s for 95% of blasts over each reporting period (calendar month) | |
| Wave 5a | 16/12/2016 | Wave 5A - Cut 30 | 114.8 | 1.143 | |
| | | | 108.5 | 0.828 | |
| | | | 110.2 | 1.016 | |
| | | | 114.2 | 7.157 | |
| Wave 3 | 15/12/2016 | Wave 3 - Tyndale H – 3152 PHWY | 110.2 | 1.778 | PB17 |
| | | Wave 3 - Tyndale J – 2919 PHWY | 106.4 | 0.906 | |
| Wave 3 | 21/12/2016 | Wave 3 - Tyndale - A -2991 PHWY | 109.7 | 4.753 | PB18 |
| | | Wave 3 - Tyndale C – 130 Fitz | 104.9 | 3.683 | |
| | | Wave 3 - Tyndale D – 2963 PHWY | 109.5 | 4.318 | |
| | | Wave 3 - Tyndale E – 2878 PHWY | No Trigger | No Trigger | |
| | | Wave 3 - Tyndale H – 3152 PHWY | 105.5 | 1.852 | |
| | | Wave 3 - Tyndale J – 2919 PHWY | 93.98 | 0.889 | |

| Jan-17 | | | | | |
|----------------|--------------------------|------------------------|--|--|----------|
| Wave / Portion | Date of blast monitoring | Location | Overpressure Reading (dB)L | Ground Vibration peak particle velocity (PPV) (mm/s) | Comments |
| | | | EPA requirements: - Readings must not >125dB at any time - Overpressure level must not exceed 120dBL for 95% of blasts over each reporting period (calendar month) | EPA Requirements: c) PPV must not >10mm/second at any time d) GPPV must not exceed 5mm/s for 95% of blasts over each reporting period (calendar month) | |
| Wave 3 | 1/12/2016 | | 109.9 dB(L) | 2.540 mm/s | PB16 |
| | | Tyndale C – 130 Fitz | 103.2 dB(L) | 2.506 mm/s | |
| | | Tyndale D – 2963 PHWY | 107.9 dB(L) | 2.112 mm/s | |
| Wave 3 | 15/12/2016 | Tyndale - A -2991 PHWY | 112 dB(L) | 3.302 mm/s | PB17 |
| | | Tyndale C – 130 Fitz | 112.4 dB(L) | 3.807 mm/s | |
| | | Tyndale D – 2963 PHWY | 107.0 dB(L) | 2.667 mm/s | |
| | | Tyndale E – 2878 PHWY | No Trigger | No Trigger | |
| Wave 3 | 24/01/2017 | Tyndale - A -2991 PHWY | 108.9 dB(L) | 4.556 mm/s | PB19 |
| | | Tyndale C – 130 Fitz | 109.5 dB(L) | 4.918 mm/s | |
| | | Tyndale D – 2963 PHWY | 109.2 dB(L) | 4.572 mm/s | |
| | | Tyndale H – 3152 PHWY | 103.5 dB(L) | 1.651 mm/s | |
| | | Tyndale J – 2919 PHWY | 108.0 dB(L) | 1.016 mm/s | |

| Feb-17 | | | | | |
|----------------|--------------------------|-----------------------|--|--|----------|
| Wave / Portion | Date of blast monitoring | Location | Overpressure Reading (dB)L | Ground Vibration peak particle velocity (PPV) (mm/s) | Comments |
| | | | EPA requirements: - Readings must not >125dB at any time - Overpressure level must not exceed 120dBL for 95% of blasts over each reporting period (calendar month) | EPA Requirements: c) PPV must not >10mm/second at any time d) GPPV must not exceed 5mm/s for 95% of blasts over each reporting period (calendar month) | |
| Wave 3 | 2/02/2017 | Tyndale A -2991 PHWY | 104.2dB(L) | 1.524 mm/s | PB20 |
| | | Tyndale C – 130 Fitz | 107.5dB(L) | 2.413 mm/s | PB20 |
| | | Tyndale D – 2963 PHWY | 112.8dB(L) | 3.810 mm/s | PB20 |
| | | Tyndale E – 2878 PHWY | No trigger | No trigger | PB20 |
| | | Tyndale H – 3152 PHWY | 102.4dB(L) | 0.567 mm/s | PB20 |
| | | Tyndale J – 2919 PHWY | 110.9dB(L) | 0.889 mm/s | PB20 |
| Wave 3 | 10/02/2017 | Tyndale A -2991 PHWY | 91.48dB(L) | 1.905 mm/s | PB21 |
| | | Tyndale C – 130 Fitz | 112.4dB(L) | 2.420 mm/s | PB21 |
| | | Tyndale D – 2963 PHWY | 114.8dB(L) | 0.254 mm/s | PB21 |
| | | Tyndale H – 3152 PHWY | No trigger | No trigger | PB21 |
| | | Tyndale J – 2919 PHWY | No trigger | No trigger | PB21 |
| Wave 3 | 16/02/2017 | Tyndale A -2991 PHWY | 104.9dB(L) | 0.762 mm/s | PB22 |
| | | Tyndale C – 130 Fitz | 105.1dB(L) | 2.688 mm/s | PB22 |
| | | Tyndale D – 2963 PHWY | 107.8dB(L) | 1.805 mm/s | PB22 |
| | | Tyndale E – 2878 PHWY | No trigger | No trigger | PB22 |
| | | Tyndale H – 3152 PHWY | No trigger | No trigger | PB22 |
| | | Tyndale J – 2919 PHWY | 105.5dB(L) | 0.508 mm/s | PB22 |
| | | Tyndale A -2991 PHWY | 117.4dB(L) | 3.050 mm/s | PB23 |
| Wave 3 | 23/02/2017 | Tyndale C – 130 Fitz | 112.3dB(L) | 1.016 mm/s | PB23 |
| | | Tyndale D – 2963 PHWY | 116.4dB(L) | 2.794 mm/s | PB23 |
| | | Tyndale E – 2878 PHWY | No trigger | No trigger | PB23 |
| | | Tyndale H – 3152 PHWY | 112.5dB(L) | 1.017 mm/s | PB23 |
| | | Tyndale J – 2919 PHWY | No trigger | No trigger | PB23 |
| Wave 5a | 10/02/2017 | Wave 5a Cut 30 | 112.6 | 2.338 | |
| | | Wave 5a Cut 30 | 107.5 | 1.047 | |
| | | Wave 5a Cut 30 | 119.4 | 7.704 | |
| | | Wave 5a Cut 30 | 113.1 | 1.482 | |
| Wave 5a | 24/02/2017 | Wave 5a Cut 30 | 111.2 | 2.976 | |
| | | Wave 5a Cut 30 | 110.6 | 2.739 | |
| | | Wave 5a Cut 30 | 110.9 | 1.713 | |

| | | | | | |
|---------|-----------|----------------|-------|-------|--|
| Wave 5a | 3/02/2017 | Wave 5a Cut 30 | 91.48 | 3.035 | |
| | | Wave 5a Cut 30 | 110.2 | 2.207 | |

| Mar-17 | | | | | |
|----------------|--------------------------|----------------|--|--|----------|
| Wave / Portion | Date of blast monitoring | Location | Overpressure Reading (dB)L | Ground Vibration peak particle velocity (PPV) (mm/s) | Comments |
| | | | EPA requirements: - Readings must not >125dB at any time - Overpressure level must not exceed 120dBL for 95% of blasts over each reporting period (calendar month) | EPA Requirements: c) PPV must not >10mm/second at any time d) GPPV must not exceed 5mm/s for 95% of blasts over each reporting period (calendar month) | |
| Wave 5a | 29/03/2017 | Wave 5a Cut 30 | 107.5 | 3.134 | |
| | | Wave 5a Cut 30 | 108.8 | 2.556 | |

Appendix B3 Air Quality Monitoring Results

Dust Monitoring - October 2016 to March 2017

| Oct-16 | | | | | | | |
|----------|--------------|---------------|--|---------------|-------------------|--|-------------------------------------|
| Location | Sample Name | Sample Number | Sample Comments | Sampling Days | Sample Volume (L) | Target Total Suspended Solids (g/m2/month) | Total Suspended Solids (g/m2/month) |
| Wave 1 | Fischer Lane | F4319/1 | - | 28 | 0.035 | ≤ 4 | 0.38 |
| Wave 1 | Watts Lane | F4319/2 | - | 28 | 0.015 | ≤ 4 | 0.58 |
| Wave 1 | Mororo | F4319/3 | - | 28 | 0.04 | ≤ 4 | 1.06 |
| Wave 3 | DG01-05 | F4539/1 | Cloudy, organic matter present | 33 | 0.200 | ≤ 4 | 2.63 |
| Wave 3 | DG02-05 | F4539/2 | Organic matter present | 33 | 0.380 | ≤ 4 | 1.85 |
| Wave 3 | DG03-05 | F4539/3 | Organic matter present | 33 | 0.250 | ≤ 4 | 1.47 |
| Wave 3 | DG04-05 | F4539/4 | Organic matter present | 33 | 0.160 | ≤ 4 | 1.09 |
| Wave 3 | DG05-05 | F4539/5 | Organic matter present | 33 | 0.220 | ≤ 4 | 0.75 |
| Wave 3 | DG07-05 | F4539/6 | Brown, organic matter present | 33 | 0.450 | ≤ 4 | 15.58 |
| Wave 3 | DG08-05 | F4539/7 | Brown, organic matter present | 33 | 0.400 | ≤ 4 | 5.57 |
| Wave 3 | DG09-05 | F4539/8 | Cloudy, organic matter present | 33 | 0.430 | ≤ 4 | 3.43 |
| Wave 3 | DG10-05 | F4539/9 | Organic matter present/mosquitos | 33 | 0.320 | ≤ 4 | 1.17 |
| Wave 3 | DG11-05 | F4539/10 | Organic matter present | 33 | 0.470 | ≤ 4 | 0.73 |
| Wave 3 | DG12-05 | F4539/11 | Organic matter present | 33 | 0.250 | ≤ 4 | 0.45 |
| Wave 3 | DG13-05 | F4539/12 | Organic matter present | 33 | 0.350 | ≤ 4 | 1.71 |
| Wave 3 | DG14-05 | F4539/13 | Organic matter present | 33 | 0.320 | ≤ 4 | 2.76 |
| Wave 4 | Wave 4 DDG1 | F4382/1 | Leaf/organic matter present | 32 | 0.13 | ≤ 4 | 1.1 |
| Wave 4 | Wave 4 DDG2 | F4382/2 | Organic matter present | 32 | 0.22 | ≤ 4 | 0.9 |
| Wave 4 | Wave 4 DDG3 | F4382/3 | Organic matter present | 32 | 0.08 | ≤ 4 | 1.1 |
| Wave 5a | 1 | F4460/1 | Dry 0.100L Milli-Q added | 39 | 0.1 | ≤ 4 | 2.5 |
| Wave 5a | 2 | F4460/2 | Leaves, organic matter present, brown (0.10L milli-Q for rinsing) | 28 | 0.025 | ≤ 4 | 1.7 |
| Wave 5a | 3 | F4460/3 | Dry 0.100L Milli-Q added/Leaves, Brown | 28 | 0.1 | ≤ 4 | 1.4 |
| Wave 5a | 4 | F4460/4 | Dry 0.100L Milli-Q added/Leaves, Brown | 28 | 0.1 | ≤ 4 | 0.8 |
| Wave 5a | 5 | F4460/5 | Leaves, brown (0.10L milli-Q for rinsing) | 28 | 0.015 | ≤ 4 | 0.7 |
| Wave 5a | 6 | F4460/6 | Beetles, Organic matter present, brown (0.10L milli-q for rinsing) | 28 | 0.01 | ≤ 4 | 0.6 |
| Wave 5a | 7 | F4460/7 | Dry 0.100L Milli-Q added/beetles | 12 | 0.1 | ≤ 4 | 0.5 |

