



Transport
Roads & Maritime
Services

An aerial photograph showing a long, narrow strip of cleared land for highway construction cutting through a dense green forest. A road is visible on the right side of the cleared area, with some construction equipment and materials on the left. The background shows a valley with a river and distant hills under a clear blue sky.

Oxley Highway to Kempsey
**Construction compliance
tracking report -
22 July 2014 to 21 January 2015**

March 2015

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Document control

File name	150319_CCR_report_rev2.docx
Report name	Oxley Highway to Kempsey Construction compliance report 1 – 22 July 2014 to 21 January 2015
Document version	Revision 2.0
Date	19 March 2015

Summary

Background

On behalf of the Australian and NSW governments, Roads and Maritime Services (Roads and Maritime) is currently constructing the Oxley Highway to Kempsey Pacific Highway Upgrade (the Project). The Project is 37 kilometres in length, commencing approximately 700 metres north of the Oxley Highway interchange and continuing northwards to tie in with the dual carriageways of the Kempsey to Eungai Pacific Highway Upgrade.

Roads and Maritime will construct and open the Project in stages. The stages of the Project are:

- Stage 1: The Sancrox Traffic Arrangement works located about two kilometres north of the Oxley Highway / Pacific Highway intersection.
- Stage 2: Kundabung to Kempsey Stage consisting of about 14 kilometres of dual carriageway, commencing north of Barrys Creek near Kundabung (chainage 24,000) and connecting to the Kempsey Bypass at Stumpy Creek (Chainage 37,800).
- Stage 3: Oxley Highway to Kundabung Stage consisting of about 24 kilometres of dual carriageway, commencing just north of the Oxley Highway / Pacific Highway intersection (chainage 700) and connecting with the Kundabung to Kempsey stage just north of Barrys Creek (chainage 24,000).

Compliance Tracking Program

Roads and Maritime prepared a Compliance Tracking Program (CTP) in response to the MCoA B24. The CTP, among other things, details information that will typically be included in the construction compliance tracking reports, including:

- Scope of the activities undertaken during the reporting period.
- Performance of environmental controls that have been implemented.
- Compliance with CoA and revised SoCs 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 environmental review group (ERG) inspections undertaken during the reporting period.
- Detail of substantiated environmental complaints received, responses taken and current status (ie open or closed).

This report provides the information outlined above.

Key construction activities

Construction commenced on all stages of Project during the reporting period. Some of the key activities included:

- Establishment of major site compounds and satellite ancillary facilities.
- Vegetation clearing including the implementation of a two-stage clearing process on all stages of construction. Much of the vegetation cleared has been mulched and stored for later reuse.
- Topsoil stripping and storage for future reuse during restoration and landscaping activities.
- Progress on earthworks on all stages.
- Installation of environmental controls including clean water diversions, temporary water quality control basins, sediment fencing and in-line check structures.
- Bridge works on Stage 1 associated with a new crossing of the Pacific Highway.

Approvals

There were six statutory approvals in effect during the reporting period:

- Commonwealth controlled action approval (held by Roads and Maritime).
- Part 3A project approval, as modified in 2012 and 2013 (held by Roads and Maritime).
- Environmental Protection Licence 20419 for Stage 1 works (held by Ferrovial Agroman (Australia) Pty Ltd).
- Environmental Protection Licence 20487 for Stage 2 works (held by McConnell Dowell Constructors (Australia) Pty Ltd).
- Environmental Protection Licence 20482 for Stage 3 works (held by Lend Lease Engineering Pty Ltd).
- Surface water permit (30PE002479) from NSW Office of Water (held by by McConnell Dowell Constructors (Australia) Pty Ltd).

Implementation and performance of environmental controls

Construction activities were undertaken commensurate with the implementation of environmental management measures and procedures documented in the Stage 1, Stage 2 and Stage 3 construction environmental management plans. Controls were generally effective at avoiding or minimising environmental impacts.

Impacts on adjacent landowners were minimised as far as practicable with the early implementation of Project boundary fencing, alternative access arrangements and extensive landowner consultation. Some complaints were received in relation to construction vehicles temporarily blocking property access. The Project team responded urgently to these complaints and carried out toolbox training sessions for site personnel across the project to avoid reoccurrences.

Impacts on native vegetation were controlled through pre-clearing surveys, delineation of areas to be cleared and those to be protected, and the implementation of a two-stage clearing protocol. The loss of hollows attributable to vegetation

clearing across the Project is being offset by the relocation of salvage hollows and the installation of nest boxes on Stage 2 and Stage 3. More than 60 per cent of proposed nest boxes have been installed up to and including this reporting period (ie about 150 on Stage 2 and about 280 on Stage 3),

Erosion and sediment controls, including water quality control basins, were implemented as early as possible following clearing and prior to topsoil removal to control water quality. Management and maintenance of these basins, along with various other in-train erosion and sediment control measures, is a key priority and are being implemented in accordance with the "Blue Book".

Managing the propagation of airborne dust particulates has been a high priority during this reporting period. The exposure of large areas of unconsolidated soils and below average rainfall has necessitated the implantation of various mitigation measures including, but not limited to, sterile cover crops to stabilise areas, use of water carts, application of soil binding polymers and adapting construction activities. Dust has been monitored across the Project during the reporting period and dust levels remain below the annual rolling average criteria of 4g/m²/month.

Heritage sites to be retained have been protected during construction. Sensitive areas have been delineated with barrier fence and signage. These sites are inspected routinely as part of an ongoing environmental inspection programme.

Environmental monitoring

Air quality monitoring on the Project indicates that dust deposition rates are within the requirements of the respective construction environmental management plans. Individual monthly exceedances were experienced, however, these generally related to periods prior to the commencement of construction on a particular stage. Dust deposition rates remain below the annual rolling average criteria of 4g/m²/month.

Construction noise monitoring was undertaken on Stage 1 and Stage 3 during the reporting period. There were no exceedances of the calculated noise management levels attributable to Project works. On Stage 2, the Construction Noise and Vibration Management Plan requires quarterly unattended monitoring, due to commence in February 2015.

Surface water and groundwater quality monitoring has been undertaken in the lead up and during construction. The results of this monitoring and an associated discussion will be provided in a separate water quality report.

Community engagement

Twenty-nine complaints were received during the reporting period. The main broad categories related to traffic management, road design, worker behaviour, dust and property access. Roads and Maritime and its construction partners respond to complaints on a case by case basis and have invested substantial resources to investigate the causes and implementing additional management practices where necessary. This has included at times additional site resources, changes or improvements to site practices and direct liaison with complainants with the provision of additional information as required. All complaints, with the exception of three, were closed out during the reporting period. The open complaints relate to road design matters and are the subject of ongoing assessment. Complainants have been kept informed of progress.

Roads and Maritime has engaged the community and stakeholders in a number of ways during the reporting period. In excess of 170 face to face meetings have been

held, more than seven letters to the householder distributed and the Project website updated. There have also been two public displays during the reporting period.

Other matters

Roads and Maritime's construction partners on Stage 1, Stage 2 and Stage 3 carried out a diversity of general induction and subject-specific training during the reporting period. In excess of 1700 general inductions were carried out covering environmental awareness, safety and quality matters. Specific erosion and sediment control training has also been undertaken across the Project by the soil conservationist.

Inspections by the Environmental Representative generally occur fortnightly and resulted in minor improvement suggestions on topics such as maintenance of erosion and sedimentation controls. While some issues and deficiencies were identified during the inspections, positive feedback was also received on good site planning and management practices.

There were 13 incidents on the Project during the reporting period. Approximately 50 per cent were categorised as category 1 incidents in accordance with the Roads and Maritime environmental incident reporting and classification procedure. Category 1 incidents related to vegetation clearing, a pollution incident and construction works beyond the scheduled premises boundary. A number of actions were initiated in response to the incidents both at the time and following debriefs to prevent reoccurrences. Follow up action included further training of staff and contractors, amendments to procedures and the implementation of additional controls.

Innovations and highlights

To promote environmental best practices on the Oxley Highway to Kempsey Upgrade Project, environmental innovations that benefit the upgrade and reduce environmental impacts are encouraged and tabled for discussion in many forums: daily pre-start talks, toolbox talks, weekly construction team meetings, environmental team meetings, management team meetings, regulatory inspections and internal and external audits.

Innovations and highlights during the reporting period have included, but are not limited to:

- The trial of "Geospray" to stabilise constructed drainage channels on site on Stage 3.
- Provision of juvenile eucalyptus vegetation salvaged during the clearing process to Port Macquarie Koala Hospital on Stage 1.

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1 Introduction

1.1 The Project

On behalf of the Australian and NSW governments, Roads and Maritime Services (Roads and Maritime) is currently constructing the Oxley Highway to Kempsey Pacific Highway Upgrade (the Project). The Project is 37 kilometres in length, commencing approximately 700 metres north of the Oxley Highway interchange and continuing northwards to tie in with the dual carriageways of the Kempsey to Eungai Pacific Highway Upgrade. The Project involves the duplication of the existing highway, except for sections in the vicinity of the Hastings River and Wilson River that deviate from the existing highway, and a bypass of Telegraph Point. The existing highway will be retained wherever possible for use as a service road or local road connection. Figure 1-1 shows the location of the Project.

Roads and Maritime will construct and open the Project in stages. The stages of the Project are:

- Stage 1: The Sancrox Traffic Arrangement works located about two kilometres north of the Oxley Highway / Pacific Highway intersection. It is anticipated that this stage of the Project will open to traffic mid 2015.
- Stage 2: Kundabung to Kempsey Stage consisting of about 14 kilometres of dual carriageway, commencing north of Barrys Creek near Kundabung (chainage 24,000) and connecting to the Kempsey Bypass at Stumpy Creek (Chainage 37,800). It is anticipated that this stage of the Project will open to traffic at the end of 2016.
- Stage 3: Oxley Highway to Kundabung Stage consisting of about 24 kilometres of dual carriageway, commencing just north of the Oxley Highway / Pacific Highway intersection (chainage 700) and connecting with the Kundabung to Kempsey stage just north of Barrys Creek (chainage 24,000). It is anticipated that this stage of the Project will open to traffic mid 2017.

1.2 Project approval

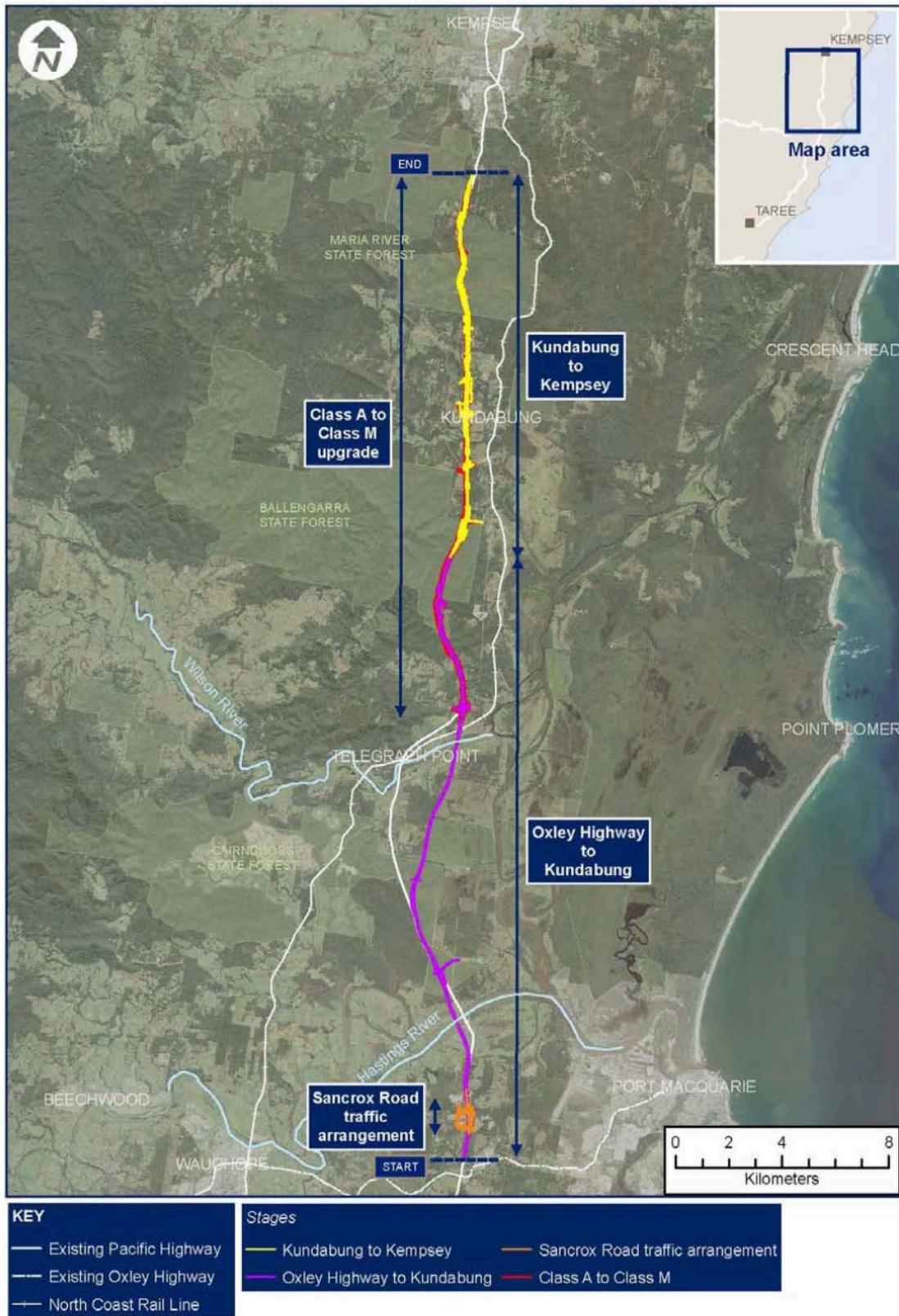
On 8 December 2006, the Project was declared by the then Minister for Planning to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies. An environmental assessment was prepared and placed on public exhibition for 30 days between September and October 2010. Following consideration of submissions made during the exhibition period, the submissions report, including changes to the proposal following consideration of submissions, was submitted to the Minister for Planning and Infrastructure seeking approval. Approval of the Project was granted on 8 February 2012, subject to a number of Conditions of Approval (MCoA).

At the request of Roads and Maritime, the Minister modified the approval on 20 November 2012 to allow for minor ancillary facilities (lunch sheds, office sheds and portable toilet facilities) that do not comply with the locational criteria for ancillary facilities (MCoA C28) to be assessed and approved by the Environmental Representative. On 15 November 2013, the approval was further modified to provide certainty with regard to the management of heritage during construction and allow for pre-construction detailed survey and salvage of heritage sites not listed in the MCoA and/or environmental assessment.

On 24 January 2014, the Project (inclusive of all modifications) was approved under the *Commonwealth Environment Protection Biodiversity Conservation Act 1999* (EPBC Act), subject to 15 conditions. At the request of Roads and Maritime, a variation to the approval was provided on 3 June 2014 to extending the timeframe for submission of the Biodiversity

Offset Management Plan under condition 5. On 10 October 2014, a further variation to the approval was provided in relation to the definition of the Project corridor detailed at definition 1 of the approval.