| | | | | | | | |
|---------|----------------|----------|--|----|-------|-----|------------|
| Wave 5a | 8 | F4460/8 | Dry 0.100L Milli-Q added | 12 | 0.1 | ≤ 4 | 0.3 |
| Wave 5a | 9 | F4460/9 | Leaves,organic matter present, brown (0.10L milli-Q for rinsing) | 28 | 0.015 | ≤ 4 | 0.7 |
| Wave 5a | 11 | F4460/10 | Dry 0.20L Milli-Q added | 12 | 0.2 | ≤ 4 | 0.1 |
| Wave 5a | 12 | F4460/11 | Dry 0.20L Milli-Q added | 12 | 0.2 | ≤ 4 | 0.3 |
| Wave 5a | 13 | F4460/12 | Dry 0.20L Milli-Q added/brown | 27 | 0.2 | ≤ 4 | 0.5 |
| Wave 5a | 15 | F4460/13 | Dry 0.20L Milli-Q added/leaves | 23 | 0.2 | ≤ 4 | 0.6 |
| Wave 5a | 17 | F4460/14 | Leaves, brown (0.10L milli-Q for rinsing) | 26 | 0.015 | ≤ 4 | 0.5 |
| Wave 5a | 18 | F4460/15 | Dry 0.20L Milli-Q added/Dry,organic matter | 26 | 0.2 | ≤ 4 | 0.5 |
| Wave 5a | 19 | F4460/16 | Leaves/brown | 26 | 0.04 | ≤ 4 | 0.7 |
| Wave 5a | 20 | F4460/17 | Brown, leaves, organic matter | 27 | 0.045 | ≤ 4 | 1.6 |
| Wave 5a | 21 | F4460/18 | Dry 0.20L Milli-Q added/beetles | 27 | 0.2 | ≤ 4 | 0.5 |
| Wave 5a | 22 | F4460/19 | Dry 0.20L Milli-Q added/leaves/brown | 12 | 0.2 | ≤ 4 | 0.4 |
| Wave 5a | 23 | F4460/20 | Dry 0.20L Milli-Q added/beetles | 27 | 0.22 | ≤ 4 | 0.2 |
| Wave 5a | 24 | F4460/21 | Dry 0.20L Milli-Q added/beetles | 15 | 0.2 | ≤ 4 | 1 |
| Wave 5a | 25 | F4460/22 | Brown, leaves, organic matter | 27 | 0.42 | ≤ 4 | 2.5 |
| Wave 5a | 26 | F4460/23 | Insects | 27 | 0.05 | ≤ 4 | 0.4 |
| Wave 5a | 27 | F4460/24 | insects, organic matter, 0.20L milli-Q added | 26 | 0.202 | ≤ 4 | 1.2 |
| Wave 5a | 28 | F4460/25 | Dry 0.20L Milli-Q added | 27 | 0.2 | ≤ 4 | 0.3 |
| Wave 5C | Wave 5C Area 1 | F4383/1 | Brown, 2 leaves, organic matter present | 33 | 0.32 | ≤ 4 | 3.5 |
| Wave 5C | Wave 5C Area 2 | F4383/2 | - | 33 | 0.07 | ≤ 4 | 0.5 |
| Wave 5C | Wave 5C Area 4 | F4383/3 | Brown, 2 leaves, organic matter present | 33 | 0.21 | ≤ 4 | 0.9 |
| Wave 5C | Wave 5C Area 5 | F4383/4 | - | 33 | 0.19 | ≤ 4 | 1.6 |
| Wave 5C | Wave 5C Area 6 | F4383/5 | - | 33 | 0.02 | ≤ 4 | 0.4 |

Nov-16

| Location | Sample Name | Sample Number | Sample Comments | Sampling Days | Sample Volume (L) | Target Total Suspended Solids (g/m2/month) | Total Suspended Solids (g/m2/month) |
|----------|---|---------------|---|---------------|-------------------|--|-------------------------------------|
| Wave 1 | Fischer Lane | F5484/1 | Brown/ Beetles/ Organic matter present | 45 | 0.43 | ≤ 4 | 19.3 |
| Wave 1 | Watts Lane | F5484/2 | Ants/ Beetles | 45 | 0.19 | ≤ 4 | 1.3 |
| Wave 1 | Mororo | F5484/3 | Flying ants/ Organic matter present | 45 | 0.9 | ≤ 4 | 3.1 |
| Wave 4 | W4 DDG1 | F4832/1 | Ants / organic matter present | 32 | 0.3 | ≤ 4 | 1.5 |
| Wave 4 | W4 DDG2 | F4832/2 | cloudy / ants | 32 | 0.44 | ≤ 4 | 2.1 |
| Wave 4 | W4 DDG3 | F4832/3 | organic matter present | 32 | 0.62 | ≤ 4 | 1.6 |
| Wave 5a | W5C A1 | F4833/1 | leaf / yellow brown colour | 28 | 0.6 | ≤ 4 | 6.7 |
| Wave 5a | W5C A2 | F4833/2 | very dark brown / organic matter present | 28 | 0.8 | ≤ 4 | 135.8 |
| Wave 5a | W5C A4 | F4833/3 | beetles | 28 | 0.33 | ≤ 4 | 1.2 |
| Wave 5a | W5C A5 | F4833/4 | spiders / organic matter present | 28 | 0.23 | ≤ 4 | 1.8 |
| Wave 5a | W5C A6 | F4833/5 | | 28 | 0.7 | ≤ 4 | 1 |
| Wave 5a | Sample 1 | F5220/1 | .. | 26 | 0.18 | ≤ 4 | 1.4 |
| Wave 5a | Sample 2 | F5220/2 | Brown/leaves | 26 | 0.32 | ≤ 4 | 5.4 |
| Wave 5a | Sample 3 | F5220/3 | Brown/leaves | 26 | 0.06 | ≤ 4 | 4.3 |
| Wave 5a | Sample 4 | F5220/4 | Leaf | 26 | 0.13 | ≤ 4 | 1.1 |
| Wave 5a | Sample 5 | F5220/5 | Brown/leaves | 26 | 0.33 | ≤ 4 | 4.7 |
| Wave 5a | Sample 6 | F5220/6 | Brown/leaves | 26 | 0.24 | ≤ 4 | 1.4 |
| Wave 5a | Sample 7 | F5220/7 | Grey/insects | 26 | 0.1 | ≤ 4 | 1.8 |
| Wave 5a | Sample 8 | F5220/8 | Light brown/organic matter | 26 | 0.25 | ≤ 4 | 1.1 |
| Wave 5a | Sample 9 | F5220/9 | Brown/leaves | 26 | 0.18 | ≤ 4 | 0.9 |
| Wave 5a | Sample 10 | F5220/10 | Light brown/leaves | 26 | 0.2 | ≤ 4 | 1.6 |
| Wave 5a | Sample 11 | F5220/11 | .. | 26 | 0.28 | ≤ 4 | 2.3 |
| Wave 5a | Sample 12 | F5220/12 | Beetles | 26 | 0.07 | ≤ 4 | 0.6 |
| Wave 5a | Sample 13 | F5220/13 | Brown/leaves | 26 | 0.14 | ≤ 4 | 1.8 |
| Wave 5a | Sample 14 | F5220/14 | Leaves/pine needles/light brown | 26 | 0.19 | ≤ 4 | 1.1 |
| Wave 5a | Sample 15 | F5220/15 | Brown/leaves | 26 | 0.18 | ≤ 4 | 2.3 |
| Wave 5a | Sample 16 | F5220/16 | Light brown | 26 | 0.03 | ≤ 4 | 0.7 |
| Wave 5a | Sample 17 | F5220/17 | Brown/leaves | 26 | 0.02 | ≤ 4 | 1.8 |
| Wave 5a | Sample 18 | F5220/18 | Brown/leaves | 26 | 0.12 | ≤ 4 | 1.0 |
| Wave 5a | Sample 19 | F5220/19 | Brown/leaves/beetles | 26 | 0.05 | ≤ 4 | 2.4 |
| Wave 5a | Sample 20 | F5220/20 | Brown/leaves | 26 | 0.15 | ≤ 4 | 6.7 |
| Wave 3 | Private: Lot 2 DP1185493 (Tyndale Caravan Park) | DG-01 | Ploughing in adjacent field - Cloudy / Organic matter | 32 | 0.53 | ≤ 4 | 3.2 |

| | | | | | | | |
|--------|--|-------|--|-----|------|-----|--------------|
| Wave 3 | Private: Lot 1 DP613245 (Tenanted House) | DG-02 | | 31 | 0.5 | ≤ 4 | 2.9 |
| Wave 3 | Private: Lot 700 DP1199716 | DG-03 | | 31 | 0.5 | ≤ 4 | 1.8 |
| Wave 3 | RMS: Lot 300 DP1176209 | DG-04 | Brown / Organic Matter | 31 | 0.18 | ≤ 4 | 4.7 |
| Wave 3 | Private: Lot 519 DP1199729 | DG-05 | Cloudy / organic matter | 31 | 0.52 | ≤ 4 | 1.5 |
| Wave 3 | RMS: Lot 52 DP1014027 | DG-06 | n/a | n/a | n/a | ≤ 4 | n/a |
| Wave 3 | Private: Lot 2201 DP823599 | DG-07 | n/a | n/a | n/a | ≤ 4 | n/a |
| Wave 3 | RMS: Lot 22 DP794013 | DG-08 | Cloudy / organic matter | 31 | 0.58 | ≤ 4 | 2.0 |
| Wave 3 | RMS: Lot 112 DP842062 | DG-09 | Ploughed fields immediately adjacent to gauge (<1m away). November loose dirt pile picked by wind in this paddock. | 31 | 0.7 | ≤ 4 | 5.3 |
| Wave 3 | Private: Lot 434 DP823599 | DG-10 | Brown/Dirt present (113.8 = ash in analysis and 14.5 = combustible matter | 31 | 0.55 | ≤ 4 | 128.2 |
| Wave 3 | Private: Lot 2 DP1094871 (Maclean Motel) | DG-11 | spider webs | 31 | 0.75 | ≤ 4 | 1.2 |
| Wave 3 | Private Land (control) | DG-12 | Beetle | 32 | 0.3 | ≤ 4 | 1.5 |
| Wave 3 | Private Land (2991 Pacific Highway) | DG-13 | Brown/Organic matter | 32 | 0.55 | ≤ 4 | 3.0 |
| Wave 3 | Basin 4a resident | DG-14 | FKG clearing works out back. Spider webs / Cloudy / Organic matter | 31 | 0.45 | ≤ 4 | 2.7 |
| Wave 3 | Marcuses | DG-15 | Brown/Organic matter (note this sample period is shorter to bring in line with collection dates) | 15 | 0.15 | ≤ 4 | 1.9 |

| Dec-16 | | | | | | | |
|----------|-------------|---------------|---|---------------|-------------------|--|-------------------------------------|
| Location | Sample Name | Sample Number | Sample Comments | Sampling Days | Sample Volume (L) | Target Total Suspended Solids (g/m2/month) | Total Suspended Solids (g/m2/month) |
| Wave 4 | W4DDG1 | F5626/6 | Decaying beetles | 34 | 1.45 | ≤ 4 | 2.5 |
| Wave 4 | W4DDG2 | F5626/7 | Very cloudy - decaying beetles | 34 | 1.47 | ≤ 4 | 4.9 |
| Wave 4 | W4DDG3 | F5626/8 | | 34 | 1.46 | <4 | 0.8 |
| Wave 5a | 1 | F5800/1 | .. | 22 | 0.45 | <4 | 1.4 |
| Wave 5a | 2 | F5800/2 | brown/ leaves/ organic matter/ pine needles | 22 | 0.49 | <4 | 2.3 |
| Wave 5a | 3 | F5800/3 | brown/ leaves/ organic matter | 22 | 0.33 | <4 | 4.0 |
| Wave 5a | 4 | F5800/4 | beetles/ mosquitos | 22 | 0.32 | <4 | 0.9 |
| Wave 5a | 5 | F5800/5 | brown/ leaves/ organic matter | 22 | 0.32 | <4 | 8.4 |
| Wave 5a | 6 | F5800/6 | brown/ leaves/ organic matter | 22 | 0.32 | <4 | 4.9 |
| Wave 5a | 7 | F5800/7 | .. | 22 | 0.13 | <4 | 0.5 |
| Wave 5a | 8 | F5800/8 | brown/ leaves/ organic matter | 22 | 0.17 | <4 | 0.8 |
| Wave 5a | 9 | F5800/9 | brown/ leaves/ organic matter/ insects | 22 | 0.38 | <4 | 2.0 |
| Wave 5a | 10 | F5800/10 | dark brown/ leaves/ organic matter | 22 | 0.28 | <4 | 3.9 |
| Wave 5a | 11 | F5800/11 | .. | 22 | 0.350 | <4 | 0.3 |
| Wave 5a | 12 | F5800/12 | .. | 22 | 0.210 | <4 | 0.2 |
| Wave 5a | 13 | F5800/13 | dark brown/ organic matter | 22 | 0.220 | <4 | 0.7 |
| Wave 5a | 14 | F5800/14 | brown/ leaves/ organic matter/ pine needles | 22 | 0.230 | <4 | 0.6 |
| Wave 5a | 15 | F5800/15 | brown/ leaves/ organic matter | 22 | 0.200 | <4 | 1.1 |
| Wave 5a | 16 | F5800/16 | brown/ leaves/ organic matter | 22 | 0.150 | <4 | 0.6 |
| Wave 5a | 17 | F5800/17 | brown/ leaves/ organic matter | 22 | 0.180 | <4 | 1.0 |
| Wave 5a | 18 | F5800/18 | brown/ leaves/ organic matter | 22 | 0.250 | <4 | 0.4 |
| Wave 5a | 19 | F5800/19 | Light brown/ leaves/ organic matter/ beetle | 22 | 0.290 | <4 | 0.4 |
| Wave 5a | 20 | F5800/20 | dark brown/ leaves/ organic matter | 22 | 0.300 | <4 | 0.7 |
| Wave 5a | 21 | F5800/21 | bees/ cloudy | 22 | 0.180 | <4 | 0.8 |
| Wave 5a | 22 | F5800/22 | dark brown/ cicada beetle | 22 | 0.230 | <4 | 0.5 |
| Wave 5a | 23 | F5800/23 | empty/ 0.20L milli-Q added | 22 | 0.200 | <4 | 0.6 |
| Wave 5a | 24 | F5800/24 | organic matter present | 22 | 0.250 | <4 | 0.6 |

| | | | | | | | |
|---------|----------------------------|-----------|---|------|-------|-----|------|
| Wave 5a | 25 | F5800/25 | brown/ leaf/ organic matter/ pine needles | 22 | 0.450 | <4 | 4.4 |
| Wave 5a | 26 | F5800/26 | organic matter present | 22 | 0.370 | <4 | 0.8 |
| Wave 5a | 27 | F5800/27 | .. | 22 | 0.420 | <4 | 0.9 |
| Wave 5a | 28 | F5800/28 | brown/ organic matter | 22 | 0.450 | <4 | 5.3 |
| Wave 5c | W5CA1 | F5626/1 | Dark brown | 34 | 1.11 | <4 | 2.1 |
| Wave 5c | W5CA2 | F5626/2 | | 34 | 1.45 | <4 | 0.7 |
| Wave 5c | W5CA4 | F5626/3 | Cloudy - decaying beetles | 34 | 1.34 | <4 | 1.6 |
| Wave 5c | W5CA5 | F5626/4 | | 34 | 1.61 | ≤ 4 | 2.6 |
| Wave 5c | W5CA6 | F5626/5 | | 34 | 2.06 | ≤ 4 | 0.1 |
| Wave 3 | DG-01 | DG-01 -07 | Light Brown/Organic matter present. Adj ploughed field | 28 | 0.65 | ≤ 4 | 4.3 |
| Wave 3 | DG-02 | DG-02 -07 | | 28 | 0.78 | ≤ 4 | 1.5 |
| Wave 3 | DG-03 | DG-03 -07 | | 28 | 0.7 | ≤ 4 | 1.2 |
| Wave 3 | DG-04 | DG-04 -07 | Mosquitos | 28 | 0.63 | ≤ 4 | 1.7 |
| Wave 3 | DG-05 | DG-05 -07 | | 28 | 0.75 | ≤ 4 | 0.3 |
| Wave 3 | DG-06 | DG-06 -07 | N/A | N/A | N/A | ≤ 4 | N/A |
| Wave 3 | DG-07 | DG-07 -07 | Light Brown/Organic matter present | 28 | 1.22 | ≤ 4 | 4 |
| Wave 3 | DG-08 | DG-08 -07 | | 28 | 0.7 | ≤ 4 | 0.6 |
| Wave 3 | DG-09 | DG-09 -07 | 50 mL Organic Matter Present | 28 | 0.61 | ≤ 4 | 1.8 |
| Wave 3 | DG-10 | DG-10 -07 | Some Organic Matter Present | 28 | 0.66 | ≤ 4 | 1.3 |
| Wave 3 | DG-11 | DG-11 -07 | Mosquitos | 28 | 0.85 | ≤ 4 | 1.1 |
| Wave 3 | DG-12 | DG-12 -07 | Mosquitos | 28 | 0.72 | ≤ 4 | 0.6 |
| Wave 3 | DG-13 | DG-13 -07 | VOID - due to smashed gauge and fallen bottle | VOID | VOID | ≤ 4 | VOID |
| Wave 3 | DG-14 | DG-14 -07 | Light Brown/Organic matter present | 28 | 0.73 | ≤ 4 | 3.7 |
| Wave 3 | DG-15 | DG-15 -07 | Light Brown/Organic matter present | 28 | 0.7 | ≤ 4 | 2.6 |
| Wave 1 | Fischers Lane (Control) | F5950/1 | Brown, beetles, organic matter | 28 | 2.3 | ≤ 4 | 4.6 |
| Wave 1 | Watts Lane | F5950/2 | Ants | 28 | 1.8 | ≤ 4 | 0.59 |
| Wave 1 | Mororo | F5950/3 | Spiders | 28 | 2.7 | ≤ 4 | 0.87 |

| Jan-17 | | | | | | | |
|----------------------|---------------------------------------|---------------|---|---------------|-------------------|--|-------------------------------------|
| Location | Sample Name | Sample Number | Sample Comments | Sampling Days | Sample Volume (L) | Target Total Suspended Solids (g/m2/month) | Total Suspended Solids (g/m2/month) |
| Portion B (Shamrock) | Site 1 | SCE-IRAF-W01 | For Iluka Compound works | 30 | NA | ≤ 4 | 0.6 |
| Portion B (Shamrock) | Site 2 | SCE-IRAF-E01 | For Iluka Compound works | 30 | NA | ≤ 4 | 1.2 |
| Portion F | DDG1 | DDG1 | Beetles | 32 | 1.75 | ≤ 4 | 1.3 |
| Portion F | DDG2 | DDG2 | Ants | 32 | 1.85 | ≤ 4 | 1.0 |
| Portion F | DDG3 | DDG3 | Mosquitos | 32 | 1.67 | ≤ 4 | 1.2 |
| Portion F | DDG4 | DDG4 | Mosquitos | 32 | 1.57 | ≤ 4 | 0.8 |
| Portion F | DDG5 | DDG5 | Ants/Yellowish colour | 32 | 1.4 | ≤ 4 | 1.0 |
| Portion B (BMD) | Mororo Cut South end | DDG16 | 1st round of dust sampling, pre-construction. | 35 | 0.9 | ≤ 4 | 1.4 |
| Portion B (BMD) | Carrols Lane East Chatsworth | DDG8 | | 18 | 0.25 | ≤ 4 | 0.5 |
| Portion B (BMD) | Serpentine Rd North | DDG 6 | | 18 | 1.25 | ≤ 4 | 1.9 |
| Portion B (BMD) | Chatsworth Road North - Mororo bridge | DDG10 | | 35 | 3.11 | ≤ 4 | 1.2 |
| Portion B (BMD) | Watt's Lane | DDG3 | | 36 | 1.33 | ≤ 4 | 1.9 |
| Portion B (BMD) | Farlows Lane | DDG1 | | 36 | 1.19 | ≤ 4 | 2.0 |
| Portion B (BMD) | Watts Lane East - Golding) | DDG2 | | 35 | 1.83 | ≤ 4 | 1.8 |
| Portion B (BMD) | Ryan's Lane | DDG4 | | 18 | 1.08 | ≤ 4 | 2.7 |
| Portion B (BMD) | Mororo Cut North West | DDG17 | | 35 | 3.89 | ≤ 4 | 2.0 |
| Portion B (BMD) | Garrett's Lane West | DDG11 | | 18 | 0.94 | ≤ 4 | 0.6 |
| Wave 1 | Fischer Lane | F6799/1 | Brown / organic matter | 28 | 0.67 | ≤ 4 | 11.63 |
| Wave 1 | Watts Lane | F6799/2 | Cloudy / ants | 28 | 0.93 | ≤ 4 | 1.37 |
| Wave 1 | Mororo | F6799/3 | Spiders | 28 | 0.95 | ≤ 4 | 0.99 |
| Wave 5C | W5CA1 | F6107/6 | Brown leaves | 33 | 2.4 | ≤ 4 | 1.9 |
| Wave 5C | W5CA2 | F1607/7 | cricket | 33 | 2.200 | ≤ 4 | 0.4 |
| Wave 5C | W5CA4 | F6107/8 | cloudy, organic matter present | 33 | 1.620 | ≤ 4 | 2.6 |
| Wave 5C | W5CA5 | F1607/9 | cloudy, spiders | 33 | 1.580 | ≤ 4 | 2.3 |
| Wave 5C | W5CA6 | F6107/10 | - | 33 | 1.120 | ≤ 4 | 0.6 |
| Wave 4 | W4DDG1 | F1607/11 | Beetles, ants | 33 | 2.150 | ≤ 4 | 1.2 |
| Wave 4 | W4DDG2 | F1607/12 | light brown, beetles, ants | 33 | 1.930 | ≤ 4 | 1.6 |
| Wave 4 | W4DDG3 | F1607/13 | ants, organic matter | 33 | 0.300 | ≤ 4 | 1.0 |
| Wave 5a | 1 | F6315/1 | brown/ organic matter | 32 | 1.470 | ≤ 4 | 15.3 |
| Wave 5a | 2 | F6315/2 | brown/ leaves/ organic matter/ pine needles | 32 | 1.580 | ≤ 4 | 2.4 |
| Wave 5a | 3 | F6315/3 | brown/ leaves/ organic matter/ pine needles | 32 | 1.100 | ≤ 4 | 0.7 |