Figure 1-1 Location of Oxley Highway to Kempsey project



1.3 Commencement of construction

Under MCoA B24 (a) of the Project approval, Roads and Maritime notified the Director-General that construction of the Oxley Highway to Kempsey Pacific Highway Upgrade commenced on 22 July 2014.

1.4 Purpose of this report

This report has been prepared to address MCoA B24 (c) of the planning approval that deals primarily with compliance matters. Under MCoA B24 (c) a report outlining the status of compliance must be provided to the Director-General at least one month prior to the commencement of construction and operation, and at other intervals during construction.

Roads and Maritime prepared a Compliance Tracking Program (CTP) in response to the MCoA B24. The CTP was subsequently approved by the Director-General on 22 July 2013, and among other things, outlines the frequency and nature of compliance reporting. Pre-construction compliance reports for each stage of construction have previously been submitted to the Director-General. This report has been prepared to address Roads and Maritime's commitment to provide a report on the status of compliance at six monthly intervals during construction.

Section 2.3 of the CTP details information that will typically be included in the construction compliance tracking reports. Table 1-1 lists the commitments made by Roads and Maritime and where each has been addressed in this report.

Table 1-1 Requirements for six monthly construction compliance tracking reports

Req. No	Requirement	Where presented in this report
1	Scope of the activities undertaken during the reporting period.	Section 1
2	Performance of environmental controls that have been implemented.	Section 3
3	Compliance with CoA and revised SoCs as recorded in the compliance tracking tables.	Section 2
4	Non-compliances during the reporting period.	Section 6
5	Detail of all incidents recorded and action taken during the reporting period.	Section 6
6	Outcomes of monitoring undertaken over the reporting period and review of compliance against relevant criteria.	Section 4
7	Significant outcomes of audits and environmental review group (ERG) inspections undertaken during the reporting period.	Section 6
8	Detail of substantiated environmental complaints received, responses taken and current status (ie open or closed).	Section 5

Roads and Maritime will make this, and future compliance tracking reports, publically available on the Project website.

1.5 Construction activities and progress during the reporting period

Between 22 July 2014 and 21 January 2015, construction activities were undertaken on all stages of the Project. Table 1-2 outlines the key construction activities either in progress or completed within the reporting period.

Table 1-2 Key construction activities during the reporting period

Activity	Detail of progress
Stage 1 – Sancrox	
Environmental controls	<p>Installation of three temporary construction basins including:</p> <ul style="list-style-type: none"> • CBA – Capacity 294kL – Located adjacent to Service Road 1 – Chainage 670. • CBC – Capacity 494kL – Located adjacent to Fernbank Creek Road – Chainage 680. • CBD – Capacity 453kL – Expressway Spares Yard – Chainage 180. <p>Installation of temporary waterway crossings prior to the installation of new culverts (two on Sancrox Service Road 1 and two on Sancrox Service Road 3). Existing culverts used where possible for clean-water diversions during the construction of permanent culverts along Sancrox Road and Fernbank Creek Road.</p> <p>Installation of clean-water diversions and bunds to prevent upslope runoff from entering areas disturbed by construction.</p> <p>Installation of erosion control measures included stabilisation of stockpiles with hydromulch, revegetation by hydromulching and hand seeding, placement of erosion control products such as jute mesh and geotextile fabric covering where possible.</p> <p>Provision of sediment controls such as sumps, mulch bunds, sediment fence, geotextile fabric filter fence, rock socks and checks, where required.</p>
Compounds	<p>Establishment of the main site compound north of Sancrox Road between the Pacific Highway and quarry access. This compound was established during pre-construction prior to the current reporting period.</p>
Vegetation clearing	<p>All vegetation clearing for the main alignment, temporary access tracks and stockpile locations was completed during the reporting period (about 7 hectares). Minor clearing for permanent boundary fencing remains outstanding.</p>
Earthworks	<p>Earthworks in progress during the reporting period included topsoil stripping and storage, access tracks, service roads, temporary basin construction and bridge abutments at the southern extent of the works.</p> <p>About 30,000 cubic metres of material has been stockpiled for re-use on Stage 3 of the Project. About 250 cubic metres of acid sulfate rock (ASR) generated from piling activities at the bridge over the Pacific Highway has been treated and will be reused on the Project.</p>
Structures	<p>Piling works at abutments and centre pier for bridge over the Pacific Highway commenced during the reporting period.</p>

Activity	Detail of progress
	<p>Concrete pours for the western bridge abutment and pile cap also commenced. Preparatory activities for the receipt of bridge super-T girder delivery were underway late during the reporting period. It is anticipated that these bridge components will be delivered during the first quarter of 2015.</p> <p>Box culvert installation works were in progress at the quarry entrance during the reporting period.</p>
Paving	<p>No permanent paving activities were in progress during the reporting period. Temporary paving activities to allow for the later construction of the main alignment were either completed or in progress. These included:</p> <ul style="list-style-type: none"> • Temporary quarry access track. • Temporary Roads and Maritime depot access. • Cassegrain Winery temporary access / entrance. • The Stage 3 contractor's compound and ancillary site 3 stockpile entrance.
Rehabilitation	<p>Small areas of rehabilitation were in progress or completed using either hydromulch or hand seeding during the reporting period. Locations included:</p> <ul style="list-style-type: none"> • Service installation areas located outside the main alignment. • The entrance to the Stage 3 contractor's compound and Ancillary Site 3 stockpile. • Batter slopes along the temporary Roads and Maritime, and Cassegrain Winery entrances. • Batter slopes of Cut 1 on Service Road 1.
Stage 2 – K2K	
Environmental controls	<p>Various environmental controls were installed at key locations along the corridor in preparation for, or subject to, construction works during the reporting period. These controls included:</p> <ul style="list-style-type: none"> • Five temporary water quality basins. • Four permanent water quality basins. • Clean water catch drains. • Temporary waterway crossings. • Sediment fencing, mulch bunds and silt traps. • Clearing limit temporary fencing. • Sensitive area fencing and signage.
Fauna mitigation	<p>Fauna mitigation measures including 155 nesting boxes (about 60 per cent of the total number required on Stage 2) and frog fencing in the vicinity of waterway crossings were installed during the monitoring period. Further nest boxes and fauna exclusion fencing will be installed during subsequent reporting periods.</p>
Compounds	<p>The main site compound off Kundabung Road was established and commenced operation on 15 December 2014. The site when fully complete will host the majority of construction and administrative staff for Stage 2, along with a Roads and Maritime personnel working on this stage. It will also include a batch plant and workshop facilities.</p>

Activity	Detail of progress
	Two minor satellite site compounds were also established at Gate 17 (Joan's Rest) and Gate 5. These sites support active work zones in progress during the reporting period.
Vegetation clearing	Clearing of about 35 hectares of vegetation.
Earthworks	Topsoil stripping and preliminary cut to fill operations commenced at various locations (about 500 cubic metres).
Structures	<p>Works commenced at three box culverts located at:</p> <ul style="list-style-type: none"> • Chainage 24,430. • Chainage 24,700. • Chainage 34,700. <p>Works at these sites include the installation of waterway diversions as required, earthworks and pouring of concrete blinding. Activities to complete these culvert installations will take place during the subsequent reporting period.</p>
Other	About 2.3 kilometres of boundary fencing was installed during the reporting period.
Stage 3 – OH2Ku	
Environmental Controls	<p>Various environmental controls were installed at key locations along the corridor in preparation for, or subject to, construction works during the reporting period. These controls included:</p> <ul style="list-style-type: none"> • 22 temporary water quality basins, of which three basins will be converted to permanent basins. • Clean water diversion drains • Temporary waterway crossings. • Sediment fencing, mulch berms, bunding around stockpiles with pump-out capabilities, and geotextile fabric lined drains. • Clearing limit and temporary frog fencing. • Sensitive area fencing and signage.
Fauna mitigation	About 280 nest boxes on Stage 3 construction (about 60 per cent of the total number proposed for Stage 3) were installed during the reporting period. Frog fencing was installed in the vicinity of a number of waterway crossing that are known to support frog and/or their habitat. Further measures will be installed during subsequent reporting periods.
Compounds	The main site compound located at chainage 7,000 north of the Hastings River was established and commenced operation. This facility will host the majority of the Stage 3 contractor's construction and administrative staff, as well as Roads and Maritime personnel working on Stage 3 of the Project. A further site compound for construction staff working primarily along the northern section of Stage 3 was also established off Cooperabung Drive.
Vegetation Clearing	Clearing of about 53 hectares of vegetation.
Earthworks	Commencement of cut to fill operations between chainage 6,000 and chainage 8,200
Other	About 5.4 kilometres of boundary fencing were installed during the reporting period.



View north of Sancrox Traffic Arrangement works (St 1)



View west of new bridge over the existing Pacific Highway (St 1)



View north along alignment over the Hastings River (St 3)



View south along the alignment toward the Hastings River (St 3)



View north of Wilsons River along alignment (St 3)



View north along alignment toward Cooperabung Range, showing the northern ancillary site (St 3)



View of Stage 2 main compound of Kundabung Road (St 2)



View south toward transition between Stage 2 and Stage 3 at Barrys Creek (St 2)



View north along alignment toward Kempsey Bypass in Maria River State Forest (St 2)



View north toward Kempsey Bypass (St 2)

2 Approvals

2.1 Statutory approval

Table 2-1 lists the statutory approvals in effect during the reporting period.

Table 2-1 Statutory approvals

Stage	Approval	Authority	Holder	Date of issue
All	Commonwealth controlled action approval as modified in June and October 2014	Department of the Environment	Roads and Maritime	24 January 2014
All	Part 3A project approval as modified in 2012 and 2013	NSW Planning and Environment	Roads and Maritime	8 February 2012
1	Environmental Protection Licence 20419 Scheduled activities: <ul style="list-style-type: none"> Crushing, grinding or separating Land-based extractive activity 	Environmental Protection Authority - NSW	Ferrovia Agroman (Australia) Ltd Ptd	10 April 2014
2	Environmental Protection Licence 20487 Scheduled activities: <ul style="list-style-type: none"> Crushing, grinding or separating Land-based extractive activity Road construction 	Environmental Protection Authority - NSW	McConnell Dowell Constructors (Australia) Pty Ltd	10 November 2014
2	Surface Water Permit 30PE002479	NSW Office of Water	McConnell Dowell Constructors (Australia) Pty Ltd	31 October 2014

Stage	Approval	Authority	Holder	Date of issue
3	Environmental Protection Licence 20482 Scheduled activities: <ul style="list-style-type: none"> • Crushing, grinding or separating • Land-based extractive activity • Road construction 	Environmental Protection Authority - NSW	Lend Lease Engineering Pty Limited	19 September 2014

2.2 Compliance with approvals

Appendix A of this report presents the conditions of the NSW Minister for Planning project approval and associated Roads and Maritime's statement of commitments, and provides detail on the status of compliance for each.

2.3 Compliance management system

2.3.1 Commitments, obligations, undertakings and requirements

Roads and Maritime has identified relevant commitments, obligations, undertakings and requirements (COURs) in the environmental assessment and approval documents for the Oxley Highway to Kempsey Pacific Highway Upgrade Project. The COURs are held in a database and assist Roads and Maritime to manage compliance and contractual risks.

2.3.2 Project-wide compliance system

The Oxley Highway to Kempsey Pacific Highway Upgrade Project is being constructed in three construction stages by three contractors. Consequently, Roads and Maritime maintains a project-wide system to hold all COURs. The three construction contractors use similar systems and have primary responsibility for complying with COURs relevant to their construction stage and maintaining their compliance status. Roads and Maritime compiles their information into its project-wide system.

Reporting templates have been created for Environmental COURs from the Project approval and associated statement of commitments. The compliance status of these COURs is updated by the three contractors and Roads and Maritime every six months and is linked to the internal audit under MCoA B24(d). Depending on each COUR's requirement, some were closed during the detailed design or pre-construction periods; others will remain open until the operation phase.

2.3.3 Stage 1 compliance management

On Stage 1, a web-based system (Team Binder) is used to ensure that Project requirements are fulfilled and implemented as required. The system allows for the easy tracking of compliance with hold points. It also allows compilation of registers related to training undertaken by staff, and a system of document management to ensure that all previous

iterations and revised copies of documents are available to all staff. A program of review and revision for all plans is scheduled within the system.

In addition, a series of spreadsheet registers to record complaints, inductions, incidents and other related matters are also maintained.

2.3.4 Stages 2 compliance management

Roads and Maritime's construction partners on Stage 2 have implemented an ISO 14001 accredited Environmental Management System (EMS) that forms part of the integrated McConnell Dowell Management System (MMS). The MMS provides the framework for managers to implement specified corporate standards and practices in a consistent manner. It defines the application of work practices, processes, and systems for engineering, acquisition of materials, equipment and services, construction, and other services related to tendering and project execution.

The Stage 2 EMS contains:

- Hazard and Risk Identification.
- A Construction Environmental Management Plan (Environmental Management Sub-Plans and strategies) and associated approval requirements.
- Environmental Work Method Statements.
- Progressive Erosion and Sediment Control Plans.
- Sensitive Area Plans.
- Construction Execution Plans.
- System procedures and forms.

2.3.5 Stage 3 compliance management

On Stage 3, compliance with the COURs are tracked and managed using a series of compliance tables that are updated at frequent intervals. These tables list individual approval requirements, when a requirement needs to be completed, the person(s) responsible, whether the status is compliant or not, and a link to documentation or records used as supportive evidence.

3 Implementation and performance of environmental controls

The environmental assessment, subsequent environmental assessments and approved construction management documentation outlined a comprehensive suite of environmental controls and management practices to minimise the Project’s impacts on the environment. Table 3-1 provides a summary of the key environmental controls implemented during this reporting period and their effectiveness.

Table 3-1 Key environmental controls and their ongoing performance

Environmental issue	Environmental controls	Performance of environmental controls
Land use and social	<ul style="list-style-type: none"> • Installation of new property boundary fencing. • Maintenance and/or provision of alternative property access. • Consultation with directly and indirectly affected landowners. 	<ul style="list-style-type: none"> • About 7.6 kilometres of boundary fencing was installed on the Project during the reporting period (2.3 kilometres on Stage 2 and 5.4 kilometres on Stage 3). Efforts have concentrated on areas of agricultural land where stock grazing activities about the corridor. • Access has been maintained to all affected properties on the Project. Five alternative accesses to residential/rural properties on Stage 3 have been installed where the Project had impacted original formalised accesses. On Stage 1, modified access arrangements have been implemented for Cassegrain Winery, Roads and Maritime regional depot and residents and businesses impacted by temporary road closures of Sancrox Road and Fernbank Creek Road. • Extensive consultation with directly and indirectly affected landowners, as well as local road users, in the lead up to construction and during this first reporting period has been undertaken across the Project. Consultation has focused on when specific impacts might be experienced, the implementation of alternative arrangements (eg detours) and duration of anticipated impacts. On Stage 1, routine monthly consultation with adjacent businesses provides an opportunity for the Project team to outline upcoming activities and for the businesses to advise of any key activities or events they have planned. • There have been three property/business access related complaints during the reporting period.
Hydrology	<ul style="list-style-type: none"> • Installation waterway diversions to maintain capacity during culvert works. • Temporary creek crossing designed to ensure flood impacts are avoided. • Implementation of permanent flood mitigation measures eg raising property access levels, optimising capacity of cross drainage structures to minimise afflux. 	<ul style="list-style-type: none"> • Temporary waterway crossings have been installed extensively across the Project with consideration given to monthly average rainfall and likely storm events. Consideration of existing waterway characteristics is also an important factor with temporary pipes sized to accommodate normal flows and high-flow large aggregate causeways incorporated for moderate flood events. At a number of locations waterway diversions have also been installed to facilitate the offline construction of culvert structures that substantially reduce the need for in-water work.

Environmental issue	Environmental controls	Performance of environmental controls
	<ul style="list-style-type: none"> • Installation of suitable scour protection at culvert inlets and outlets, and bridge abutments and piers. 	<ul style="list-style-type: none"> • The installation of permanent culverts has been a priority during the first reporting period and will continue throughout early 2015. Permanent scour protection has also been installed where possible. Where this has not been possible due to the construction schedule, temporary treatments have been provided by geotextile fabric lining, sediment fencing and gravel bags to stabilise exposed surfaces. • All temporary and permanent waterway crossings, associated stabilising treatments and diversions were regularly monitored during site inspections and have generally performed successfully. Substantial storm events experienced in December 2014 and January 2015 overwhelmed a number of temporary waterway structures across the Project. Damaged caused during the rain events was repaired at the earliest opportunity with improvements to the crossings and/or treatment measures implemented where possible. • Rainfall during the reporting period for four of the six months was below historical averages. December was slightly above the monthly average, with January 2015 experiencing more than four times the historical average for the month. • Permanent flood mitigation measures have not been constructed during the reporting period.
Water quality	<ul style="list-style-type: none"> • Design and construction of clean water diversion drains prior to site grubbing and topsoil stripping. • Construction of temporary and permanent sediment basins. • Effective capture and reuse of water for construction activities. • Water treatment and management. • Implementation of best practice management for the storage and use of fuels and chemicals. 	<ul style="list-style-type: none"> • A total of 30 temporary/permanent construction basins were commissioned across the Project during the reporting period (three on Stage 1, nine on Stage 2 and 22 on Stage 3). • No unplanned basin releases occurred during the reporting period, outside of rainfall events that were greater than the event design capacity. In these circumstances the basins overflowed via incorporated spillways as designed. • Capture and treatment of site runoff continued to ensure water discharged from the Project meets acceptable EPL water quality limits. A substantial proportion of water collected in temporary and permanent water quality basins has been used for construction purposes and dust suppression.

Environmental issue	Environmental controls	Performance of environmental controls
		<ul style="list-style-type: none"> • On Stage 3, a number of farm dams were decommissioned to make way for the Project alignment. Water from these dams were pumped out and reused for construction purposes. • Clean water diversion drains were constructed across the Project prior to grubbing activities and monitored during regular site inspections. • Minor hydraulic spills from on-site plant and equipment were recorded across the Project. All spills were contained and cleaned up promptly, and details recorded in the incident report system. • One category 1 incident occurred on Stage 2 where tannin leachate left site. Upslope controls were insufficient resulting in the downslope controls exceeding capacity during a rain event. A number of modifications to controls across the Stage were implemented to avoid a reoccurrence. • All large generators and pumps on Stage 3 are bunded with a minimum of 110 per cent capacity. Fuels and chemicals stored as per industry best practice across the Project.
Groundwater	<ul style="list-style-type: none"> • Monitoring of groundwater levels and quality 	<ul style="list-style-type: none"> • No groundwater has been intercepted during the reporting period.
Flora and fauna	<ul style="list-style-type: none"> • Sensitive areas and vegetation to be protected with highly visible barriers prior to and during clearing operations. • Two-stage clearing procedures. • Nesting box replacement and habitat rehabilitation. • Installation of frog exclusion fencing and implementation of frog hygiene protocols. • In-situ topsoil stripping and direct placement. 	<ul style="list-style-type: none"> • Ecologically sensitive areas were delineated and signage installed to inform construction personnel and the public of these sensitive areas. Physical barriers in the form of orange barrier fence (or similar) were installed prior to the commencement of vegetation clearing activities. • Clearing for all stages of the Project was undertaken in accordance with the Roads and Maritime two-stage habitat clearing procedures. An ecologist must be on-site during all clearing activities to reduce mortality and injuries to individual animals and to facilitate fauna relocations and safe passage. There were a number of fauna relocations on Stage 2 and Stage 3 prior to and during the clearing operation. While no casualties were recorded on Stage 2, about 25 occurred on Stage 3. Almost 50 per cent of these were bird eggs damaged during felling operations. • Five vegetation clearing related incidents occurred across the

Environmental issue	Environmental controls	Performance of environmental controls
		<p>Project during the reporting period (one on Stage 1, two on Stage 2 and two on Stage 3). Four of these incidents related to clearing beyond the approved clearing area through either a breakdown in procedure and/or human error. The remaining incident involved an individual tree falling from within the approved clearing area to beyond this limit. Negligible damage occurred in this instance. Procedures across all stages of the Project were reviewed and amended to avoid the reoccurrence of further vegetation clearing related incidents. Further training of staff and contractors involved in clearing operations has also undertaken.</p> <ul style="list-style-type: none"> • 60 per cent of nest boxes (or about 430) for various species have been installed prior to and during clearing works across Stage 2 (about 150) and Stage 3 (about 280) of the Project. • Frog exclusion fencing, and vehicle and machinery wash down procedures have been implemented in Giant barred and Green-thighed frog habitats during clearing works. • Weed spraying was successfully carried out at various locations across the Project. • Topsoil stripping and stockpiling for reuse during rehabilitation has occurred extensively across the Project in accordance with the approved soil and water management plans.
Noise and vibration	<ul style="list-style-type: none"> • Standard construction hours. • Assessment and consultation procedures for out of works work. • Monitoring of construction noise and adaptation of construction practices. 	<ul style="list-style-type: none"> • All works were undertaken within standard construction hours or as approved out of hours works. • Out of hours works generally included concrete barrier placement and line marking on the Pacific Highway to minimise impacts on highway traffic. • Noise monitoring was undertaken on a monthly basis on Stage 1 and Stage 3 during the reporting period, with the exception of January 2015 on Stage 1. Noise attributable to the Project on Stage 1 and Stage 3 remained within the calculated noise management levels detailed in the respective construction noise and vibration management sub plans. On Stage 2, the Construction Noise and Vibration Management Plan requires quarterly unattended monitoring, due to commence in February 2015.

Environmental issue	Environmental controls	Performance of environmental controls
		<ul style="list-style-type: none"> • There were no noise management level exceedances attributable to construction works on any Stage. • There were no complaints relating to out of hours works on the Project. • One vibration related complaint was received on Stage 3 during the operation of a vibratory roller. Monitoring was undertaken at the time and determined that levels were within acceptable criteria. Despite this, work practices were modified to further minimise impacts on adjacent residents.
Visual amenity	<ul style="list-style-type: none"> • Early revegetation and implementation of landscaping. • Introduction of landscape features. • Implement urban design principles established in the Environmental Assessment and urban design and landscape plans. 	<ul style="list-style-type: none"> • On Stage 1 roadside batters and drainage lines have been revegetated as soon as possible to improve visual amenity. Due to the early progress of construction on Stage 2 and Stage 3, opportunities to commence revegetation and landscaping have been limited. • Due to the proximity of the Project to the existing road network visual amenity impacts associated with clearing and earthworks will continue for sometime. Efforts continue across the Project to ensure the site is kept neat and tidy eg placing mulch and earth stockpiles between the new alignment and the existing road network and/or residents, removing surplus material no longer required for construction from site as soon as possible.
Traffic	<ul style="list-style-type: none"> • Traffic control plans, including safety zones, diversions, access control, maximum queue lengths during road occupancy. • Community notification (advertisements, letter drops, road signage, radio announcements). 	<ul style="list-style-type: none"> • Traffic control plans have been prepared and are in place across the Project to minimise impacts from interactions between construction traffic and other road users. A number of changes to site access points have been made including the implementation of entry and exist slip lanes. Other measures include the placement of concrete barriers between work areas and the highway to separate construction activities and road users. This serves to improve the safety of both construction works and road users, and also facilitates higher construction speeds zone than would otherwise be permitted without barriers. • There were seven complaints broadly categories as “Traffic Management” related during the reporting period. Due to much of the Project being constructed under traffic this figure is not

Environmental issue	Environmental controls	Performance of environmental controls
		<p>unexpected. However, efforts by community communication teams aim to keep the community informed as thoroughly as possible and minimise impacts through tools including, but not limited to, community notifications, traffic alerts, variable message signage, letterbox drops, face-to-face meetings, community displays, information sessions and telephone contact.</p>
Heritage	<ul style="list-style-type: none"> • Implementation of Heritage Management plan. • Site monitoring. • Environmental Review Group (ERG) meetings. • Training and awareness program. • Preconstruction identification and installation of temporary or permanent fencing. • Vibration monitoring when working close to heritage sites. 	<ul style="list-style-type: none"> • Known heritage sites are delineated with protective fencing and signage, and are highlighted on sensitive area maps that form part of work package documentation. The presence of known heritage items are highlighted in Project inductions and include advice regarding the need to avoid entry unless authorised to do so. These inductions also outline the Roads and Maritime unexpected finds procedure. There are no site works, with the exception of bridge works on Stage 1, that are in close proximity to known heritage items. This site is protected by barrier fence to prevent intrusion during construction. One unexpected find occurred during the pre-construction period on Stage 2. All works in the vicinity of this potential item have been postponed until a suitable assessment has been completed and liaison with relevant agencies finalised. • A cultural heritage training package has been developed on Stage 2 of the Project and is currently under review by the relevant LALC.
Air quality	<ul style="list-style-type: none"> • Monitoring of weather conditions and adapting construction activities to prevailing conditions. • Use of dust suppression measures including water carts, surface treatments and soil bonding polymers. • Use of tarpaulins and geotextile fabric on exposed areas. • Early stabilisation of exposed surfaces including cover crop seeding. • Shaker grids and wash-down facilities at exits to public roads to prevent mud tracking onto public roads. 	<ul style="list-style-type: none"> • The Project teams monitor weather conditions on a regular basis through both the Bureau of Meteorology website and one of three Roads and Maritime site based weather stations. The Project teams are able to identify and respond to prevailing hot, dry and windy conditions through the deployment of water carts for dust suppression as required. In the event conditions become too adverse to allow the appropriate control of dust, construction works that exacerbate dust generation (ie heavy plant hauling material on unseal haul roads) can be suspended and efforts concentrated on minimising dust generation. • There were three dust complaints received during the reporting period.

Environmental issue	Environmental controls	Performance of environmental controls
	<ul style="list-style-type: none"> • Reduced speed limits for light vehicles during dry conditions in high dust areas. • Highly trafficked areas such as compounds and site entry/exit points treated with a bitumen spray-seal or similar to reduce dust generation. 	<ul style="list-style-type: none"> • A number of techniques are being implemented across the Project to minimise the potential for dust generation including, but not limited to, geotextile fabric lining unstable surface such as drainage lines and batters, hydromulching stockpiles if remaining unused for extended periods, application of proprietary products that bond fines together to prevent mobilisation from construction traffic, and reducing site speed limits on unseal surfaces. The Project teams are also spray sealing the access roads and main site compounds, installing rumble grids at access points to the road network and using street sweepers to collect any material unintentionally tracked beyond the construction site. On Stage 3, during wet weather the Project team has also set up a vehicle wash bay to further minimise the potential for mud tracking. • There are 19 dust deposition gauges installed across the Project. While there have been individual monthly exceedances of the 4g/m²/month criteria for total insoluble solids, a number have related to periods prior to the commencement of construction on a specific stage. Across all 19 monitoring stations the annual rolling average remains below the 4g/m²/month criteria for total insoluble solids.
Geology and soils	<ul style="list-style-type: none"> • Retaining topsoil and ground cover vegetation wherever possible, for as long as possible. • Preparation and implementation of Progressive Erosion and Sedimentation Control Plans. • Quick stabilisation of disturbed areas. • Review and advice on erosion and sediment controls by external soil conservationist. • Management of acid sulfate soils 	<ul style="list-style-type: none"> • Progressive erosion and sedimentation control plans (PESCP) have been prepared and implemented across all stages of the Project in the lead up to and following clearing and grubbing, topsoil stripping and earthwork activities. The requirements of the PESCP are communicated to site teams through toolbox training sessions and daily prestart meetings. The PESCP will continue to evolve as site conditions change. A soil conservationist undertakes regular reviews of this documentation. • Tailored erosion and sediment control training courses have been run for key personnel across all stages of the Project including foreman, engineers, leading hands, environmental advisors. • Weekly inspections by an external soil conservationist have been undertaken across all stages of the Project during high-risk clearing and grubbing, and topsoil stripping phases. These regular and frequent inspections will continue while bulk earthworks are in

Environmental issue	Environmental controls	Performance of environmental controls
		<p>progress and site changes are occurring rapidly.</p> <ul style="list-style-type: none"> • Weed free topsoil containing native seed has been stockpiled locally on site for reuse within the general area from which has been collected. Localised rehabilitation efforts using this material will occur as soon as practicable. • Areas within 15 metres of waterways have been stump cut and soil left stable until construction of culverts commences. • Acid sulfate rock on Stage 1 extracted during bridge pier drilling operations was tested, treated and reused on the Project. Similarly, on Stage 3, acid sulfate soil discovered during the telecommunication optic fibre lateral migration works has been treated in accordance with the approved Soil and Water Management Sub Plan. • Progressive stabilisation of disturbed areas such as stockpiles and open drains undertaken. Methods employed include the application of geotextile fabric, jute mesh, sterile cover crop and proprietary soil binding products. • Rehabilitation has commenced in some areas of Stage 1 to control erosion and reduce the potential for impacts during wet weather events. • There were no erosion and sediment control incidents recorded on any stages of the Project during the reporting period.
Waste	<ul style="list-style-type: none"> • Waste minimisation principles adopted and reinforced with personnel during induction and other training. • Segregation, classification and adaptive management of all waste streams. • Reuse of material on-site wherever possible. 	<ul style="list-style-type: none"> • Waste segregation facilities have been set up, or will be as needed, at the main site compounds across the Project. The importance of segregating waste is communicated to all staff, construction personnel and contractors via the Project inductions. On Stage 1, milled pavement and underlying layers of the old formation are being recycled and reused on site. • Topsoil and mulch derived during the clearing and site preparatory activities has been stored for reuse extensively across the Project. The early reuse of topsoil and mulch in landscaping and rehabilitation activities is a priority for Roads and Maritime and its construction partners.