| | | | | | | | |
|---------|-------|-----------|--|-----|-------|-----|------|
| Wave 5a | 4 | F6315/4 | .. | 32 | 1.340 | ≤ 4 | 0.3 |
| Wave 5a | 5 | F6315/5 | brown/ leaves/ organic matter | 32 | 1.380 | ≤ 4 | 3.7 |
| Wave 5a | 6 | F6315/6 | brown/ leaves/ organic matter | 32 | 1.600 | ≤ 4 | 1.0 |
| Wave 5a | 7 | F6315/7 | leaves/ organic matter/ants | 32 | 1.350 | ≤ 4 | 0.7 |
| Wave 5a | 8 | F6315/8 | Light brown/ leaves/ organic matter | 32 | 1.370 | ≤ 4 | 1.0 |
| Wave 5a | 9 | F6315/9 | yellowish/organic matter | 32 | 1.360 | ≤ 4 | 1.8 |
| Wave 5a | 10 | F6315/10 | organic matter present | 32 | 1.370 | ≤ 4 | 1.4 |
| Wave 5a | 11 | F6315/11 | leaf | 32 | 1.570 | ≤ 4 | 0.7 |
| Wave 5a | 12 | F6315/12 | bugs | 32 | 1.150 | ≤ 4 | 0.5 |
| Wave 5a | 13 | F6315/13 | brown/ organic matter | 32 | 1.200 | ≤ 4 | 3.6 |
| Wave 5a | 14 | F6315/14 | light brown/pine needles | 32 | 1.260 | ≤ 4 | 1.9 |
| Wave 5a | 15 | F6315/15 | brown/ leaves/ organic matter/frog | 32 | 1.180 | ≤ 4 | 16.2 |
| Wave 5a | 16 | F6315/16 | yellowish/bugs | 32 | 1.030 | ≤ 4 | 1.0 |
| Wave 5a | 17 | F6315/17 | Light brown/ leaves/ organic matter | 32 | 1.080 | ≤ 4 | 4.2 |
| Wave 5a | 18 | F6315/18 | yellowish/ leaves/ organic matter | 32 | 0.950 | ≤ 4 | 1.8 |
| Wave 5a | 19 | F6315/19 | yellowish/ leaves/ organic matter | 32 | 1.480 | ≤ 4 | 5.0 |
| Wave 5a | 20 | F6315/20 | brown/ organic matter | 32 | 1.750 | ≤ 4 | 8.3 |
| Wave 5a | 21 | F6315/21 | insects/ organic matter | 32 | 1.750 | ≤ 4 | 0.7 |
| Wave 5a | 22 | F6315/22 | organic matter present | 32 | 1.850 | ≤ 4 | 1.0 |
| Wave 5a | 23 | F6315/23 | spiders/organic matter present | 32 | 0.700 | ≤ 4 | 0.5 |
| Wave 5a | 24 | F6315/24 | .. | 32 | 1.420 | ≤ 4 | 0.4 |
| Wave 5a | 25 | F6315/25 | brown/ leaves/ pine needles | 32 | 1.200 | ≤ 4 | 1.6 |
| Wave 5a | 26 | F6315/26 | light brown/organic matter | 32 | 1.250 | ≤ 4 | 1.7 |
| Wave 5a | 27 | F6315/27 | ants | 32 | 1.100 | ≤ 4 | 0.6 |
| Wave 5a | 28 | F6315/28 | brown/organic matter | 32 | 1.120 | ≤ 4 | 5.5 |
| Wave 3 | DG-01 | DG-01 -08 | Insects | 32 | 2 | ≤ 4 | 0.6 |
| Wave 3 | DG-02 | DG-02 -08 | Cloudy, insects | 32 | 2.21 | ≤ 4 | 0.3 |
| Wave 3 | DG-03 | DG-03 -08 | Slightly cloudy | 32 | 2.32 | ≤ 4 | 1.0 |
| Wave 3 | DG-04 | DG-04 -08 | Cloudy. Insects | 32 | 1.9 | ≤ 4 | 2.7 |
| Wave 3 | DG-05 | DG-05 -08 | Organic matter | 32 | 2.79 | ≤ 4 | 0.7 |
| Wave 3 | DG-06 | DG-06 -08 | N/A | N/A | N/A | ≤ 4 | N/A |
| Wave 3 | DG-07 | DG-07 -08 | Organic matter | 32 | 2.76 | ≤ 4 | 0.4 |
| Wave 3 | DG-08 | DG-08 -08 | N/A | 32 | 2.76 | ≤ 4 | 0.1 |
| Wave 3 | DG-09 | DG-09 -08 | No Sample - Dust gauge vandalised and to be replaced | N/A | N/A | ≤ 4 | N/A |
| Wave 3 | DG-10 | DG-10 -08 | Insects | 32 | 2.8 | ≤ 4 | 1.0 |

| | | | | | | | |
|--------|-------|-----------|--|-----|------|-----|------------|
| Wave 3 | DG-11 | DG-11 -08 | Cloudy | 32 | 2.77 | ≤ 4 | 0.8 |
| Wave 3 | DG-12 | DG-12 -08 | Insects.cloudy | 32 | 2.69 | ≤ 4 | 1.2 |
| Wave 3 | DG-13 | DG-13 -08 | No Sample - Dust gauge and bottle to be replaced | N/A | N/A | ≤ 4 | N/A |
| Wave 3 | DG-14 | DG-14 -08 | Organic matter | 32 | 2.13 | ≤ 4 | 0.9 |
| Wave 3 | DG-15 | DG-15 -08 | Dark colour, insects/ | 32 | 1.65 | ≤ 4 | 2.4 |

| Feb-17 | | | | | | | |
|----------------------|---------------------------------------|---------------|--|---------------|-------------------|--|-------------------------------------|
| Location | Sample Name | Sample Number | Sample Comments | Sampling Days | Sample Volume (L) | Target Total Suspended Solids (g/m2/month) | Total Suspended Solids (g/m2/month) |
| Wave 2 | W2DG01 | F6938/1 | Cloudy,organic matter present | 29 | 0.2 | ≤ 4 | 2.2 |
| Wave 2 | W2DG02 | F6938/2 | Cloudy,organic matter present,insects | 29 | 0.68 | ≤ 4 | 7.5 |
| Wave 2 | W2DG03 | F6938/3 | Brown,organic matter present | 29 | 0.16 | ≤ 4 | 5 |
| Wave 2 | W2DG04 | F6938/4 | | 29 | 0.52 | ≤ 4 | 0.3 |
| Wave 2 | W2DG05 | F6938/5 | Cloudy, organic matter present | 29 | 0.08 | ≤ 4 | 1.1 |
| Wave 5c | W5CA1 | F6938/6 | Insects,organic matter present,light brown | 29 | 0.48 | ≤ 4 | 1.2 |
| Wave 5c | W5CA2 | F6938/7 | Leaves,light brown | 29 | 0.3 | ≤ 4 | 0.6 |
| Wave 5c | W5CA4 | F6938/8 | Cloudy,organic matter present,insects | 29 | 0.25 | ≤ 4 | 2 |
| Wave 5c | W5CA5 | F6938/9 | Spiders,cloudy | 29 | 0.5 | ≤ 4 | 1.7 |
| Wave 5c | W5CA6 | F6938/10 | Mosquitos | 29 | 0.55 | ≤ 4 | 0.8 |
| Wave 4 | W4DDG1 | F6938/11 | Brown,organic matter present | 29 | 0.05 | ≤ 4 | 3.4 |
| Wave 4 | W4DDG2 | F6938/12 | Cloudy,organic matter present,insects | 29 | 0.33 | ≤ 4 | 3.7 |
| Wave 4 | W4DDG3 | F6938/13 | Grass seeds,cloudy | 29 | 0.3 | ≤ 4 | 1.6 |
| Portion B (Shamrock) | Woombah Woods | F6218/1 | Clear, some organic matter | 30 | 3 | ≤ 4 | 0.2 |
| Portion B (Shamrock) | Iluka Hwy - Messer | F6218/2 | Insects, slightly cloudy | 30 | 2.93 | ≤ 4 | 0.1 |
| Portion B (Shamrock) | Leslie Control | F6218/3 | Insects | 30 | 2.86 | ≤ 4 | 0.2 |
| Portion B (Shamrock) | SCE-IRAF W01 | F6218/4 | Insects | 30 | 2.93 | ≤ 4 | 0 |
| Portion B (BMD) | Mororo Cut (south end) | DDG16 | | 31 | 0.6 | ≤ 4 | 0.3 |
| Portion B (BMD) | Carrols Lane, Chatsworth (East) | DDG8 | | 31 | 0.78 | ≤ 4 | 0.9 |
| Portion B (BMD) | Serpentine Road (North) | DDG 6 | | 31 | 0.63 | ≤ 4 | 1.3 |
| Portion B (BMD) | Chatsworth Road North (Mororo Bridge) | DDG10 | | 31 | 0.08 | ≤ 4 | 0.5 |
| Portion B (BMD) | Watts Lane | DDG3 | | 31 | 0.69 | ≤ 4 | 1.1 |
| Portion B (BMD) | Farlows Lane | DDG1 | | 32 | 1.82 | ≤ 4 | 0.1 |

| | | | | | | | |
|-----------------|---------------------------------------|----------|--|----|-------|-----|--------------|
| Portion B (BMD) | Watts Lane East (old Wave 1 gauge) | DDG2 | | 31 | 0.5 | ≤ 4 | 0.8 |
| Portion B (BMD) | Ryan's Lane | DDG4 | | 31 | 0.47 | ≤ 4 | 3.4 |
| Portion B (BMD) | Mororo Cut (north west) | DDG17 | | 31 | 0.49 | ≤ 4 | 0.9 |
| Portion B (BMD) | Garrett's Lane (west) | DDG11 | | 31 | 0.65 | ≤ 4 | 0.2 |
| Portion B (BMD) | | DDG5 | | 32 | 2.21 | ≤ 4 | 0 |
| Portion B (BMD) | | DDG7 | <i>Note: jar missing from DDG during collection.</i> | | | ≤ 4 | |
| Wave 5a | 1 | F7281/1 | ants | 53 | 0.580 | ≤ 4 | 0.6 |
| Wave 5a | 2 | F7281/2 | yellowish,leaf,organic matter | 53 | 0.820 | ≤ 4 | 1.0 |
| Wave 5a | 3 | F7281/3 | brown,leaves,organic matter | 53 | 0.470 | ≤ 4 | 0.2 |
| Wave 5a | 4 | F7281/4 | .. | 53 | 0.480 | ≤ 4 | 0.5 |
| Wave 5a | 5 | F7281/5 | brown,leaves,organic matter | 53 | 0.520 | ≤ 4 | 3.1 |
| Wave 5a | 6 | F7281/6 | brown,leaves,organic matter | 53 | 0.550 | ≤ 4 | 0.9 |
| Wave 5a | 7 | F7281/7 | brown,leaves,stick,organic matter | 53 | 0.250 | ≤ 4 | 3.5 |
| Wave 5a | 8 | F7281/8 | brown,leaves,organic matter | 53 | 0.300 | ≤ 4 | 0.6 |
| Wave 5a | 9 | F7281/9 | brown,grasshopper,organic matter | 53 | 0.370 | ≤ 4 | 3.0 |
| Wave 5a | 10 | F7281/10 | light brown, organic matter | 53 | 0.340 | ≤ 4 | 1.1 |
| Wave 5a | 11 | F7281/11 | organic matter | 53 | 0.450 | ≤ 4 | 1.2 |
| Wave 5a | 12 | F7281/12 | .. | 53 | 0.300 | ≤ 4 | 0.2 |
| Wave 5a | 13 | F7281/13 | brown,organic matter | 53 | 0.400 | ≤ 4 | 2.1 |
| Wave 5a | 14 | F7281/14 | light brown, organic matter | 53 | 0.580 | ≤ 4 | 0.7 |
| Wave 5a | 15 | F7281/15 | leaves,light brown, organic matter | 53 | 0.500 | ≤ 4 | 4.4 |
| Wave 5a | 16 | F7281/16 | insects, organic matter | 53 | 0.470 | ≤ 4 | 0.4 |
| Wave 5a | 17 | F7281/17 | brown,organic matter | 53 | 0.370 | ≤ 4 | 1.3 |
| Wave 5a | 18 | F7281/18 | brown,beetle,organic matter | 53 | 0.380 | ≤ 4 | 4.1 |
| Wave 5a | 19 | F7281/19 | brown,leaves,organic matter | 53 | 0.320 | ≤ 4 | 3.3 |
| Wave 5a | 20 | F7281/20 | brown,organic matter | 53 | 0.350 | ≤ 4 | 4.9 |
| Wave 5a | 21 | F7281/21 | insects | 53 | 0.360 | ≤ 4 | 0.5 |
| Wave 5a | 22 | F7281/22 | .. | 53 | 0.480 | ≤ 4 | 0.8 |
| Wave 5a | 23 | F7281/23 | .. | 53 | 0.100 | ≤ 4 | 0.3 |
| Wave 5a | 24 | F7281/24 | .. | 53 | 0.500 | ≤ 4 | 0.9 |
| Wave 5a | 25 | F7281/25 | brown,leaves,organic matter | 53 | 0.680 | ≤ 4 | 3.1 |
| Wave 5a | 26 | F7281/26 | brown,organic matter | 53 | 0.720 | ≤ 4 | 2.0 |
| Wave 5a | 27 | F7281/27 | organic matter | 53 | 0.350 | ≤ 4 | 0.7 |
| Wave 5a | 28 | F7281/28 | cloudy | 53 | 0.350 | ≤ 4 | 0.7 |
| Portion E | DDG1 | DDG1 | Beetles | 30 | 1.48 | ≤ 4 | 1.424 |
| Portion E | DDG2 | DDG2 | Ants | 30 | 1.45 | ≤ 4 | 0.542 |

| | | | | | | | |
|-----------|--------------|-----------|--|----|-------|-----|--------------|
| Portion E | DDG3 | DDG3 | Mosquitos | 30 | 1.2 | ≤ 4 | 0.665 |
| Portion E | DDG4 | DDG4 | Mosquitos | 30 | 0.85 | ≤ 4 | 0.423 |
| Portion E | DDG5 | DDG5 | Ants/Yellowish colour | 30 | 1.04 | ≤ 4 | 1.009 |
| Wave 1 | Fischer Lane | F7347/1 | | 20 | 2.15 | ≤ 4 | 1.75 |
| Wave 1 | Watts Lane | F7347/2 | | 20 | 1.85 | ≤ 4 | 0.94 |
| Wave 1 | Mororo | F7347/3 | | 20 | 2.02 | ≤ 4 | 0 |
| Wave 3 | DG-01 | DG-01 -07 | Light Brown/Organic matter present. Adj ploughed field | 32 | 1.950 | ≤ 4 | 1.4 |
| Wave 3 | DG-02 | DG-02 -07 | | 32 | 1.830 | ≤ 4 | 0.5 |
| Wave 3 | DG-03 | DG-03 -07 | Insects | 32 | 2.400 | ≤ 4 | 0.3 |
| Wave 3 | DG-04 | DG-04 -09 | Cloudy, insects | 32 | 2.350 | ≤ 4 | 2.2 |
| Wave 3 | DG-05 | DG-05 -09 | Slightly cloudy | 32 | 2.800 | ≤ 4 | 2.0 |
| Wave 3 | DG-07 | DG-07 -09 | Organic matter | 32 | 2.200 | ≤ 4 | 0.6 |
| Wave 3 | DG-08 | DG-08 -09 | N/A | 32 | 2.120 | ≤ 4 | 0.7 |
| Wave 3 | DG-09 | DG-09 -09 | N/A | 32 | 0.360 | ≤ 4 | 0.2 |
| Wave 3 | DG-10 | DG-10 -09 | Insects | 32 | 2.450 | ≤ 4 | 1.0 |
| Wave 3 | DG-11 | DG-11 -09 | Cloudy | 32 | 2.650 | ≤ 4 | 1.0 |
| Wave 3 | DG-12 | DG-12 -09 | Insects.cloudy | 32 | 0.200 | ≤ 4 | 0.1 |
| Wave 3 | DG-13 | DG-13 -09 | N/A | 32 | 1.250 | ≤ 4 | 0.3 |
| Wave 3 | DG-14 | DG-14 -09 | Organic matter | 32 | 1.920 | ≤ 4 | 1.2 |
| Wave 3 | DG-15 | DG-15 -09 | Dark colour, insects/ | 32 | 2.8 | ≤ 4 | 2.8 |

Mar-17

| Location | Sample Name | Sample Number | Sample Comments | Sampling Days | Sample Volume (L) | Target Total Suspended Solids (g/m2/month) | Total Suspended Solids (g/m2/month) |
|----------------------|---|---------------|-------------------------|---------------|-------------------|--|-------------------------------------|
| Portion B (Shamrock) | Woombah Woods Caravan Park | F8004/2 | | 32 | 1.3 | ≤ 4 | 2 |
| Portion B (Shamrock) | Iluka Road site SCE IRAF W01 | F8004/4 | | 32 | 1.27 | ≤ 4 | 1.5 |
| Portion B (Shamrock) | Messer property control - Pac Hwy NE of site | F8004/3 | | 32 | 1.27 | ≤ 4 | 1.2 |
| Portion B (Shamrock) | Leslie property control - Old Pac Hwy Woombah | N/A | | 22 | 5.4 | ≤ 4 | 8 |
| Portion B (Shamrock) | McAndrews Lane No.1 Control SE | N/A | | 29 | 5.4 | ≤ 4 | 2 |
| Portion B (Shamrock) | McAndrews Lane No.2 Base/Construction NW | N/A | | 29 | 4.63 | ≤ 4 | 1.5 |
| Portion B (Shamrock) | McAndrews Lane No.3 Base/Construction NE | N/A | | 29 | 5.07 | ≤ 4 | 6.7 |
| Portion B (Shamrock) | McAndrews Lane McL SW SCE | N/A | | 18 | 2.63 | ≤ 4 | 0.9 |
| Portion E | Portion E - Morpeth St | DDG1 | | 30 | 2.7 | ≤ 4 | 1.03 |
| Portion E | Portion E - 2A Petticoat Lane | DDG2 | | 30 | 2.4 | ≤ 4 | 1.53 |
| Portion E | Portion E - River St | DDG3 | | 30 | 2.62 | ≤ 4 | 1.37 |
| Portion E | Portion E - Sign Craft Yamba Road | DDG4 | Slightly Cloudy | 30 | 2.19 | ≤ 4 | 3.47 |
| Portion E | Portion E - Yamba Rd Interchange | DDG5 | Slightly Yellow | 30 | 2.43 | ≤ 4 | 1.65 |
| Wave 5C | W5C A1 | F7863/1 | .. | 29 | 0.180 | ≤ 4 | 0.2 |
| Wave 5C | W5C A2 | F7863/2 | .. | 29 | 5.330 | ≤ 4 | 2.0 |
| Wave 5C | W5C A4 | F7863/3 | Cloudy, Slightly yellow | 29 | 5.340 | ≤ 4 | 6.4 |
| Wave 5C | W5C A5 | F7863/4 | .. | 29 | 5.400 | ≤ 4 | 1.3 |
| Wave 5C | W5C A6 | F7863/5 | .. | 29 | 5.530 | ≤ 4 | 1.0 |
| SEE Civil (WSR) | WB5R DDG1 | F7863/6 | .. | 20 | 5.470 | ≤ 4 | 0.9 |
| SEE Civil (WSR) | WB5R DDG2 | F7863/7 | .. | 20 | 5.530 | ≤ 4 | 1.5 |
| SEE Civil (WSR) | WB5R DDG3 | F7863/8 | .. | 20 | 5.540 | ≤ 4 | 1.3 |
| Wave 4 | W4 DDG1 | F7863/9 | .. | 29 | 5.580 | ≤ 4 | 1.0 |
| Wave 4 | W4 DDG2 | F7863/10 | .. | 29 | 5.550 | ≤ 4 | 0.8 |
| Wave 4 | W4 DDG3 | F7863/11 | .. | 29 | 5.470 | ≤ 4 | 1.1 |