Environmental issue	Environmental controls	Performance of environmental controls
		<ul style="list-style-type: none"> Construction steel is being stored when no longer required and will be transported for recycling as required and/or at the conclusion of the related stage of the Project.



Mulch traps used along Service Road 3 as a sediment control measure (St 1)



Stage 1: Dust suppression in progress on Service Road 3 (St 1)



Erosion and sediment controls on Hansons Quarry Road (St 1)



Rumble grid and rock access point to Ancillary Site 3 stockpile (St 1)



Clean water crossing (St 2)



Upslope clean water diversion and clearing limit flagging delineation (St 2)



Mulch bunding in foreground. Bunding of mulch stockpile with spillway in background (St 2)



Clean water flow line (St 2)



Construction water pipe - this pipe allows site water to flow to a licensed water quality basin without affecting a clean water diversion channel (St 3)



Water quality basin (St 3)

4 Environmental monitoring

Roads and Maritime has undertaken background dust, noise and water quality monitoring (surface and groundwater) in the lead up to construction of the Project. Since the commencement of construction, the respective construction partners have continued to monitor dust and noise. Roads and Maritime have retained responsibility for the monitoring of water quality and this will continue during construction and for a period of up to three years following completion of the Project. Detailed water quality monitoring and analysis of results are contained in stand alone reports and will be provided separately to this construction compliance tracking report.

This section details key monitoring results and analysis of the findings for the reporting period.

4.1 Flora and fauna

A two-stage clearing procedure was implemented across the Project. The procedure included the delineation of clearing areas with coloured tape/exclusion fencing, clearing non-habitat trees, stag watching and spotlighting before clearing habitat trees, leaving all habitat trees for 48 hours before clearing, shaking habitat trees prior to felling to encourage animals to leave or show themselves, soft-dropping trees using grabs and chainsaws, inspecting felled tree hollows and limbs for animals, assisting animals that were injured, and relocating uninjured animals.

Ecologists were on site for all clearing activities to carry out pre-clearing surveys, monitor clearing, relocate animals and care for those injured. Appendix D contains a list of species, where available, that were relocated, injured, euthanased or killed during this period.

On Stage 1, there were two species of animal comprising a total of four relocations during the pre-clearing and clearing process. This included three Lace Monitors and one Blackish Blind Snake. There were no injuries or casualties during Stage 1 clearing. However, road kill on the existing Pacific Highway was observed during the reporting period. On one occasion a kangaroo joey was retrieved from a deceased mothers pouch and provided to the local wildlife rescue organisation.

On Stage 2, there were more than 25 species of animal relocated during pre-clearing and clearing surveys and inspections. There were no recorded injuries or casualties during the clearing process. However, nine species were recorded as road kill on the existing Pacific Highway.

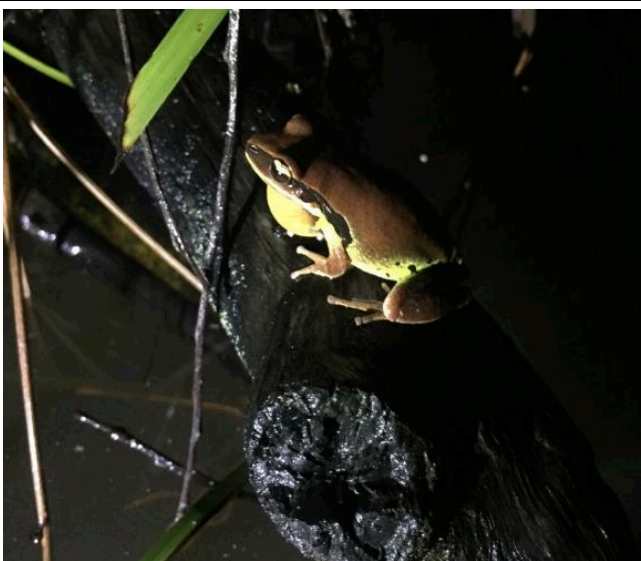
On Stage 3, there were more than 40 species of animal relocated during pre-clearing and clearing surveys and inspections. There were five species of animal either killed or euthanased as a results of clearing on this stage.

A total of 60 per cent of all nest boxes have been installed on the Project to date. This has included more than 150 on Stage 2 and more than 280 on Stage 3. The nest boxes include various sizes and features for a diversity of animals including, but not limited to, bats, gliders, possums, large and small owls, and various sizes of parrots. A number of these have been used to relocated individuals rescued during pre-clearing and clearing surveys. Nest box installation will continue throughout the remainder of the clearing phase. It should also be noted that a number of habitat features including logs, rocks and similar features have also been relocated within the Project boundary during the clearing process. These features supplement the extensive nest box installation program.

Further protocols were implemented in relation to access and/or clearing of vegetation in the vicinity of waterways. In particular, on Stage 2 and Stage 3, plant and personnel wash down

procedures have been implemented to minimise the potential for transmission of chytrid fungus between frog habitats.

A substantial proportion of vegetation clearing has been completed during this reporting period. All but clearing for boundary fencing has been completed on Stage 1 (about 7 hectares), about 40 per cent (about 35 hectares) has been completed on Stage 2 and more than 70 per cent completed on Stage 3 (ie more than 50 hectares). Appendix D contains detail of vegetation clearing by community type for each stage of the Project where currently available. This information will be provided in greater detail in subsequent construction compliance tracking reports.



Threatened Green Thighed Frog (St 3)



Above is 'Nicki' the koala. Relocated from the Project into veterinary care (St 3)



Pre-clearing survey and habitat tree marking (St 1).



Nesting box installation (St 2)

4.2 Heritage

All non-Aboriginal and Aboriginal heritage sites across the Project to be retained have, or will be, protected with barrier fence and suitable signage where appropriate. Sensitive area plans, that form part of construction work packages for all construction areas, also include a visual reference to the location of these sites.

There were no impacts on non-Aboriginal or Aboriginal heritage sites attributable to any stage of the Project during the reporting period. Only works on Stage 1 were located in close proximity to heritage sites being the Sancrox ochre site and sandstone kerb stockpile. Both sites have been protected by Roads and Maritime’s Stage 1 construction partner with temporary fencing and signage.

There was one unexpected heritage find during the lead up to construction on Stage 2. During community consultation a resident informed Roads and Maritime of a possible location of a former coach station site at Kundabung. Roads and Maritime initiated its unexpected finds procedure and works will not commence in this area until a suitable assessment has been completed. Both P&E and OEH have been advised in writing, and an archaeological assessment and proposed research design submitted. Further detail will be provided in the subsequent construction compliance tracking report.



4.3 Noise and vibration

Noise monitoring was undertaken on Stage 1 and Stage 3 in accordance with the respective construction noise and vibration management sub plans. On Stage 2, the Construction Noise and Vibration Management Plan requires quarterly unattended monitoring, due to commence in February 2015. However, this is currently being reviewed to align with the noise monitoring being conducted on the other stages of the project (ie monthly, attended).

On Stage 1, noise monitoring was undertaken at two locations on a monthly basis between August 2014 and December 2014. Monitoring was not undertaken during January due the absence of suitably trained field staff to operate the noise monitoring equipment and prevailing wet weather conditions. Construction activities in progress during the month were consistent with those during earlier months and therefore it has been considered that exceedances of the noise management level were unlikely. There were no exceedances of the noise management level during any monitoring events.

On Stage 3, noise monitoring was undertaken at 12 locations on a monthly basis between December 2014 and January 2015. While there were four exceedances of the calculated

noise management levels, all were considered to be attributable to noise from existing Pacific Highway traffic, or other localised activities unrelated to the Project (eg pets, farming equipment).

Vibration monitoring was undertaken on one occasion on Stage 3 in response to a complaint. While the monitoring confirmed that relevant vibration criteria had not been exceeded, actions were taken to minimise the length and frequency of vibration inducing activities in the area of concern.

Appendix D presents detailed noise data for Stage 1 and Stage 3 construction.

4.4 Air quality

Background air quality monitoring commenced on the Project in March 2013. Monitoring at that time focused on the area around what would be the Stage 1 section of the Project. Similarly, Roads and Maritime's construction partners commenced background air quality monitoring for their respective stages prior to the commencement of construction on those stages. Monitoring on all stages has continued throughout the reporting period.

On Stage 1, air quality is monitored at two locations. There were no exceedances of the $4\text{g}/\text{m}^2/\text{month}$ criteria during the reporting period.

On Stage 2, air quality is monitored at 12 locations. While there were five monthly exceedances of the $4\text{g}/\text{m}^2/\text{month}$ criteria, four occurred prior to the commencement of construction, and the remaining exceedance occurred in excess of 400 metres from an active work area. At all monitoring locations, the annual rolling average remained below the $4\text{g}/\text{m}^2/\text{month}$ criteria.

On Stage 3, air quality is monitored at five locations. There were three monthly exceedances of the $4\text{g}/\text{m}^2/\text{month}$ criteria. At all monitoring locations, the annual rolling average remained below the $4\text{g}/\text{m}^2/\text{month}$ criteria.

Considerable effort is made to minimise the potential for dust emissions on the Project. Mitigation measures in place during the reporting period included:

- Frequent use of water carts during dry periods.
- The use of soil bonding polymers in areas where soil is prone to dust generation.
- Minimising drop distances when tipping loads.
- Covering loads.
- Sealing main site compounds and exit roads.
- Installing shaker grids at exit points to the local road network.
- Reduced speed limits and minimising the use of some machinery in high wind conditions.
- Stabilising stockpiles and exposed areas with sterile cover crop and native seed species when inactive for long periods (ie greater than two weeks).
- Early progress of rehabilitation where possible.

Appendix D presents detailed air quality data for all stages of the Project.

4.5 Landscaping and revegetation

Due to the early stage of construction on the Project, opportunities to implement permanent landscaping and/or revegetation has been limited. Due to the early commencement of Stage 1 and the anticipated conclusion of those works mid 2015, some small areas of rehabilitation

have occurred. Rehabilitation has been undertaken by hydromulching larger areas and hand-seeding smaller areas. Locations where rehabilitation activities have commenced include:

- Service relocation sites beyond the main alignment of the Project.
- The entrance to the Stage 3 contractor's site compound and Ancillary Site 3 stockpile.
- Batter slopes associate with the temporary entrances to the Roads and Maritime works depot and Cassegrain Winery.

As additional areas are completed, further landscaping and rehabilitation activities will commence in accordance with the urban design and landscape plans for the respective stages.



Revegetation of the shoulders on temporary quarry access track (St 1)



Hydromulching of batters along Cassegrains Winery temporary access (St 1)



Revegetation of shoulders adjacent to Stage 3 contractor's site compound access and Ancillary Stockpile 3 (St 1).

5 Community engagement

Roads and Maritime and its construction partners have developed and are implementing a community communication strategy (CCS) for each stage of the Oxley Highway to Kempsey Upgrade Project. The CCSs were approved by the Director-General prior to the commencement of each stage of construction. The strategies outline and promote a diversity of tools to proactively inform and interact with the community, regulatory authorities and interested stakeholders.

5.1 Complaint number and type

Twenty nine complaints were received during the reporting period. General themes included:

- Traffic management including construction signage and traffic control.
- Road design including pavement type, property impacts and traffic generation.
- Dust from construction works.
- Impacts on property access.
- Worker behaviour generally associated with speeding construction vehicles.

5.1.1 Traffic management

Seven complaints broadly categories as “traffic management” have been received across the Project between 22 July 2014 and 21 January 2015. Table 5-1 provides a breakdown of traffic management related complaints.

Table 5-1 Breakdown of traffic management complaints

Complaint type	Number of complaints
Construction vehicles entering or using private accesses to turn around.	2
Roadside construction signage affecting driver vision.	2
Absence of signage or suitable delineation for changed roadside conditions.	1
Area historically used for school children pick-up and drop-off occupied by construction vehicles.	1
Location of traffic control and lack of warning for traffic.	1

All traffic management complaints were investigated. Where controls were implemented in accordance with guidelines and technical specifications, individuals were contacted and controls explained. Where there were opportunities for improvements, alternatives were investigated and implemented wherever possible. In circumstances where construction vehicles have inadvertently used or entered private property accesses, an apology to the landowner was provided and the need to avoid such reoccurrences reiterated through toolbox training sessions to construction workers.

As the key government agency responsible for traffic management, Roads and Maritime recognises its responsibility to operate the road network around its construction projects to minimise safety risks for the travelling public and for construction workers. Traffic

management in construction sites is carefully planned with road safety auditors and the NSW Transport Management Centre to ensure safe and efficient operation of the network.

While every effort is made to address complaints when they arise, Roads and Maritime must, at times, inconvenience the travelling public to keep people safe. To minimise impacts, the Oxley Highway to Kempsey Project team has placed a large emphasis on keeping the local community and Pacific Highway users informed of any impacts that might be expected from construction activities. Substantial resources have been invested in keeping the community informed and to respond to enquires from the public. A list and detail on the community engagement initiatives for the reporting period is provided in section 5.3 below.

5.1.2 Road design

Five complaints broadly categories as “road design” have been received across the Project between 22 July 2014 and 21 January 2015. Table 5-2 provides a breakdown of road design related complaints.

Table 5-2 Breakdown of road design complaints

Complaint type	Number of complaints
Concern that groundwater wells that water is currently drawn will be lost from construction of the Project.	1
Concern regarding the type of pavement proposed and the potential for noise impacts.	3
Concern regarding the potential for traffic generation on local road following implementation of the Project.	1

Road design related complaints were address on a one-on-one basis with those expressing concerns. The resident concerned with the potential for loss of groundwater resources has been provided with alternative groundwater access. There have also been steps to ensure the existing resource remains usable through the implementation of an engineering solution despite the existing access being directly affected by the Project.

Concern regarding the type of pavement and the perceived potential for operation noise impacts remains the subject of an ongoing investigation. Roads and Maritime is currently assessing the need for low noise pavement in the area of concern and is in regular contact with the complainants about the progress. This issue remains open and will be the subject of further discussion in arriving at a final solution.

Concern regarding the increase in through traffic on a local road has been acknowledged by Roads and Maritime. The local road in question is currently a no through road and will following the opening of the Project received traffic from a new interchange. The traffic solution remains unchanged from the Environmental Assessment.

5.1.3 Worker behaviour

There were four complaints regarding worker behaviour all of which related to construction vehicles considered to be speeding on the local road network. In all cases the complaints were investigated. Toolbox training sessions were implemented on the respective stages of the Project to reinforce expectations of worker behaviour when travelling on the public road network. The operation of construction vehicles on public roads will continue to be monitored and issues addressed should they arise.

5.1.4 Dust

Three complaints broadly categories as “dust” have been received across the Project between 22 July 2014 and 21 January 2015. Table 5-3 provides a breakdown of dust related complaints.

Table 5-3 Breakdown of dust complaints

Complaint type	Number of complaints
Concern regarding dust generation from construction activities.	2
Concern that dust monitoring was not occurring in a particular residential area.	1

Complaints relating to dust emissions from site have been dealt with directly by construction personnel. The increased frequency of water cart use has been a direct response to drier conditions where either increased construction traffic or strong winds have results in dust emissions from site. While it is noted that complaints relating to dust were received during the reporting period, it should be noted that dust monitoring across the Project has remained below the annual rolling average of 4g/m²/month.

The complaint relating to the absence of a dust monitoring station within a particular residential area close to the Project was addressed by installation a dust deposit gauge. The complainant was advised that data would be published on a six monthly basis and made publically available.

5.1.5 Property access

Three complaints broadly categories as “property access” have been received across the Project between 22 July 2014 and 21 January 2015. Table 5-3 provides a breakdown of property access related complaints.

Table 5-4 Breakdown of property access complaints

Complaint type	Number of complaints
Temporary road closure inhibited access to local business.	1
Concern that construction vehicles had interrupted property access to Pacific Highway.	2

The loss of access to a local business due to a temporary road closure was the subject of a local newspaper article. Roads and Maritime had consulted extensively with the business affected prior to the closure and had erected signage to ensure patrons were provided with alternative access. Unfortunately, the signage provided did not conform to council requirements and were subsequently removed by the authority. The article was published following the removal of this signage. Since then, Roads and Maritime has continued to liaise with the affected business and steps to install conforming signage have been made. Consultation with the business remains ongoing.

Two complaints were received that related to private property accesses being inhibited by construction vehicles. Following an investigation, the relevant Project teams undertook toolbox training sessions for all personnel working in the affected areas. Visual barriers were

also installed where appropriate to delineate the residents access and to ensure construction vehicles did not inadvertently block the accesses.

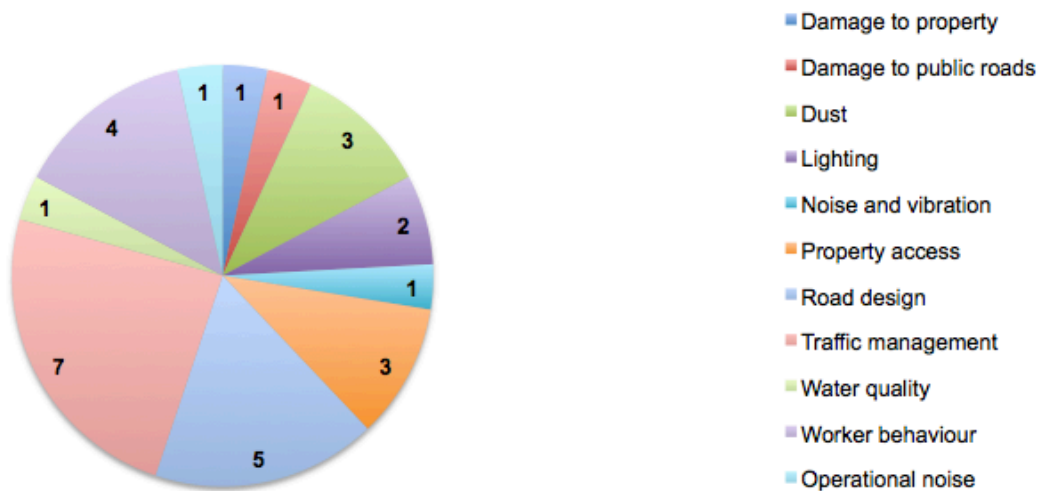
5.1.6 One off complaints

One-off complaints were managed and closed successfully generally by providing information to the resident/s, through one-on-one meetings, or a commitment to implement specific actions in the future.

5.1.7 Breakdown of complaints by type

Figure 5-1 shows the breakdown of complaints by type and number. Appendix B presents a summary of complaints during the reporting period and includes detail on the type of complaint, description, action taken and status.

Figure 5-1 Complaints by type and number



5.2 Complaint management

The community communication team maintains a register of all complaints received from key stakeholders and the public. Complaints are received directly during meetings, by email, letter or via the 1800 number. The team responds to complaints and where practical puts into place mitigation measures to address the issue and reduce the likelihood of future complaints.

The details contained within the community communication register include:

- Date and time of complaint.
- Format (email, phone, person, letter).
- Name, association and contact details.
- Nature of complaint.
- Responding officer and date and details of response.

The community communication team has advised local residents of upcoming construction activities by sending letterbox drops, issuing community updates, emailing, displaying information on the Project website, media releases and by direct consultation. More than 170 meetings were held with property owners and/or relevant stakeholders during the reporting period. These meetings discussed general construction activity in the area.

5.3 Community communication initiatives

A number of community engagement initiatives consistent with the community communications strategy have been implemented during the reporting period. Some of these include:

- Four council liaison group meetings with Port Macquarie Hastings Council, Roads and Maritime and engineering staff from Stage 3.
- Two community information sessions held at Telegraph Point on 21 August and Kundabung and 26 August 2014. Both were very well attended by the local community recording numbers of 55 and 80 people, respectively
- There was one static display and consultation during this period on the urban design and landscape plan for the Project.
- Roads and Maritime's construction partner for Stage 3 opened a community display centre at the site compound. This is open and staffed Monday to Friday, 9am to 5pm. At the centre community members can read a full Project overview, environmental management plans, urban design and landscape plans as well as view interesting display material on bridge construction methods and traffic staging plans.
- Five community updates were issued during the reporting period. Information contained within the updates included an overview of the entire Project with a breakdown of the three stages and progress on construction activities, local road closures associated with Sancrox Traffic Arrangement works. Community updates are distributed at least every three months updating the local community about construction activities and future planned work. Specific notifications on work activities are distributed more frequently informing local residents about construction activities that may affect them or their property, such as out of hours work, or increased haulage on local roads.
- Each stage of the Project has a dedicated web page that includes latest news and photos, and access to key project documents, maps and community information.

Table 5-5 Summary of community communication between July 2014 and January 2015

Communication activity	Number
Advertisements in local papers	6
Presentations to interest groups (eg schools, Australian Trucking Association)	0
Council liaison group meetings	4
Aboriginal focus groups	0
Meetings with adjacent residents and affected businesses	171
Media releases and traffic alerts	12
Community site tours	0
Monthly construction updates	6

Communication activity	Number
Community updates and brochures	5
Project fact sheets	0
Staffed displays / information sessions	2
Static displays	1
Householder letters/notifications	7

6 Other compliance matters

6.1 Training and awareness

Training and awareness for management, field staff and contractors is integral to the successful delivery of the Oxley Highway to Kempsey Upgrade Project.

Prior to working on site, all personnel are required to attend a Project stage site-specific induction. Induction training is tailored specifically for each stage, but all share common themes and objectives. Induction training on each of the stages provided an overview of:

- Relevant details of the CEMP including purpose and objectives.
- Key environmental issues on topics such as flora and fauna, noise and vibration, soil and water, waste, air quality and heritage.
- Conditions of environmental licenses, permits and approvals.
- Specific environmental management requirements and responsibilities.
- Mitigation measures for the control of environmental issues (for example threatened species, EECs, frog hygiene protocols).
- Incident response and reporting requirements.

A substantial number of staff, construction personnel, contractors and special service providers were inducted during the reporting period. The total number of inductions for each stage for the reporting period was:

- 407 on Stage 1.
- 580 on Stage 2.
- 804 on stage 3.

Each stage of the Project has also conducted individual training needs analysis and has tailored further training to meet the needs of the respective stage.

On Stage 1, further training has included:

- Erosion and sediment control training conducted by the Project soil conservationist. This training was undertaken on two occasions for site engineers and foreman, and labourers and leading hands.
- Naturally occurring asbestos training.
- Project team toolbox training sessions on five occasions covering various broad and specific issues such as batter chute construction.

On Stage 2, further training has included:

- Erosion and sediment control training conducted by the Project soil conservationist. This training was undertaken for personnel in supervisory roles such as foreman, leading hands, engineers and environmental advisors.
- CEMP and environmental systems training.
- Environmental work method statement (EWMS) training. EWMS covered during this training have included pre-construction surveys, early works, clearing and grubbing, sediment basin design, construction and maintenance, and sediment basin operation, and dewatering.

- Weekly toolbox training sessions on various topics including, but not limited to, clearing limit protection, flora and fauna, tannin management, dewatering and mud tracking.

On Stage 3, further training has included:

- EWMS training on clearing, grubbing and mulching, use of triple strike, sediment basin construction, clear water diversion construction, dewatering, and survey / site inspections.
- CEMP roles and responsibilities training. This training provided an overview of individual roles and responsibilities for Lead Lease staff.
- Erosion and sediment control training that included correct installation of ERSED controls, correct maintenance of ERSED controls and how to choose the most appropriate control.

6.2 Internal and Environmental Representative inspections

Internal inspections are undertaken by the environmental teams on all stages of the Project. These routine inspections, typically weekly, pick up on minor environmental management improvements such as maintenance of clearing boundary delineation, sediment control maintenance and installation of controls in accordance with progressive erosion and sedimentation control plans.

The Environmental Representative and Roads and Maritime staff undertake environmental inspections generally on a fortnightly basis. These inspections typically cover active work sites where risk to the environment is highest. The total number of Environmental Representative and Roads and Maritime inspections conducted on each stage of the Project for the reporting period was:

- 11 on Stage 1.
- Five on Stage 2.
- Five on Stage 3.

Feedback from the Environmental Representative has been specific for each stage, but has generally related to improvements on clearing and mulch stockpile management, and erosion and sediment control installation and maintenance.

On Stage 2, positive feedback has been provided in relation to the trial of mechanical controls on pump inlets. The mechanical control greatly reduces the risk of sediment mobilising and being discharge through a licence discharge. It also removes the need of having a pump inlet monitored at all times as it simulates a siphon.

On Stage 3, positive feedback was provided on a number of occasions regarding the timely and effective installation or erosion and sediment controls following vegetation clearing.

6.3 Audits

There were two audits conducted on the Project during the reporting period that included:

- A Roads and Maritime environmental audit on Stage 1.
- An internal waste audit on Stage 3.

On Stage 1, the Roads and Maritime audit identified nine corrective actions and seven opportunities for improvement. Table 6-1 lists the corrective actions identified and the Project teams response.

Table 6-1 List of corrective actions and response

No.	Corrective actions	Project team response
1	The Contractor's Environmental Management Plan (CEMP) does not include a site-specific training programme as required under G36 clause 4.5.	CEMP updated to include a site-specific training programme.
2	The CEMP does not include a contact number for the site engineer, who is nominated as a 24-hour contact for the Environmental Protection Agency.	CEMP updated with phone number for site engineer.
3	Monthly Construction Consultation Reports as required under G36 clause 4.8 and monthly Construction Environmental Reports as required under G36 clause 4.11 have not been submitted to the Principal.	This oversight has now been addressed with monthly reports being provided from October to present.
4	A Community Complaints and Enquiry register has not been maintained and as such there is no evidence of issues being closed out within required timeframes.	A community complaints and enquiry register has been developed and is maintained regularly.
5	A Pre-construction Compliance Report as required under G36 clause 4.13 has not been prepared and submitted to the Principal.	As construction is beyond this stage of works a Pre-construction Compliance Report has not been prepared. The Principal prepared this report.
6	Copies of the required licences, approvals and permits are not included with the CEMP as required under G36 clause 6.3.	CEMP updated to include the required licences, approvals and permits.
7	The CEMP does not include details on the management of spill prevention bunded areas as required by G36 clause 6.12.1.	CEMP updated to include details on the management of spill prevention bunded areas.
8	A contaminated land management plan addressing the sites and aspects identified in G36 clause 6.15 has not been prepared.	A contaminated land management plan prepared.
9	A Waste Management Register has not been maintained as required under G36 clause 6.16.2.	A waste management register developed and is maintained.

On Stage 3, the waste audit focused on the main compound workshop area. Most findings were positive and only a few minor issues identified. At the time of the audit the workshop was not in operation and was undergoing establishment, as such there were no oil/water separators installed to manage spills. These controls were planned to be installed by the workshop foreman during site establishment.

6.4 Environmental Protection Licence performance

Roads and Maritime construction partners have obtained an implement the requirements of an Environmental Protection Licence (EPL) for each stage of the Project. Licence details include:

- Stage 1 EPL number 20419 issued on 10 April 2014. There were three amendments to the licence during the reporting period. These amendments occurred on 12 September 2014, 5 November 2015 and 21 January 2015.

- Stage 2 EPL number 20487 issued on 10 November 2014. There were no amendments to the licence during the reporting period.
- Stage 3 EPL number 20482 issued on 19 September 2014. There was one amendment to the licence submitted during the reporting period. The approval occurred outside of the reporting period on 23 January 2015, but is identified here for completeness.

On Stage 1, there were four non-compliance with the EPL during the reporting period. Two related to works performed outside of the scheduled premises, one was a pollution incident with tannin affected water released from the scheduled premises, and the remaining non-compliance related to the availability of the Pollution Incident Response Management Plan on the licence holders company website.

There were no reported non-compliances on either Stage 2 or Stage 3 during the reporting period.

6.5 Incidents

Roads and Maritime, and its contractors, take the view that any environmental related unplanned events, whether they impact the environment or not, are reported and recorded as incidents. This type of approach allows for the analysis of trends and encourages a culture within the workforce for continual improvement. This approach is well accepted within the Workplace Health and Safety industry as a tool to recognise unsafe practices and put in place appropriate controls before significant incidents occur.

A total of 13 environmental unplanned events categorised as environmental incidents have occurred on the project between 22 July 2014 and 21 January 2015. Six incidents were of a minor nature, with the remaining seven classified as category 1 incidents within the Roads and Maritime environmental incident reporting and classification procedure. Of the seven category one incidents, four constitute procedural breaches where Roads and Maritime had not approved work in specific locations, however are considered consistent with the project approval. The Roads and Maritime environmental incident reporting and classification procedure states that:

“An environmental incident...need not necessarily be an incident that comprises a breach of legislation. Nonetheless, it is important to capture this information to improve RMS’s environmental practices and contractor performance.”

- *Category 1 : Generally breaches of environmental legislation, such as pollution of waters, non-compliance with EPL / approval conditions, unauthorised harm to threatened species or habitat and heritage, unauthorised disposal of waste, and works undertaken without the required approval or not in accordance with the environmental approval.*
- *Category 2: Generally less environmental serious with no or minimal offsite environmental impact. eg Minor non-compliances with CEMP, small spills.”*

A break down of incidents by stage is provided below.

Table 6-2 Stage 1 incidents by type

Incident type	Category	Number
Water quality basin construction works outside of the Road and Maritime approved work area. Activities were within the scheduled premises.	1	One
Vegetation clearing works outside of the scheduled premises to facilitate construction of the western bridge abutment.	2	One

Incident type	Category	Number
Pollution incident involving tannin leachate movement beyond the scheduled premises.	1	One
Pollution incident involving mud-tracking beyond the scheduled premises.	1	One

For both incidents involving works beyond either the Roads and Maritime approved, or scheduled premises boundary, a series of toolbox training sessions were performed. The toolbox training sessions focused on the importance of installing, maintaining and verifying Project boundary delineation. A review of procedures and checks was also undertaken and modifications made as appropriate. In both instance the Project footprint necessitated a change in the formal Project boundary. Applications to Roads and Maritime, and EPA were subsequently lodged and approved.