| | | | | | | | |
|--------------------------------|----------|----------|--|----|-------|-----|------|
| Wave 2 | W2 DDG1 | F7863/12 | .. | 29 | 5.400 | ≤ 4 | 2.0 |
| Wave 2 | W2 DDG2 | F7863/13 | .. | 29 | 4.630 | ≤ 4 | 1.5 |
| Wave 2 | W2 DDG3 | F7863/14 | Brown | 29 | 5.070 | ≤ 4 | 6.7 |
| Wave 2 | W2 DDG4 | F7863/15 | .. | 29 | 4.760 | ≤ 4 | 0.7 |
| Wave 2 | W2 DDG5 | F7863/16 | .. | 29 | 5.240 | ≤ 4 | 0.9 |
| Wave 5a | 1 | F8208/1 | .. | 49 | 5.400 | ≤ 4 | 0.0 |
| Wave 5a | 2 | F8208/2 | .. | 49 | 5.430 | ≤ 4 | 0.0 |
| Wave 5a | 3 | F8208/3 | Yellow | 49 | 5.430 | ≤ 4 | 0.3 |
| Wave 5a | 4 | F8208/4 | .. | 49 | 5.360 | ≤ 4 | 0.1 |
| Wave 5a | 5 | F8208/5 | Slightly Yellow | 49 | 5.350 | ≤ 4 | 0.1 |
| Wave 5a | 6 | F8208/6 | Yellow | 49 | 5.350 | ≤ 4 | 0.1 |
| Wave 5a | 7 | F8208/7 | .. | 49 | 5.380 | ≤ 4 | 0.0 |
| Wave 5a | 8 | F8208/8 | .. | 49 | 5.460 | ≤ 4 | 0.0 |
| Wave 5a | 9 | F8208/9 | .. | 49 | 5.430 | ≤ 4 | 0.0 |
| Wave 5a | 10 | F8208/10 | .. | 49 | 5.320 | ≤ 4 | 0.0 |
| Wave 5a | 11 | F8208/11 | Beetle/Organic matter/ sand present | 49 | 5.400 | ≤ 4 | 14.2 |
| Wave 5a | 12 | F8208/12 | .. | 49 | 5.400 | ≤ 4 | 0.5 |
| Wave 5a | 13 | .. | Bottle Broken in transport | .. | .. | ≤ 4 | .. |
| Wave 5a | 14 | F8208/13 | Yellow colour/ mosquitos/ pine needle | 49 | 5.400 | ≤ 4 | 1.0 |
| Wave 5a | 15 | F8208/14 | .. | 49 | 5.400 | ≤ 4 | 0.7 |
| Wave 5a | 16 | F8208/15 | Organic matter/mosquitos | 49 | 5.400 | ≤ 4 | 0.6 |
| Wave 5a | 17 | F8208/16 | Yellowish colour/ mosquitos/ leaf | 49 | 5.400 | ≤ 4 | 2.0 |
| Wave 5a | 18 | F8208/17 | Leaves | 49 | 5.400 | ≤ 4 | 1.7 |
| Wave 5a | 19 | F8208/18 | Yellowish colour/ mosquitos/ leaf/organic matter | 49 | 5.400 | ≤ 4 | 1.7 |
| Wave 5a | 20 | F8208/19 | Yellowish colour/ mosquitos/organic matter | 49 | 5.400 | ≤ 4 | 3.4 |
| Wave 5a | 21 | F8208/20 | .. | 49 | 5.130 | ≤ 4 | 0.4 |
| Wave 5a | 22 | F8208/21 | .. | 49 | 5.390 | ≤ 4 | 0.4 |
| Wave 5a | 23 | F8208/22 | .. | 49 | 5.440 | ≤ 4 | 0.5 |
| Wave 5a | 24 | F8208/23 | .. | 49 | 5.450 | ≤ 4 | 0.6 |
| Wave 5a | 25 | F8208/24 | Slightly Yellow | 49 | 5.450 | ≤ 4 | 1.1 |
| Wave 5a | 26 | F8208/25 | .. | 49 | 5.320 | ≤ 4 | 0.3 |
| Wave 5a | 27 | F8208/26 | .. | 49 | 5.340 | ≤ 4 | 0.3 |
| Wave 5a | 28 | F8208/27 | .. | 49 | 5.380 | ≤ 4 | 0.3 |
| Portion B (Tabbimoble Bridges) | B11a | 1 | | 29 | 2.43 | ≤ 4 | 1.3 |
| Portion B (Tabbimoble Bridges) | B10a | 2 | | 29 | 2.45 | ≤ 4 | 1.2 |
| Portion B (Tabbimoble Bridges) | Controla | 3 | | 29 | 2.7 | ≤ 4 | 1.7 |

| | | | | | | | |
|-----------------|---|---------------------------|--|----|------|-----|-------------|
| Wave 3 | DG-01 | DG-01 -10 | Organic matter present | 32 | 2.85 | ≤ 4 | 1.00 |
| Wave 3 | DG-02 | DG-02 -10 | | 32 | 2.85 | ≤ 4 | 0.10 |
| Wave 3 | DG-03 | DG-03 -07 | | 32 | 2.80 | ≤ 4 | 0.70 |
| Wave 3 | DG-04 | DG-04 -10 | | 32 | 2.80 | ≤ 4 | 2.00 |
| Wave 3 | DG-05 | DG-05 -10 | | 32 | 2.80 | ≤ 4 | 1.30 |
| Wave 3 | DG-06 | | | | | | |
| Wave 3 | DG-07 | DG-07 -10 | Ants, organic matter present. Insoluble content above average for sampling period. | 32 | 2.80 | ≤ 4 | 5.70 |
| Wave 3 | DG-08 | DG-08 -10 | | 32 | 2.80 | ≤ 4 | 0.70 |
| Wave 3 | DG-09 | DG-09 -10 | Organic matter present | 32 | 2.50 | ≤ 4 | 0.30 |
| Wave 3 | DG-10 | DG-10 -10 | | 32 | 2.85 | ≤ 4 | 0.90 |
| Wave 3 | DG-11 | DG-11 -10 - Ferry Park | | 32 | 2.85 | ≤ 4 | 0.20 |
| Wave 3 | DG-12 | DG-12 -10 | Ants | 32 | 2.80 | ≤ 4 | 0.40 |
| Wave 3 | DG-13 | DG-13 -10 | | 32 | 5.30 | ≤ 4 | 3.70 |
| Wave 3 | DG-14 | DG-14 -10 | | 32 | 2.80 | ≤ 4 | 0.60 |
| Wave 3 | DG-15 | DG-15 -10 | Organic matter present | 32 | 2.85 | ≤ 4 | 3.50 |
| Portion B (BMD) | Mororo Cut South end | DDG16 | n/a | 36 | 5.30 | ≤ 4 | 0.8 |
| Portion B (BMD) | Carrols Lane East Chatsworth | DDG8 | Brown and organic matter present | 36 | 5.35 | ≤ 4 | 27.9 |
| Portion B (BMD) | Serpentine Rd North | DDG6 | Organic matter present | 36 | 5.40 | ≤ 4 | 10.1 |
| Portion B (BMD) | Chatsworth Road North - Mororo bridge | DDG10 | Ants | 36 | 3.90 | ≤ 4 | 0.4 |
| Portion B (BMD) | Watt's Lane | DDG3 | n/a | 36 | 5.30 | ≤ 4 | 1.1 |
| Portion B (BMD) | Watts Lane East - Golding | DDG2 | n/a | 36 | 5.25 | ≤ 4 | 2.7 |
| Portion B (BMD) | Ryan's Lane | DDG4 | Organic matter present | 36 | 5.40 | ≤ 4 | 3 |
| Portion B (BMD) | Mororo Cut North West | DDG17 | n/a | 36 | 5.30 | ≤ 4 | 0.3 |
| Portion B (BMD) | Garrett's Lane West | DDG11 | n/a | 36 | 5.30 | ≤ 4 | 0.2 |
| Portion B (BMD) | DDG5 | DDG5 | n/a | 35 | 5.25 | ≤ 4 | 0.2 |
| Portion B (BMD) | DDG7 | DDG7 | n/a | 35 | 5.20 | ≤ 4 | 0.3 |
| Portion B (BMD) | Fischers Lane | DDG9 | n/a | 35 | 5.30 | ≤ 4 | 0.3 |

Appendix C Community Complaints

| Event Type | Event Date | Summary | Issues | Complaint details | Response | Status | Action |
|-------------------------------|------------------|---|--|---|---|--------|---|
| Call in (specify team member) | 29/11/2016 9:00 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Contacted resident 4 Dec (phone call) to advise that the complaint had been addressed and if there were any further issues to call via message left. Water cart was deployed immediately to the area for dust suppression. Brendan Barrett conducted follow up call with landholder to ensure issue was resolved. | Closed | Water cart was deployed immediately to the area for dust suppression. |
| Call in (1800 778 900) | 3/12/2016 9:40 | Water uptake | 04- Complaint, Property and land use: Impact to agricultural activities, Water: Water licence | Complaint about level of water in drains resulting in low levels of stock water and cows getting stuck in mud and queried the potential salinity of water as river water maybe entering via flood gates | Stakeholder was advised the project team would review if water had been pumped from drains. Agreement was made with stakeholder to follow up concerns and request access to test water quality in drains. | Closed | Pumping from the drain was stopped as a result of the complaint. Water tests revealed the water quality was suitable for stock water. The drain water levels were replenished not long after the complaint by a series of rainfall events. |
| Call in (1800 778 900) | 24/11/2016 10:15 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Informed stakeholder there was tree clearing in the area which may have caused higher than normal dust levels but that activity has now ceased. | Closed | Project team notified of dust complaint. Dust generating activity ceased. |
| Call in (specify team member) | 26/11/2016 9:45 | Dust complaint | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Subcontractor contacted resident who advised that the dust was due to a tree removal activity which had been completed and as such the dust should decrease. | Closed | Subcontractor advised that the dust was due to a tree removal activity which had been completed and as such the dust decrease. |
| Call out | 15/03/2017 17:00 | Complaint about vehicle accessing property after heavy rainfall | 04- Complaint, Construction: Damage (to property/environment) | Complaint about project vehicle accessing property after heavy rainfall | Stakeholder informed property access requirements would be reiterated to project personnel. | Closed | Property access requirements tool boxed with project teams. |
| Meeting | 20/03/2017 9:00 | Inundation at property | 04- Complaint, Water: Flooding | Complaint about water not draining from property | Property visited to understand stakeholder complaint. Reforming existing levee and installing water pumps were identified as actions to address complaint. | Closed | Levee reformed Installation of pumps to assist resident drain the area Neighbouring landowners advised of action being taken |
| Call in (specify team member) | 13/02/2017 9:25 | Blasting - property damage | 04- Complaint, Noise and Vibration: Blasting | Complaint about property damage | Property visited and property will be given additional dilapidation report | Open | Landholder has been contacted and agreed to resolve the matter with an additional property dilapidation report at end of works |
| Call out | 7/12/2016 11:34 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Stakeholder advised of dust mitigation measures in place and requested stakeholder to let project team know if they have any further issues with dust | Closed | Water cart was deployed immediately to the area for dust suppression. |
| Call in (specify team member) | 26/11/2016 9:45 | Dust Complaint | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Stakeholder advised activity related to the dust complaint has ceased. | Closed | Dust generating activity ceased. |
| Call out | 14/12/2016 14:00 | Construction noise | 04- Complaint, Noise and Vibration: Noise – construction | Complaint about construction noise | Arranged a meeting with stakeholder to discuss complaint about construction noise and offered to install noise monitor at stakeholder's property. | closed | Noise monitor installed at stakeholder's property |
| Meeting | 15/12/2016 14:00 | Dust; noise; damage to property (house) | 04- Complaint, Air Quality: Dust, Noise and Vibration: Noise – construction, Construction: Damage (to property/environment) | Complaint about levels of dust Complaint about construction noise Complaint about blasting damaging house | Stakeholder's request for additional structural assessment of property would be reviewed. Project would continue to monitor dust and noise levels at property. | Closed | Additional structural assessment carried out. Noise, vibration and dust monitored at property. |
| Meeting | 11/01/2017 8:00 | Property damage (house) due to blasting and tree felling | 04- Complaint, Construction: Damage (to property/environment) | Complaint about blasting damaging house | Additional structural assessment being carried out. | closed | Additional structural assessment carried out |
| Email | 8/02/2017 8:45 | Property damage | 04- Complaint | Complaint about damage to property from falling tree | Property visited to understand stakeholder complaint. Incident will form part of existing claims process as project not deemed liable for falling tree on private property. | Open | Nil. |
| Call out | 15/03/2017 18:45 | Water inundation at property | 04- Complaint, Water: Flooding, Water: Drainage, Design: Alignment | Complaint about project preventing water from draining off property during wet weather event | Property visited to understand stakeholder complaint. Survey points to be reviewed and stakeholder to be provided insurance claim form to address complaint. | closed | Survey pick ups obtained design reviewed and Public liability claim form provided to resident |
| Call out | 29/03/2017 11:45 | Water inundation at property | 04- Complaint, Water: Flooding, Water: Drainage, Design: Alignment | Complaint about project preventing water from draining off property during wet weather event | Visited property and provided claim detail | Closed | Landholder was provided a claim form by PC and is preparing a claim for damages |
| Call in (specify team member) | 10/02/2017 15:45 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Stakeholder was advised additional water carts were being used to address dust complaint | Closed | Additional water carts sent to site of dust complaint |
| Email | 22/02/2017 15:13 | Dust management | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Meeting was held with stakeholder to discuss dust management measure being used on site, including ensuring water carts are deployed to the area on a frequent basis. Stakeholder agreed to provide a quote for cleaning from a local supplier to subcontractor. | Closed | Water cart use increased in the area. Stakeholder to provide quote to subcontractor for cleaning . Quote not provided, resident was satisfied with action taken to address the issue at site. |
| Staffed display | 10/12/2016 10:00 | Light spill, night work | 04- Complaint, Construction: Light | Complaint about light spill from night work | Advised night work was complete | Closed | Nil. |
| Call in (1800 778 900) | 8/03/2017 9:53 | Property damage (car tyre) due to road condition (Somervale) | 04- Complaint, Construction: Damage (to property/environment) | | | Closed | |
| Call in (1800 778 900) | 8/03/2017 11:53 | Complaint about fence type and installation | 04- Complaint, Property and land use: Fencing | Complaint about the installation of fauna fencing and depth of fence posts | Advised stakeholder project team would review the property adjustment plan to ensure correct fencing had been installed. | Closed | Property adjustment plan reviewed. Fencing installed was as agreed per the property adjustment plan. PAP Adjustment consultation still ongoing. |
| Call in (1800 778 900) | 7/03/2017 15:23 | Blasting -lines on TV | 04- Complaint, Noise and Vibration: Blasting, Construction: Damage (to property/environment) | Complaint about vibration from blasting and television reception | Advised stakeholder project team would review if blasting would affect TV reception. | Open | Review confirmed blasting and transduced vibration would not effect television. Nil |
| Call in (1800 778 900) | 21/02/2017 14:45 | Consultation process, project updates not reaching Illarwill area. Suzanne would like be informed and added to distribution list. | Consultation process: Request for project information, 04- Complaint | complaint about not receiving community update | Advised stakeholder contact details had been included on distribution list and provided copies of project information | Closed | Stakholder added to distribution list Stakeholder emailed copies of UDLP and project updates |
| Call in (specify team member) | 10/10/2016 7:40 | Property damage, unauthorised access by member of the public | 04- Complaint, Construction: Damage (to property/environment) | Complaint about security of Roads and Maritime owned property | Requested stakeholder not to follow intruders onto Roads and Maritime properties. Inquired if stakeholder had contacted the police. Advised stakeholder additional signage would be installed. | Closed | Additional signage purchased and property boarded up |
| Call in (specify team member) | 10/10/2016 15:27 | Billing from energy supplier; Damage to property (owned by Roads and Maritime Services) | Property and land use: Property adjustment, 04- Complaint | Complaint about access for utility provider to read metre | Advised stakeholder utility company had been contacted and only the authorised account holder could discuss account with provider. Provided stakeholder with access information to provide to utility company: 'Please go to the site compound. Ask for [nominated team members] and you will be escorted onto the site to read the metre.' | Closed | Called utility provider to confirm access requirements who indicated only the authorised account holder could provide instructions - advised landowner could provide instructions for the meter reader requested they please contact origin energy and provide the following advice: Please go to the Subcontractor/Pacific Complete site compound on the corner of Chatsworth Road South and Pacific Highway. Ask for [nominated team embers] and you will be escorted onto the site. |
| Call in (specify team member) | 20/12/2016 7:24 | Damage to property (owned by Roads and Maritime Services) | 04- Complaint, Construction: Damage (to property/environment) | Complaint about damage to Roads and Maritime property by vandals | Stakeholder was advised repairs would be made to property security including reboarding property and repairing fencing. | Closed | Property reboarded up repairs made to fencing and additional signage installed. |
| Call in (specify team member) | 10/01/2017 10:45 | Property damage, water disconnected and vandalism | 04- Complaint, Consultation process: Consultation process, Services and Utilities | Complaint about security of Roads and Maritime owned property Complaint about lack of notification about work on water mains | Stakeholder was informed of additional security measures in place including fencing and advised consultation about work on water main would have been carried out by council. | Closed | Additional signage and fencing installed. Nil re utility consultation |
| Call out | 20/03/2017 8:48 | Theft and vandalism at United service station | 04- Complaint, Construction: Damage (to property/environment) | Complaint about security of Roads and Maritime owned property and related theft | Advised stakeholder project team had been in contact with local police and an arrest had been made. | Closed | NSW Police contacted and confirmed they attended the site at the time of the incident. NSW Police confirmed a person was arrested. No further action. |
| Call out | 7/03/2017 10:00 | Use of River Road for deliveries - CLOSED | 04- Complaint, Traffic and transport: Increase in heavy vehicles | Complaint about use of local road by heavy vehicles | Advised stakeholder project was increasing the vehicle numbers by one truck every two days, which was complaint with the local suppliers development application. | Closed | Nil |