The pollution incidents related to a failure of environmental controls. In both instances modifications to the controls were implemented to minimise the potential for a reoccurrence.

Table 6-3 Stage 2 incidents by type

Incident type	Category	Number
Vegetation clearing outside of clearing limit.	1	One
Pollution incident involving tannin leachate discharge from site.	1	One
Hydraulic oil spillage.	2	One
Vegetation clearing within an unapproved spoil stockpile site.	2	One

For the Category 1 incident involving approximately 100 square metres of vegetation clearing beyond the Project clearing limits, a number of responses were implemented. In the first instance, the offending operator was removed from site. Clearing crew members were re-trained in the Road and Maritime clearing video publication and the clearing EWMS. A follow up toolbox training session was undertaken Project wide on the incident and the requirements for clearing reiterated. Similarly with the unapproved Category 2 vegetation clearing incident, further training through a toolbox training session was also undertaken. In addition, amendments to the clearing permit were made and the importance of this documentation stressed to all responsible parties. Daily pre-clearing checks now include representation from the foreman, environment team, and the clearing contractor.

In response to the Category 1 pollution incident involving the release of tannin leachate, direct modifications to controls on the site were implemented to reduce the likelihood of a reoccurrence. Further actions including a site wide toolbox training session, amendments to the daily pre-start checklist and a formal warning to the responsible foreman were also taken.

While both category 1 incidents were considered to present no material harm to the environment. As a key stakeholder, Roads and Maritime took the opportunity to notify the EPA.

Hydraulic oil spills, or similar, are symptomatic of infrastructure construction projects of this magnitude. The spill was contained to the construction site and cleaned up immediately. It should be noted that across the entire Project there has been a comprehensive plant and equipment inspection and maintenance program that minimises the frequency of these incidents.

Table 6-4 Stage 3 incidents by type

Incident type	Category	Number
Grader operation and disturbance on access track beyond Project boundary without a permit.	1	One
Hydraulic oil spillage.	2	One
Vegetation clearing beyond end of day chainage of the clearing permit.	2	One
During clearing and grubbing operations at chainage 10,550, strong winds caused a tree being felled to fall outside the limit of clearing. The tree was subsequently pulled back into the site, without following the approved process.	2	One
Drainage line works: Clean rock placed in ruts on an existing access track prior to formal approval.	1	One

Three of the five environmental incidents involved works occurring in areas without either internal or external approvals in place. In the first instance, works were stopped and measures implemented to minimise any further actual or potential impacts eg erosion and sediment control measures, clearing delineation, placement of advisory signage. Where appropriate, meetings with personnel involved were also performed to determine where system failures had occurred and to make changes to minimise the potential for reoccurrences. Works in affected areas only recommenced following the receipt of formal approvals.

As indicated previously, hydraulic oil spills, or similar, are symptomatic of infrastructure construction projects of this magnitude. The spill was contained to the construction site and cleaned up immediately. It should be noted that across the entire Project there has been a comprehensive plant and equipment inspection and maintenance program that minimises the frequency of these incidents.

Appendix C presents details of incidents and actions taken to minimise the likelihood reoccurrences.

7 Environmental initiatives, best practices and highlights

To promote environmental best practices, environmental innovations that reduce environmental impacts are encouraged and tabled for discussion in many forums: daily pre-start talks, toolbox training sessions, weekly construction team meetings, environmental team meetings, management team meetings, regulatory inspections and internal and external audits.

The following examples were implemented and demonstrate best practice environmental initiatives to advance positive environmental outcomes on the Oxley Highway to Kempsey Upgrade Project. In addition, a number of highlights were experienced during the reporting period and these also have been presented.

Geospray drain lining

Geospray is a newly developed product designed to bind soil and prevent erosion. This product has been trialed on Stage 3 of the Project for the lining of earth drains as an alternative to geotextile fabric. Geospray requires less maintenance, can be installed much faster and is able to be applied to a wider range of surfaces.

Subject to the outcomes of the trial, the feasibility of utilising the product Project wide is under consideration.



Removal of requirement for Ancillary Stockpile 4 and reduction in size of Ancillary Stockpile 2 through materials transfer arrangement

The need to use Ancillary Site 4 Stockpile on Stage 1 has been avoided through collaboration between Roads and Maritime's construction partners on Stage 3, the immediate transfer of VENM and ENM to adjacent DA approved sites, and the expeditious consultation and agreement with adjacent landholders to remove mulch that would otherwise have been stockpiled on-site. Avoiding the need to utilise Ancillary Site 4 Stockpile has provided a substantial reduction in the footprint required for Stage 1 related works.

Koala feed tree vegetation supply to Koala Hospital following clearing

The new growth of cleared Koala feed trees was salvaged during clearing operations and provided to the Koala Hospital for feeding the koalas within the facility. This allowed for a beneficial use for a portion of the cleared vegetation. The assistance provided to the Koala Hospital allowed for a positive community impact from the Project at an early stage.



Port Macquarie Koala Hospital



Work crew collecting eucalyptus vegetation for Koalas at the Port Macquarie Koala Hospital

Terms and acronyms

Term	Meaning
CEMP	Construction environmental management plan
Director General	Director General of the NSW Department of Planning and Environment (or delegate)
P&E	The Department of Planning and the Environment (formerly P&I)
P&I	The Department of Planning and Infrastructure
DPI (Fishing and Aquaculture)	The Department of Primary Industry (Fishing and Aquaculture)
EA	Environmental Assessment
EMS	Environmental management system
EPA	Environmental Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ER	Environmental Representative
K2K	Kundabung to Kempsey stage of the Oxley Highway to Kempsey project
MCoA	The Department of Planning and Infrastructure Ministers Condition of Approval
Minister, the	Minister for Planning and Environment (formerly “Minister for Planning and Infrastructure”)
OH2Ku	Oxley Highway to Kundabung stage of the Oxley Highway to Kempsey project
NOW	The NSW Office of Water
OEH	Office of Environment and Heritage
Project, the	Oxley Highway to Kempsey Pacific Highway Upgrade
Roads and Maritime	Roads and Maritime Services
SoC	Revised statement of commitments (March 2011)
Stage 1	Sancrox Traffic Arrangement works
Stage 2	Kundabung to Kempsey stage of the Oxley Highway to Kempsey project
Stage 3	Oxley Highway to Kundabung stage of the Oxley Highway to Kempsey project

Appendix A

Compliance tables

Table 1 - Minister's conditions of approval

CoA no.	Requirement	Stage	Status / Reference
	Part A – Administrative conditions		
	Terms of Approval		
A1	<p>The Proponent shall carry out the project generally in accordance with the:</p> <p>(a) Major Projects Application 07_0090;</p> <p>(b) <i>Upgrading the Pacific Highway – Oxley Highway to Kempsey – Environmental Assessment (volumes 1, 2, and 3)</i>, prepared by GHD Pty Ltd for the NSW Roads and Traffic Authority and dated September 2010;</p> <p>(c) <i>Upgrading the Pacific Highway – Oxley Highway to Kempsey – Environmental Assessment Submissions Report</i>, prepared by the NSW Roads and Traffic Authority and dated March 2011, including the revised Statement of Commitments contained therein;</p> <p>(d) <i>Oxley Highway to Kempsey – Pacific Highway Upgrade Ecological Review of Fauna Crossings in the Ballengarra State Forrest</i>, Roads and Maritime Services, dated October 2011;</p> <p>(e) The Roads and Maritime Services modification request and letter dated 25 October 2012 (07_0090 MOD1);</p> <p>(f) The Roads and Maritime Services modification requests and letters dated 17 April 2013 and 9 September 2013; the document titled <i>Pacific Highway Upgrade – Oxley Highway to Kempsey: Aboriginal Archaeological Assessment and Artefact Salvage Methodology and Cultural Heritage Assessment Report</i>, prepared by Kelleher Nightingale Consulting Pty Ltd, dated September 2012; the document titled <i>Oxley Highway to Kempsey - Pacific Highway Upgrade OHK85 Test Excavation - Preliminary Results</i>, prepared by Kelleher Nightingale Consulting Pty Ltd, dated 2013; and the document titled <i>Pacific Highway Upgrade – Oxley Highway to Kempsey – Non-Indigenous Heritage Impact Assessment Report</i>, prepared by Peter Kuskie and Christopher Carter (South East Archaeology Pty Limited), dated December 2007 (07_0090 MOD2); and</p> <p>(g) The conditions of this approval.</p>	Construction and operation	<p>Roads and Maritime has identified relevant commitments, obligations, undertakings and requirements (COURs) in the environmental assessment and approval documentation for the Oxley Highway to Kempsey project. A COURs database has been developed; the database will assist Roads and Maritime to manage compliance and contractual risk.</p> <p>Further confirmation will be provided through this, and future compliance tracking reports, and independent audit program developed in response to condition B24(d).</p> <p>Compliance with the condition is ongoing throughout all stages of the Project.</p>
A2	<p>In the event of an inconsistency between:</p> <p>(a) the conditions of this approval and any document listed from condition A1(a) to A1(f) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and</p> <p>(b) any document listed from condition A1(a) to A1(f) inclusive, and any other document listed from condition A1(a) to A1(f) inclusive, the most recent document shall prevail to the extent of the inconsistency.</p>	Construction and operation	Compliance with the condition is ongoing throughout all stages of the Project.
A3	<p>The Proponent shall comply with any reasonable requirement(s) of the Director General arising from the Department's assessment of:</p> <p>(a) any reports, plans or correspondence that are submitted in accordance with this</p>	Construction and operation	Compliance with the condition is ongoing throughout all stages of the Project.

CoA no.	Requirement	Stage	Status / Reference
	approval; and (b) the implementation of any actions or measures contained within these reports, plans or correspondence.		
A4	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Construction and operation	A project website has been established and is accessible through the Roads and Maritime corporate website. The website is updated at regular intervals and contains information, as a minimum, required by MCoA B25. Any documentation unable to be made available through the Project website and not subject to restrictions imposed by confidentiality, will be made available upon request at a nominated Project site office or Roads and Maritime regional office.
	Limits of Approval		
A5	This approval shall lapse ten years after the date on which it is granted, unless construction works the subject of this project approval are physically commenced on or before that date.	Construction and operation	Construction of the Project commenced on 22 July 2014.
	Statutory Requirements		
A6	The Proponent shall ensure that all necessary licenses, permits and approvals required for the development of the project are obtained and maintained as required throughout the life of the project. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such necessary licenses, permits or approvals except as provided under section 75U of the Act. This shall include relevant certification requirements in accordance with section 109R of the Act.	Construction and operation	Roads and Maritime, or its construction partners, will obtain all necessary licenses and approvals relevant to the Project. Where appropriate, these licenses will be displayed on the project website and/or nominated Project site office. Compliance with the condition is ongoing throughout all stages of the Project.
	Staging		
A7	The Proponent may elect to construct and/ or operate the project in stages. Where staging is proposed, the Proponent shall submit a Staging Report to the Director General prior to the commencement of the first proposed stage. The Staging Report shall provide details of: (a) how the project 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 project. Where staging of the project 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). The Proponent shall ensure that an updated Staging Report (or advice that no changes to staging are proposed) is submitted to the Director General prior to the commencement of each stage, identifying any changes to the proposed staging or applicable conditions. The Proponent shall ensure that all plans, sub-plans and other management documents required by the conditions of this approval and relevant to each stage (as identified in the	Pre-construction for each stage	Roads and Maritime prepared an initial Staging Report and provided it to the P&I for approval on 8 February 2013. Following minor revisions to address P&I comments, the plan was approved on 14 March 2013. Subsequent to this approval, Roads and Maritime made further updates to Appendix A of the Staging Report to ensure compliance with MCoA B20 and B28 across and between the stages, and to include the requirements of MCoA E1. The revised plan was sent to P&I on 5 November 2013 and subsequently approved by the department on 24 January 2014. On 21 May 2014 Roads and Maritime wrote to P&E advising of the anticipated schedule for the commencement of construction on Stage 1 of the Project and that no changes to the Staging Plan were proposed. On 9 September 2014 Roads and Maritime wrote to the P&E advising of the anticipated schedule for the commencement of

CoA no.	Requirement	Stage	Status / Reference
	Staging Report) are submitted to the Director General no later than one month prior to the commencement of the relevant stages, unless an alternative timeframe is agreed to by the Director General.		construction on Stage 2 of the Project and that no changes to the Staging Plan were proposed. On 31 July 2014 Roads and Maritime wrote to the P&E advising of the anticipated schedule for the commencement of construction on Stage 3 of the Project and that no changes to the Staging Plan were proposed.
	Part B – Prior to construction		
	Biodiversity		
	<i>Mitigation Measures – Fauna and Waterway Crossings</i>		
B1	The Proponent shall design (and implement) the fauna and waterway crossings identified in Table 6-2 of Appendix B of the document listed under condition A1(d), at the locations and in accordance with the minimum design principles identified in Table 6-2, unless otherwise agreed by the Director-General.		Detailed design of fauna and waterway crossings has been completed for Stage 2. Roads and Maritime wrote to the P&I on 26 July 2013 advising that there were changes to the final design of some fauna crossing locations and dimensions compared to that presented in Table 6-2 of Appendix B of the document listed under condition A1(d). A report prepared in consultation with DPI (Fishing and Aquaculture) and EPA outlining those changes, among other things, was provided at the same time and approval for those changes sought. The P&I approved the changes in correspondence provided to Roads and Maritime on 25 September 2013. Detailed design of fauna and waterway crossings has also been completed for Stage 3. Roads and Maritime wrote to the P&E on 9 December 2014 advising that there were changes to the final design of some fauna crossing locations and dimensions compared to that presented in Table 6-2 of Appendix B of the document listed under condition A1(d). A report prepared in consultation with DPI (Fishing and Aquaculture) and EPA outlining those changes, among other things, was provided at the same time and approval for those changes sought. An approval from P&E remains outstanding.
B2	Investigations into the design of fauna and waterway crossings identified in Table 6-2 of Appendix B of the document listed under condition A1(d) during detailed design shall be undertaken with the input of a suitably qualified and experienced ecologist and in consultation with the OEH and DPI (Fishing and Aquaculture).		See response provide to condition B1.
B3	The Proponent shall prepare a report on the final design of fauna and/or waterway crossings identified in Table 6-2 of Appendix B of the document listed under condition A1(d), where the location of the crossing has changed and/or the crossing does not meet the minimum design principles identified in Table 6-2. The report shall be submitted to the Director General prior to the commencement of construction of the relevant crossing, and shall demonstrate how		See response provide to condition B1.

CoA no.	Requirement	Stage	Status / Reference
	the new location and/ or design would result in acceptable biodiversity outcomes. The report shall clearly identify how the fauna and/or waterway crossing will work in conjunction with complementary fauna exclusion fencing measures to be implemented for the project. The report shall be accompanied by evidence of consultation with the OEH and DPI (Fishing and Aquaculture) in relation to the suitability of any changes to the location and/or crossing design.		
B4	<p>The Proponent shall investigate the provision of widened medians (with the aim of retaining existing vegetation in a widened median where feasible and reasonable) as an alternative to the provision of glider poles and rope bridges to facilitate the movement of gliders across the project at the following locations:</p> <p>(a) Cairncross 1 – between station 10000 to 11600; (b) Ballengarra 1b - between station 23200 to 24100; and (c) Maria River 1b - between station 33760 to 34380.</p> <p>The investigation shall be undertaken by a suitably qualified and experienced ecologist and in consultation with the OEH and DPI (Forests). The Proponent shall prepare a report on the median widening investigation, including the location and final design of the glider crossing measures and consequential impacts on other ecologically significant elements potentially affected by the widening. The report shall be submitted for the approval of the Director General no later than six months prior to the commencement of work that would result in the disturbance of native vegetation in the median widening investigation areas, or within such period otherwise agreed by the Director General. Work within the median investigation areas shall not commence until written approval has been received from the Director General.</p>		<p>Roads and Maritime prepared an Oxley Highway to Kempsey Widened Median Assessment and provided it to P&I for approval on 19 September 2013. The department reviewed the assessment and indicated that they had no objections to the conclusions drawn by the assessment, but noted that further matters needed to be addressed to fully satisfy conditions B4 and B5.</p> <p>Roads and Maritime subsequently prepared an Oxley Highway to Kempsey Widened Median Assessment Supplementary Report and provided it to P&I for approval on 11 February 2014.</p> <p>Following a review, the department advised that the original and supplementary assessments satisfied both conditions B4 and B5 with respect to Stage 3 of the Project. However, noted that the two reports satisfied only condition B4 with respect to Stage 3 of the Project.</p> <p>The department indicated that a further supplementary report for Stage 3 would be required to satisfy the outstanding requirements outlined in earlier correspondence. Roads and Maritime and its construction partners prepared a further supplementary report to address the outstanding requirements and provided it to P&E on 15 September 2014. P&E subsequently approved the supplementary report on 8 January 2015.</p>
B5	As part of the investigation into widened medians under condition B4, the Proponent shall investigate and report on the provision of widened medians at Barrys Creek (station 23967) as an alternative fauna crossing design for Koalas and Quolls.		See comments provide in response to condition B4.
B6	The Proponent shall, in consultation with the OEH and DPI (Fishing and Aquaculture), ensure that all waterway crossings are designed and constructed consistent with the principles of the <i>Guidelines for Controlled Activities Watercourse Crossings</i> (Department of Water and Energy, February 2008), <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (NSW Fisheries, February 2004) and <i>Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures</i> (NSW Fisheries 1999). Where multiple cell culverts are proposed for creek crossings, at least one cell shall be provided for fish passage, with an invert or bed level that mimics creek flows.		Waterway crossings have been designed in accordance with the requirements of this condition. See further detailed provided in response to conditions B1.

CoA no.	Requirement	Stage	Status / Reference
<i>Mitigation Measures – Nest Boxes</i>			
B7	<p>Prior to the commencement of construction work that would result in the disturbance of native vegetation (or as otherwise agreed by the Director General), the Proponent shall, in consultation with the OEH, prepare and submit for the approval of the Director General a Nest Box Plan to provide replacement hollows for displaced fauna. The Plan shall detail the number and type of nest boxes to be installed which must be justified based on the number and type of hollows removed (based on detailed pre-construction surveys), the density of hollows in the area to be cleared and adjacent forest, 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>		Roads and Maritime prepared a Nest Box Plan to address the requirements of this condition and submitted to the P&I for approval on 30 July 2013. P&I subsequently approved the plan on 14 October 2013.
<i>Biodiversity Offsets</i>			
B8	<p>The Proponent shall, in consultation with the OEH and DPI (Fishing and Aquaculture), develop a Biodiversity Offset Strategy that identifies the available options for offsetting the biodiversity impacts of the project in perpetuity, with consideration to the Principles for the use of biodiversity offsets in NSW (Office of Environment and Heritage website http://www.environment.nsw.gov.au/biocertification/offsets.htm dated 17 June 2011). Unless otherwise agreed to by the OEH and DPI (Fishing and Aquaculture), offsets shall be provided on a like-for-like basis and at a minimum ratio of 4:1 for areas of high conservation value (including EEC, salt marsh and poorly conserved vegetation communities identified as being more than 75% cleared in the catchment management area) and 2:1 for the remainder of native vegetation areas (including mangroves, seagrass, and non-EEC riparian vegetation). The Strategy shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) the aims and objectives of the biodiversity offset strategy; (b) confirmation of the vegetation type/ habitat (in hectares) to be cleared and their condition, and the size of offsets required (in hectares); (c) details of the type of available offset measures that have been identified to compensate for the loss of threatened species and vulnerable and endangered ecological communities and/ or their habitats, and native vegetation (including mangroves, seagrasses, salt marsh and riparian vegetation). The measures shall achieve a neutral or net beneficial outcome for all the biodiversity values likely to be impacted directly or indirectly during both the construction and operation of the project; (d) the decision-making framework that would be used to select the final suite of offset measures to achieve the aims and objectives of the Strategy, including the ranking of offset measures; (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 project in the documents listed under condition A1), including: <ul style="list-style-type: none"> (i) changes to the footprint due to detailed design; (ii) changes to predicted impacts as a result of changes to mitigation measures; 		Roads and Maritime have developed a Biodiversity Offset Strategy to address the requirements of this condition in consultation with OEH and DPI (Fishing and Aquaculture). The report was provided to the P&I for approval on 31 October 2013. The P&I subsequently approved the strategy on 27 January 2014.

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	<p>(iii) the identification of additional species/ habitat through pre-clearance surveys and construction; and</p> <p>(iv) additional impacts associated with the establishment of ancillary facilities; and</p> <p>(f) options for the securing and management of biodiversity offsets in perpetuity.</p> <p>The Biodiversity Offset Strategy shall be submitted to the Director General for approval no later than 6 weeks prior to the commencement of construction that would result in the disturbance of native vegetation, unless otherwise agreed by the Director General.</p> <p>The Proponent 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 Bio-region. Any such strategy, including an agreement made with the OEH, must be made in consultation with the Department and approved by the Director General within a timeframe agreed to by the Director General.</p>		
B9	<p>Within two years of the date of approval of the Biodiversity Offset Strategy, unless otherwise agreed by the Director General, the Proponent shall prepare and submit a Biodiversity Offset Package for the approval of the Director General. The Package shall be developed in consultation with the OEH and DPI (Fishing and Aquaculture), and shall include, but not necessarily be limited to:</p> <p>(a) details of the final suite of the biodiversity offset measures to be implemented for the project demonstrating how it achieves the requirements of the Biodiversity Offset Strategy (including specified offset ratios);</p> <p>(b) the final selected means of securing the biodiversity values of the Package in perpetuity, including ongoing management, maintenance and monitoring requirements; and</p> <p>(c) timing and responsibilities for the implementation of the provisions of the Package over time.</p> <p>The requirements of the Package shall be implemented by the responsible parties according to the timeframes set out in the Package, unless otherwise agreed by the Director General.</p>	Construction	<p>Roads and Maritime have engaged a suitably qualified and experienced ecological consultant to identify and assess requisite lands to fulfill the requirements of the approved Biodiversity Offset Strategy.</p> <p>The final offset package will be submitted to the P&E on or before 27 January 2016, or as otherwise agreed.</p>
	<i>Ecological monitoring</i>		
B10	<p>The Proponent shall develop an Ecological Monitoring Program to monitor the effectiveness of the biodiversity mitigation measures implemented as part of the project. The program shall be developed by a suitably qualified and experienced ecologist in consultation with the OEH and DPI (Fishing and Aquaculture) and shall include but not necessarily be limited to:</p> <p>(a) an adaptive monitoring program to assess the effectiveness of the mitigation measures identified in conditions B1, B4, B7 and B31(b) and allow amendment to the measures if necessary. The monitoring program shall nominate performance parameters and criteria against which effectiveness will be measured and include operational road kill surveys to assess the effectiveness of fauna crossings and exclusion fencing implemented as part of the project;</p> <p>(b) mechanisms for developing additional monitoring protocols to assess the effectiveness</p>		<p>Roads and Maritime have developed an Ecological Monitoring Program to address the requirements of this condition in consultation with OEH and DPI (Fishing and Aquaculture). The report was provided to the P&I for approval on 4 December 2013. The P&I subsequently approved the program on 29 January 2014.</p>

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	<p>of any additional mitigation measures implemented to address additional impacts in the case of design amendments or unexpected threatened species finds during construction (where these additional impacts are generally consistent with the biodiversity impacts identified for the project in the documents listed under condition A1);</p> <p>(c) monitoring shall be undertaken during construction (for construction-related impacts) and from opening of the project to traffic (for operation/ ongoing impacts) until such time as the effectiveness of mitigation measures can be demonstrated to have been achieved over a minimum of three successive monitoring periods (i.e 6 years) after opening of the project to traffic, unless otherwise agreed by the Director General. The monitoring period may be reduced with the agreement of the Director General in consultation with the OEH and DPI (Fishing and Aquaculture), depending on the outcomes of the monitoring;</p> <p>(d) provision for the assessment of the data to identify changes to habitat usage and whether this can be directly attributed to the project;</p> <p>(e) details of contingency measures that would be implemented in the event of changes to habitat usage patterns directly attributable to the construction or operation of the project; and</p> <p>(f) provision for annual reporting of monitoring results to the Director General and the OEH and DPI (Fishing and Aquaculture), or as otherwise agreed by those agencies.</p> <p>The Program shall be submitted to the Director General for approval no later than 6 weeks prior to the commencement of construction that would result in the disturbance of native vegetation (unless otherwise agreed by the Director General).</p>		
	Hydrology and Flooding		
B11	<p>The Proponent shall ensure, where feasible and reasonable, that the project is designed to not exceed the afflux and other flooding criteria within the vicinity of the project as identified or predicted in the documents listed under condition A1. New or duplicated drainage structures shall be designed to minimise changes to afflux and flooding to waterways that traverse the project alignment to the greatest extent practicable.</p>		<p>Roads and Maritime and its construction partners have completed the detailed design for all stages of the Project, that where feasible and reasonable, and in consultation with adjacent landowners, satisfies the requirements of this condition.</p>
B12	<p>The Proponent shall develop a Hydrological Mitigation Report for properties in the Hastings River and Wilson River floodplain areas where flood impacts are predicted to increase as a result of the project. The Report shall be based on detailed floor level survey and associated assessment of potentially flood affected properties in those areas. The Report shall:</p> <p>(a) identify properties in those areas likely to have an increased flooding impact and detail the predicted increased flooding impact;</p> <p>(b) identify mitigation measures to be implemented where increased flooding is predicted to adversely affect access, property or infrastructure;</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 project and cause localised soil erosion and/or pasture damage;</p> <p>(d) be developed in consultation with the relevant council, NSW State Emergency Service</p>		<p>Roads and Maritime and its construction partners have developed a Hydrological Mitigation Report to satisfy the requirements of this condition in consultation with Port Macquarie – Hastings Council, NSW State Emergency Services and directly affected landowners. The report concluded that there would be negligible change to the existing flood regime and therefore mitigation measures have not been proposed.</p>

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	<p>and directly-affected property owners; and</p> <p>(e) identify operational and maintenance responsibilities for items (a) to (c) inclusive.</p> <p>The Proponent shall not commence construction of the project on or within those areas likely to alter flood conditions until such time as works identified in the hydrological mitigation report have been completed, unless otherwise agreed by the Director General.</p>		
B13	<p>Based on the mitigation measures identified in condition B12, the Proponent shall prepare a final schedule of feasible and reasonable flood mitigation measures proposed at each directly-affected property in consultation with the property owner. The schedule shall be provided to the relevant property owner(s) prior to the implementation/ construction of the mitigation works, unless otherwise agreed by the Director General. A copy of each schedule of flood mitigation measures shall be provided to the Department and the relevant council prior to the implementation/ construction of the mitigation measures on the property.</p>		<p>The Hydrological Mitigation Report concluded that there would be negligible change to the existing flood regime and therefore mitigation measures have not been proposed.</p>
B14	<p>In the event that the Proponent and the relevant property owner cannot agree on feasible and reasonable flood mitigation measures to be applied to a property within one month of the first consultation on the measures (as required under condition B13), the Proponent shall employ a suitably qualified and experienced independent hydrological engineer, who has been approved by the Director General, for the purposes of this condition prior to the commencement of construction in the Hastings River and Wilson River floodplain areas affected by increased afflux from the project to advise and assist affected property owners in negotiating feasible and reasonable mitigation measures.</p>		<p>The Hydrological Mitigation Report concluded that there would be negligible change to the existing flood regime and therefore mitigation measures have not been proposed. On this basis, the need to establish agreements with property owners was not required.</p>
B15	<p>The Proponent shall provide 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 project.</p>		<p>The Hydrological Mitigation Report concluded that there would be negligible change to the existing flood regime and therefore mitigation measures have not been proposed. On this basis, the need to prepare and/or update flood management documentation was not required.</p>
Sedimentation, Erosion and Water			
B16	<p>Prior to the commencement of construction, unless otherwise agreed by the Director General, the Proponent shall in consultation with the OEH and NOW, undertake groundwater modeling on the concept design for the project, subject to the modelling being revised should the detailed design have a significantly different impact on groundwater than the concept design. The modeling shall be undertaken by a suitably qualified and experienced groundwater expert and assess the construction and operational impacts of the proposal on the groundwater resources, groundwater quality, groundwater hydrology and groundwater dependent ecosystems and provide details of contingency and management measures in the groundwater management strategy required under condition B31(vii).</p>		<p>Roads and Maritime have developed a Water Quality Monitoring Program that includes relevant information and analysis to address the requirements of this condition. The program was developed in consultation with OEH and NOW. The report was provided to the P&I for approval on 11 February 2014. The P&I subsequently approved the program on 5 March 2014.</p> <p>In the event any future changes to the detailed design are predicted to have a significantly different impact on groundwater than that modelled for the concept design, further modelling would be undertaken in accordance with the requirements of this condition. Where necessary, and to ensure the potential for impacts are adequately monitored, the Water Quality Monitoring Program would be updated accordingly.</p>