| Event Type | Event Date | Summary | Issues | Complaint details | Response | Status | Action |
|-------------------------------|------------------|--|--|--|--|--------|---|
| Call out | 29/03/2017 16:28 | Flooding at Jackybulbin | 04- Complaint, Water: Flooding | Water ponding near Jackybulbin following wet weather event | Explained extensive flood modelling had been carried out on the permanent and temporary work Advised project was aware of the issue however limited work was being carried out in the area. Informed the stakeholder the complaint would be reviewed by hydrologist. | Closed | Hydrologist reviewed complaint. Event confirmed as 1 in 100 rain event and Jackybulbin Road immunity confirmed as about 1 in 5. No work being carried out would have impacted on flooding. Confirmed outcome of review with complainant. |
| Door knock - at home | 13/01/2017 13:20 | Repair to driveway inadequate | Property and land use: Property adjustment, 04- Complaint | Complaint about access to property, initial remediation work carried out on driveway was inadequate. | Stakeholder was advised trenching work was backfilled with road base. Following rain event the road base material had subsided. Agreed actions with stakeholder to resolve complaint including repairing driveway with additional gravel until bitumen seal could be applied. | Closed | Actions agreed with stakeholder to resolve complaint included repairing with additional gravel as an interim measure until the driveway could be bitumen sealed. |
| Call out | 23/03/2017 16:34 | Flooding at Jackybulbin the result of the project and reduced 80 km/h speed limit | 04- Complaint, Traffic and transport: Journey management – construction, Water: Flooding | Complaint about Jackybulbin Road flooding | Explained extensive flood modelling had been carried out on the permanent and temporary work Advised project was aware of the issue however limited work was being carried out in the area. Informed the stakeholder the complaint would be reviewed by hydrologist. | Closed | Hydrologist reviewed complaint. Event confirmed as 1 in 100 rain event and Jackybulbin Road immunity confirmed as about 1 in 5. No work being carried out would have impacted on flooding. Confirmed outcome of review with complainant. |
| Call out | 7/12/2016 8:10 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Stakeholder informed mitigation measures were in place such as water carts and sweepers and the subcontractor had been asked to provide log of water carts and sweepers in the area of the dust complaint. | Closed | Water carts and sweepers allocated to the area and operating. Following the complaint the area supervisor was contacted and confirmed that there was no dust being generated from the area. |
| Call out | 28/02/2017 13:36 | Drainage | 04- Complaint, Water: Drainage | Complaint about water ponding on property | Stakeholder advised project team had reviewed the area and ponding. Ponding not related to site activities. Stakeholder agreed and indicated they would follow up issue with council. | Closed | Site visit carried out to look at cause of ponding. On inspection confirmed drainage of concern was outside of the project boundary and had not been impacted or changed by the project. Complainant confirmed and advised would contact council directly to raise these issues. |
| Drop in - PHO | 7/03/2017 17:15 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Advised of dust mitigation measures in place including watering material before it was loaded and sent to site. | Closed | Quarry contacted to request material be wet down prior to being loaded and sent to site. |
| Call out | 30/03/2017 15:24 | Ponding at Yamba interchange | 04- Complaint, Water: Flooding | Complaint about water ponding near Yamba interchange during wet weather event | Advised stakeholder the project team would send out personnel to review the ponding, additional information including video footage provided to stakeholder. Stakeholder advised no further action required | Closed | Project personnel sent to site to review ponding. Investigated and did not believe the ponding was the result of the project or would result in road closures. Video footage of the situation taken and emailed to complainant. Advised our Safety Officer was available if there were any further concerns or issues and direct contact details provided. |
| Call out | 11/01/2017 10:53 | Safety at Mororo Road - closed | 04- Complaint, Traffic and transport: Traffic safety | Complaint about safety of the Mororo Road and Pacific Highway intersection | The intersection of Mororo Road and the Pacific Highway at Mororo has been designed and built in accordance with appropriate safety guidelines. Functionality of the intersection has not changed and an audit has confirmed the intersection meets safety guidelines. | Closed | A road safety audit was carried out before work started in the area, and found the intersection of Mororo Road and the Pacific Highway is compliant with Austroads Guidelines. In response to community concerns a further road safety audit was carried out. No further action required. |
| Call in (1800 778 900) | 6/02/2017 14:41 | Safety - line of sight (Watts lane intersection) due to lack of maintenance of weeds/cane | 04- Complaint, Traffic and transport: Traffic safety, Property and land use: Maintenance | Complaint about reduced line of sight due to weeds not being maintained | Advised stakeholder site had been reviewed and weeds sprayed. | OPEN | Weeds sprayed, |
| Call in (specify team member) | 3/02/2017 15:45 | Complaint - follow up re complaint - resolution | 04- Complaint, Water: Drainage | Complaint about project preventing water from draining off property following wet weather event | Advised complainant survey data had come back and long term solution was still being reviewed. Discussed interim solution of removing green fabric and rocks to allow water flow to address stakeholder complaint. Stakeholder agreed to interim solution while longer term solution was still being reviewed. | OPEN | Green fabric and rocks removed. Project team to finalise long term solution |
| Email | 9/12/2016 14:27 | Property condition survey process | 04- Complaint, Project components: Investigations | Complaint about being offered a second property condition survey | Advised there are multiple contractors working in the same area. Contractors are able to use existing property condition surveys or offer an additional survey. Advised complainant was not required to have another one carried out if he didn't want. If they would like another survey it would be scheduled at their convenience. Complainant advised would proceed with additional survey. | Closed | Nil. |
| Call in (specify team member) | 23/11/2016 16:00 | Safety of intersection at Mororo Rd | 04- Complaint, Traffic and transport: Traffic safety | Complaint about safety of the Mororo Road and Pacific Highway intersection | The intersection of Mororo Road and the Pacific Highway at Mororo has been designed and built in accordance with appropriate safety guidelines. Functionality of the intersection has not changed and an audit has confirmed the intersection meets safety guidelines. During truck operation speeds are reduced in the area when trucks are working and advanced warning signs are in place. Southbound motorists can turn left into the fire trail road opposite Mororo Road and u-turn to cross the highway into Mororo Road. Other alternatives include continuing south to Lewis Lane to u-turn and then turning left to enter Mororo Road. Motorists are reminded this route will continue to be used by work vehicles during the Woolgoolga to Ballina Pacific Highway upgrade and there will be a number of changes to this intersection as the upgrade progresses. The project team will continue to monitor safety at the intersection and will consult with directly impacted residents about future changes at the intersection. | Closed | Safety audit carried out No further action. |
| Call out | 13/01/2017 16:45 | Personnel behaviour, gates left open | 04- Complaint, Property and land use: Impact to agricultural activities | Complaint about property gates being left open and potential for livestock to escape | Meeting was held with stakeholder to provide general project update and discuss complaint. Stakeholder informed property access requirement would be reiterate to project teams. | Closed | Stakeholder property access requirements tool boxed with project staff. |
| Meeting | 17/01/2017 16:00 | Adequacy of fencing (cattle) | 04- Complaint, Property and land use: Impact to agricultural activities | Complaint about installed fencing not containing livestock on property | Stakeholder informed repairs would be made to the fencing to address stakeholder's complaint | Closed | Fence repaired 20/01/2017. |
| Call out | 31/03/2017 11:41 | Maintenance of adjacent property | 04- Complaint, Property and land use: Maintenance | Complaint about lack of maintenance of Roads and Maritime owned property | Advised stakeholder property was managed by Roads and Maritime services, and maintenance was requested to be carried out by real estate office managing the property. | Closed | Nil. |
| Call out | 9/03/2017 16:21 | Speed signage confusing between Iluka and Chatsworth Island | 04- Complaint, Traffic and transport: Journey management – construction | Complaint about speed signs | Confirmed signage the result of installation of long term TCPS. | Closed | Signs rectified. |
| Email | 21/02/2017 17:12 | safety- contractors using bus stop area | 04- Complaint, Traffic and transport: Traffic safety | Complaint about project vehicles using bus stop area | Apologised and advised stakeholder contractors were instructed that no construction vehicles are allowed in the Jackybulbin bus stop Monday to Friday from: 8.00 - 9.00am and 3.00 – 4.00pm. | Closed | All staff instructed about use of bus stop at pre-start Consultation with bus company, to work together to minimise impact during construction. |
| Email | 23/03/2017 16:54 | safety- contractors using bus stop area | 04- Complaint, Traffic and transport: Traffic safety | Complaint about project vehicles using bus stop area | Called stakeholder left a messages advising of actions taken. No further contact from stakeholder . | Closed | Reiterated requirements to contractors. Project staff sent to bus stop to monitor the situation and ensure compliance. |
| Email | 27/03/2017 17:40 | Newmans quarry uncovered loads being received | 04- Complaint, Construction: Heavy vehicles | Complaint about uncovered loads | Contractors and subcontractors called requirements for covering loads reiterated. | Closed | Actions: Contacted Newmans Quarry, Goldings, Davbridge and BMD 29/03/17 and reiterated requirements for covering loads. Called to advise of outcomes and ask for the evidence discussed. No return call. |
| Staffed display | 30/11/2016 10:00 | Signposting, distance between northbound sign for Yamba turnoff and the actual turnoff too short | 04- Complaint, Traffic and transport: Traffic safety | Complaint about location of directional sign | Stakeholder was informed the location of the sign was inspected by traffic team. Sight distance to the sign for approaching traffic is slightly impacted by the embankment however the remaining sight distance to the sign is in accordance with AUSTROADS standards. | Closed | Sign inspected by traffic team. sight distance to the sign is in accordance with AUSTROADS standards. No further action. |

| Event Type | Event Date | Summary | Issues | Complaint details | Response | Status | Action |
|-------------------------------|------------------|--|--|---|---|--------|--|
| Call in (specify team member) | 30/03/2017 11:42 | Inundation at property | 04- Complaint, Water: Flooding | Complaint about property inundation during wet weather event | Meeting held with landowner. Advised no further action would be taken by the team to remediate impact. Called landowner to advise the wet weather event was about a 1 in 10 and the impact was a result of heavy localised rainfall, tides and James Creek flood gates. | Closed | Inspection at property – photos taken. Inspection identified water around the fills and water was not moving from James Creek - inspection carried out at high tide Meeting with landowner. Advised as a result of the event, no further action could be taken by the team to remediate the impacts, however, would confirm the event type and let him know. Called to advise event occurred was around a 1 in 10 and were confident impacts occurred as a result of the heavy localised rainfall, tides and James Creek flood gates. No further action taken. |
| Call out | 27/01/2017 14:58 | Property access, padlocked gate | 04- Complaint, Project components: Access | Complaint about being unable to access property due to padlock on gate | Stakeholder informed padlock was not put on gate by project personnel. | Closed | Noise monitor installed at stakeholder's property |
| Call in (specify team member) | 5/12/2016 10:18 | Dust | 04- Complaint, Air Quality: Dust | Complaint about levels of dust | Advised stakeholder of dust mitigation measures in place at time of complaint including water carts, sweeper vehicles. Information was also provided about additional measures used to minimise dust such as staging of vegetation removal and stabilising exposed surfaces with geofabric. | Closed | Nil. |
| Call in (1800 778 900) | 31/03/2017 16:28 | Portion C - flooding at Woodburn | 04- Complaint, Water: Flooding | Complaint about water ponding near the Woodburn football field and water not being able to drain away following wet weather event | Explained detailed flood modelling was being carried out for permanent and temporary work. Modelling and expected flooding outcomes would be publically available in the hydrological mitigation report for the Richmond catchment and a community information session held. | Closed | Met with stakeholder at the Hydrological Mitigation Report drop-in session with the project's flood modeller and discussed flood behaviour for the area. No further action. |
| Call in (specify team member) | 19/12/2016 12:53 | Adequacy of fencing | 04- Complaint, Property and land use: Impact to agricultural activities | Complaint about fencing not being installed preventing landowner from keeping livestock on property | Advised stakeholder fencing was delayed by manufacturer installation. Agreed installation date with landowner. | Closed | Fencing installed by agreed date. |
| Meeting | 16/03/2017 13:13 | Water inundation at property | 04- Complaint, Water: Flooding, Water: Drainage | Complaint about water not draining | Meeting was held with stakeholder to discuss the wet weather event and mitigation measures in place, including continuing to pump water from the property across the work area. | Closed | Pump water from stakeholder property. |
| Call in (1800 778 900) | 21/12/2016 12:02 | Personnel behaviour, truck movements | 04- Complaint, Traffic and transport: Traffic safety | Complaint about constructions vehicles not allowing public vehicles to go first | Stakeholder advised personnel will be instructed to use caution and be aware of light vehicles | Closed | Contractor tool boxed staff about the use of access gate, use caution and obey road rules. |
| Call out | 19/12/2016 13:05 | Functionality change at Glencoe Road intersection, additional travel distance; inadequate consultation process | 04- Complaint, Consultation process: Inadequate consultation | Complaint about lack of consultaition regarding changes to intersection | Advised doorknock would be carried out to meet with affected residents to discuss concerns and seek resolution. | Closed | Intersection design altered to reinstate functionality |
| Call in (specify team member) | 23/12/2016 12:09 | traffic safety - (Trustums Hill) public vehicles | 04- Complaint, Traffic and transport: Traffic safety | Complaint about public vehcles exiting the Pacific Highway and using a local road as a rat run | Stakeholder advised area would be inspected. Stakeholder informed parrawebbing installed to stop vehicles using access. | Closed | Parrawebbing installed to block gap in road allowing access |
| Call in (1800 778 900) | 10/01/2017 14:29 | Construction noise, truck on Uralba Street Woodburn | 04- Complaint, Noise | Complaint about noise and speeding of heavy vehicles | Stakeholder was informed about in-vehicle monitoring system (IVMS) installed in project vehicles which monitors speed and location. Meeting held with stakeholder to advise of IVMS review and offer opportunity to attend noise monitoring being carried out to provide more information about how noise is monitored and mitigated. | Closed | In-vehicle monitoring systems for trucks were checked and it was confirmed that the trucks were not exceeding speed limit in the area. Stakeholder attended noise monitoring and where the stakeholder confirmed with the project team that the trucks were not exceeding the noise limits |
| Call in (specify team member) | 2/12/2016 12:49 | Property inundation | 04- Complaint, Water: Drainage | Complaint about water not draining from property access track | Stakeholder advised water would be pumped from access track to address stakeholder's complaint. | Closed | Water pumped from access track. |
| Meeting | 9/01/2017 10:33 | Drainage | 04- Complaint, Water: Drainage | Complaint about water not draining from property | Property was visited to understand property condition and stakeholder concerns.Iterim actions agreed with stakeholder including installing pump. | Closed | Pump installed - Investigate if a sump needs to be installed Culvert under the embankment to be installed in the next two weeks, and to pump again if required in the meantime. Investigate drainage design amendments (long term) |
| Call in (specify team member) | 2/12/2016 12:44 | Adequacy of gate latch installed, did not keep cows in paddock | 04- Complaint, Property and land use: Impact to agricultural activities | Complaint about livestock entering work site due to faulty gate latch | Property was visited to inspect existing latch, stakeholder informed latch would be replaced to address complaint. | Closed | New gate latch installed. |
| Call in (specify team member) | 28/02/2017 12:30 | Drainage | 04- Complaint, Water: Flooding, Water: Drainage | Complaint about potential flooding impact due to wet weather event | Stakeholder provided infromaiton about actions beign taken to minimise impacts including starting to pump water from the property across the work area. | Closed | Update provided about activities being carried out to minimise impact of wet weather event including starting to pump water from the property across the work area. |
| Call in (specify team member) | 16/03/2017 11:00 | Water inundation at property | 04- Complaint, Water: Flooding, Water: Drainage | Complaint about water not draining | Stakeholder was advised sheet piles could not be removed immediately due to safety risk, however, the project team would take alternative action to assist water to flow through the area including installing diversion drains. | Closed | Diversion drains in place. Sheet piles removed once it was safe to do so |
| Call in (specify team member) | 22/03/2017 15:57 | Noise compression breaking of trucks | 04- Complaint, Noise and Vibration: Noise – construction | Complaint about noise from compression braking | Stakeholder advised quarry had spoken to drivers about the use of compression braking. Requested stakeholder continue to report if compression braking was being used in the area. | Closed | Quarry was requested to advise drivers to limit the use of compression brakes near residential areas, Quarry confirmed they have tool boxed use of compression braking with drivers |

Appendix C1 Minister's Condition of Approval C2 Incident

Tuesday 17 January 2017

Karen Harragon
Secretary
NSW Department of Planning and Environment
PO Box 39
SYDNEY NSW 2001

Attention: Michael Young

Re: Pacific Highway Upgrade – Woolgoolga to Ballina Project (Sections 3 to 11) – Minister's Condition of Approval C2 incident

Dear Michael

I am writing to advise that during the recent shutdown period for Roads and Maritime Services' Woolgoolga to Ballina Pacific Highway upgrade, between Friday 23 December to Monday 9 January, we had a problem with our project 1800 number. This number is provided to our stakeholders and our community members as a way to contact the project team with inquiries and complaints. We also have an email address for them to use.

Unfortunately due to an inadvertent administrative mistake, the 1800 number was diverted to a phone number that was not actively managed during this period. However, the project email address was proactively managed with inquiries and complaints being dealt with during this period. This problem has not previously occurred on our project.

While we met our Condition of Approval (Complaints and Enquiries Procedure C2) to have the number operating, we did not meet our obligation in the approved Communications and Engagement Strategy which required us to respond to phone calls immediately or within two working hours.

We have contacted people who left a message to apologise for the delay in our response. The calls mainly related to employment or other general inquiries, rather than construction impacts. We regret this mistake and have immediately put in place a plan to ensure it does not happen again. We are also carrying out an internal investigation to ensure long term procedures are implemented.

I trust this advice will satisfy any concerns the Department. If you would like to discuss this issue further, please contact Pacific Complete Communications and Community Relations Manager Bronwyn Campbell on 0429 548 007.

Yours sincerely



Robert (Bob) Higgins
General Manager, Pacific Highway
Roads and Maritime Services