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B17	<p>The Proponent shall prepare and implement a Water Quality Monitoring Program to monitor the impacts of the project on surface and groundwater quality and resources and wetlands, during construction and operation. The Program shall be developed in consultation with the OEH, DPI (Fishing and Aquaculture) and NOW and shall include but not necessarily be limited to:</p> <ul style="list-style-type: none"> 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 project; b. the results of the groundwater modelling undertaken under condition B16; c. identification of works and activities during construction and operation of the project, including emergencies and spill events, that have the potential to impact on surface water quality of potentially affected waterways, including the risks to oyster farming in the Hastings River; d. development and presentation of parameters and standards against which any changes to water quality will be assessed, having regard to the <i>Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000</i> (Australian and New Zealand Environment Conservation Council, 2000); 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 Director General; 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); g. contingency and ameliorative measures in the event that adverse impacts to water quality are identified; and h. reporting of the monitoring results to the Department, OEH and NOW. <p>The Program shall be submitted to the Director General for approval six (6) months prior to the commencement of construction of the project, or as otherwise agreed by the Director General. A copy of the Program shall be submitted to the OEH, DPI (Fishing and Aquaculture) and NOW prior to its implementation.</p>		<p>Roads and Maritime have developed a Water Quality Monitoring Program in consultation with OEH and NOW to address the requirements of this condition. The report was provided to the P&I for approval on 11 February 2014. The P&I subsequently approved the program on 5 March 2014.</p> <p>Pre-construction surface and groundwater quality monitoring reports in accordance with the approved Water Quality Monitoring Program have been prepared and provided to P&E, OEH and NOW during March 2015. Subsequent construction monitoring reports will be provided to P&E, OEH and NOW at six monthly intervals for all stages during construction of the Project.</p> <p>The requirements of this condition are ongoing for all stages throughout construction and up to three years following completion of the Project.</p>
	Heritage impacts		
B18	<p>Prior to the commencement of pre-construction and construction in Aboriginal sites OHK46/A, OHK47/A, OHK54/A, OHK90/A, OHK91/A and OHK219/A, the Proponent shall undertake the relevant salvage mitigation measures outlined in section 19.4.1 of Volume 1 of the EA for these sites.</p> <p>The results of the salvage program shall be provided to the Department, the OEH and</p>		<p>Roads and Maritime completed salvage works required by this condition in February 2013. Following a modification to the project approval on 15 November 2013, that among other things, allowed for the salvage of additional heritage sites, Roads and Maritime sought an extension to the provision of a report detailing the results of the salvage program required by this condition. The P&I</p>

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	Aboriginal stakeholders within six months of the completion of the salvage program, unless otherwise agreed by the Director General.		approved the extension request on 30 January 2014 with a requirement that the report be provided by 31 December 2014. The report was subsequently provided to the department, OEH and Aboriginal stakeholders on 18 December 2014.
B18A	<p>Prior to the commencement of pre-construction and construction activities affecting the Pipers Creek PAD site, the Proponent shall:</p> <p>(a) undertake archaeological investigations at the Pipers Creek PAD site generally consistent with section 6 of the September 2012 Kelleher Nightingale report referenced in condition A1(f), or a methodology prepared in consultation with OEH and approved by the Director General; and</p> <p>(b) report on the results of the investigations, including recommendations (such as for salvage), in consultation with OEH and to the satisfaction of the Director General. The report shall include but not necessarily be limited to:</p> <p>(i) consideration of measures to minimise disturbance to archaeology, where significant archaeological deposits are found to be present;</p> <p>(i) where impacts cannot be avoided, recommendations for any further investigations for significant archaeological deposits; and</p> <p>(ii) management and mitigation measures to ensure there are no additional impacts due to pre-construction and construction activities; and</p> <p>(c) undertake any salvage works recommended by the results of the archaeological investigations, in accordance with the report required under condition B18A(b).</p>		See further detail provided in response to condition B18 with respect to items (a) and (b) of this condition. Salvage under item (c) is not required.
B18B	Prior to the commencement of pre-construction and construction activities affecting site OHK85, the Proponent shall undertake any salvage works recommended by the results of the archaeological investigations described in the 2013 Kelleher Nightingale document referenced in condition A1(f), in accordance with the relevant salvage mitigation measures outlined in section 19.4.1 of Volume 1 of the EA.		Salvage works have been completed in accordance with the requirements of this condition. The outcomes of the salvage have been documented in the report prepared in response to Condition B18.
B18C	Within 12 months of completing any salvage work in accordance with conditions B18A and/or B18B, or at such time otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the salvage works, prepared in consultation with OEH and to the satisfaction of the Director General.		Noted. See detailed status in response to Condition B18.
B19	Prior to the commencement of pre-construction and construction that affects the farm complex identified as OHK11 in Table 20-1 of Volume 1 of the EA, the Proponent shall prepare an archaeological assessment, which includes a research design and methodology to guide any proposed archaeological investigation, in accordance with the relevant Heritage Council of NSW guidelines. The archaeological assessment shall be prepared in consultation with the Office of Environment and Heritage (Heritage Branch) and submitted for the approval of the Director General prior to work commencing on site OHK11, unless otherwise agreed to by the Director General. The Excavation Director for the archaeological program shall meet the requirements of the Heritage Council of NSW's Excavation Director Criteria (Heritage Council of NSW website http://www.heritage.nsw.gov.au/docs/excavationdirectors.pdf dated		Investigations in accordance with the requirements of this condition were completed on 29 May 2014. The outcomes of the investigation are summarised in the final excavation report provided to P&E and OEH on 15 September 2014.

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	<p>July 2011).</p> <p>Any further archaeological work recommended on this site by the assessment shall be undertaken by the Proponent in consultation with the Office of Environment and Heritage (Heritage Branch). A final report on the excavation shall be submitted to the Director General and the Heritage Council of NSW within six months of the completion of the archaeological fieldwork, unless otherwise agreed to by the Director General.</p>		
	Urban Design and Landscaping		
B20	<p>The Proponent shall prepare and implement an Urban Design and Landscape Plan for the project. The Plan shall be prepared in consultation with the relevant council and shall present an integrated urban design for the project. The Plan shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) principal goal of achieving the urban design objectives outlined in Table 17-4 of Volume 1 of the EA; (b) location of existing vegetation and proposed landscaping (including use of indigenous and endemic species where possible) and design features; (c) graphics such as sections, perspective views and sketches for key elements of the project (including, but not limited to built elements such as retaining walls, cuttings, embankments, bridges, and noise barriers); (d) a description of locations along the project corridor directly or indirectly impacted by the construction of the project (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. Details of species to be replanted/ revegetated shall be provided, including their appropriateness to the area and considering existing vegetation and habitat for threatened species; (e) an assessment of the visual screening affects of existing vegetation and the proposed landscaping. Where residences and businesses have been identified as likely to experience high visual impact as a result of the project and high residual impacts are likely to remain, the Proponent shall in consultation with affected receptors, identify opportunities for providing at receptor landscaping to further screen views of the project. Where agreed to with the landowner, these measures shall be implemented during the construction of the project; (f) strategies for progressive landscaping of other environmental controls such as erosion and sedimentation controls, drainage and noise mitigation; (g) 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, and signs; (h) evidence of consultation with the relevant council and community on the proposed urban design and landscape measures prior to its finalisation; and (i) 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 		<p>Roads and Maritime and its construction partners have either completed, or are in the process of preparing an Urban Design and Landscape Plan for each stage of the Project in consultation with council, relevant stakeholders and the community.</p> <p>On 21 May 2014 Roads and Maritime wrote to P&E seeking approval for the Stage 1 Sancrox Traffic Arrangement works Urban Design and Landscape Plan. The plan was subsequently approved on 10 November 2014.</p> <p>On 29 April 2014 Roads and Maritime submitted a request for a six month extension for submission of the Stage 2 plan to the Director General for approval. The request was approved on 20 June 2014 and requires the plan to be submitted for approval on or before 1 December 2014. P&I also advised that in the absences of submission, progress on development of the plan must be provided to the P&I by 1 September 2014. An update to the department was subsequently provided on 28 August 2014. The final plan was provided to P&E on 27 November 2014. Following minor revisions in response to further comments, the plan was subsequently approved on 18 February 2015.</p> <p>On 28 July 2014 Roads and Maritime submitted a request for an extension for submission of the Stage 3 plan to the Director General for approval. The request was approved on 28 August 2014 and requires the plan to be submitted for approval on or before 1 December 2014. P&I also advised that in the absences of submission, progress on development of the plan must be provided to the P&I by 1 September 2014. An update to the department was subsequently provided on 16 October 2014 and a further request for an extension on submission of the plan was submitted on 27 November 2014. The extension request was approved on 21 February 2015 and requires submission of the final plan by 1 June 2015.</p>

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	and landscaping measures fail. The Plan shall be submitted for the approval of the Director General prior to the commencement of permanent built works and/ or landscaping, unless otherwise agreed by the Director General. The Plan may be submitted in stages to suit the staged construction program of the project.		
	Traffic and Access		
B21	The Proponent shall ensure that the project is designed in consultation with DPI (Forests) to ensure that access of a standard that is at least equivalent to that currently existing and which meets relevant road safety standards is maintained within state forests to enable continued forestry operations, fire management and recreation during construction and operation unless otherwise agreed with DPI (Forests).		Noted. Consultation is ongoing in accordance with requirements of this condition. Design of accesses into Forestry Corporation reserves is currently being finalised in consultation with Forestry Corporation.
B22	The Proponent shall ensure that the project is designed to incorporate appropriate signage for townships along the existing highway that are bypassed by the project, in consultation with the relevant council and community. The signage policy shall be consistent with the Roads and Maritime Service's standard signposting policy and provide information on the range of services available within the towns including advice that the route through the towns may be taken as an alternative to the highway.		Noted. Consultation is ongoing in accordance with requirements of this condition, and forms part of a wider consultation strategy for the whole Pacific Highway upgrade program.
	Property and Landuse		
B23	The Proponent shall ensure that the project 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. Where the viability of existing agricultural operations are identified to be highly affected by the land requirements of the project, the Proponent shall as part of detailed design employ a suitably qualified and experienced independent agricultural specialist (that is approved by the Director General for the purpose of this condition), to assist in the following (where agreed to by the relevant landowner): (a) identifying alternative farming opportunities for the relevant properties including purchase of other residual land to enable existing/new agricultural activities to continue; and/ or (b) negotiating appropriate compensation and/or arrangements for the purchase of the property under the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> .		The design of the Project has been optimised to minimise land take and best serve adjacent business and private land use practices. The viability of agricultural operations would not be substantially affected by the Project.
	Compliance tracking		
B24	The Proponent shall develop and implement a Compliance Tracking Program to track compliance with the requirements of this approval. The Program shall be submitted to the Director General for approval prior to the commencement of construction and relate to both the construction and operational phases of the project, and include, but not necessarily be limited to: (a) provisions for the notification of the Director General of the commencement of works prior to the commencement of construction and prior to the commencement of operation of the project (including prior to each stage, where works are being staged);	Pre-construction and construction	Roads and Maritime has developed a Compliance Tracking Program to address the requirements of this condition. The program was submitted to the P&I for approval on 12 April 2013. P&I subsequently approved the plan, subject to two additional conditions, on 22 July 2013. This construction compliance tracking report summarises the outcomes of requirements of this condition. This report covers the first construction compliance tracking period between 22 July 2014

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	<p>(b) provisions for periodic review of project compliance with the requirements of this approval and the documents listed under condition A1, including the Statement of Commitments;</p> <p>(c) provisions for periodic reporting of compliance status against the requirements of this approval and the documents listed under condition A1, including the Statement of Commitments, to the Director General including at least one month prior to the commencement of construction and operation of the project and at other intervals during the construction and operation, as identified in the Program;</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 reporting and recording incidents and actions taken in response to those incidents;</p> <p>(f) provisions for reporting environmental incidents to the Director General during construction and operation; and</p> <p>(g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management.</p>		<p>and 21 January 2015.</p> <p>Roads and Maritime also provided pre-construction compliance tracking reports for each stage of construction in the lead up to the commencement of each stage. These reports were provided on:</p> <ul style="list-style-type: none"> • Stage 1 – 21 May 2014. • Stage 2 – 12 September 2014. • Stage 3 – 31 July 2014 <p>P&E were notified on 25 August 2014 that construction on the Project commenced on 22 July 2014.</p>
	Community Information and Involvement		
	<i>Provision of Electronic Information</i>		
B25	<p>Prior to the commencement of construction, the Proponent shall establish and maintain a new website, or dedicated pages within an existing website, for the provision of electronic information associated with the project. The Proponent shall, subject to confidentiality, publish and maintain up-to-date information on the website or dedicated pages including, but not necessarily limited to:</p> <p>(a) information on the current implementation status of the project;</p> <p>(b) a copy of the documents referred to under condition A1 of this approval, 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 project;</p> <p>(e) a copy of each current strategy, plan, program or other document required under this approval; and</p> <p>(f) the outcomes of compliance tracking in accordance with the requirements of condition B24.</p>	Pre-construction and construction	A project website has been established and is accessible through the Roads and Maritime corporate website. The website is updated at regular intervals and will contain all information, as a minimum, required by this condition.
	<i>Complaints and Enquiries Procedure</i>		
B26	<p>Prior to the commencement of construction, the Proponent shall ensure that the following are available for community complaints and enquiries during the construction period:</p> <p>(a) a telephone number on which complaints and enquiries about construction and operation</p>		Roads and Maritime and its construction partners have developed a Community Communications Strategy for each stage of the Project that among other things, address the requirements of this condition. Further detail on the status of these strategies is

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	<p>activities may be registered;</p> <p>(b) a postal address to which written complaints and enquiries may be sent; and</p> <p>(c) an email address to which electronic complaints and enquiries may be transmitted.</p> <p>The telephone number, the postal address and the email address shall be published in a newspaper circulating in the local area prior to the commencement of construction and prior to the commencement of project operation. The above details shall also be provided on the website (or dedicated pages) required by this approval.</p>		<p>provided in response to MCoA B28.</p> <p>Advertisements were placed local newspapers and sent to registered stakeholders in July and October 2014 advising the community of the anticipated commencement of the various stages of construction and also how to establish contact with Roads and Maritime and its construction partners via telephone, post and email. This information is also supplied with all community notifications and published on the Project website.</p>
B27	<p>The Proponent shall prepare and implement a Construction Complaints Management System consistent with AS 4269 Complaints Handling prior to the commencement of construction activities and must maintain the System for the duration of construction activities.</p> <p>Information on all complaints received, including the means by which they were addressed and whether resolution was reached and whether mediation was required or used, shall be maintained by the Proponent and included in a complaints register. The information contained within the System shall be made available to the Director General on request.</p>		<p>Roads and Maritime and its construction partners have developed a Community Communications Strategy for each stage of the Project that among other things, address the requirements of this condition. Further detail on the status of these strategies is provided in response to MCoA B28.</p>
<i>Community Involvement</i>			
B28	<p>The Proponent shall prepare and implement a Community Communication Strategy for the project. This Strategy shall be designed to provide mechanisms to facilitate communication between the Proponent, the Contractor, the Environmental Representative, the relevant council and the local community (broader and local stakeholders) on the construction and environmental management of the project. The Strategy shall include, but not necessarily be limited to:</p> <p>(a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners;</p> <p>(b) procedures and mechanisms for the regular distribution of information to stakeholders on the progress of the project and matters associated with environmental management;</p> <p>(c) procedures and mechanisms through which stakeholders can discuss or provide feedback to the Proponent and/ or Environmental Representative in relation to the environmental management and delivery of the project;</p> <p>(d) procedures and mechanisms through which the Proponent can respond to enquires or feedback from stakeholders in relation to the environmental management and delivery of the project; and</p> <p>(e) 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 project. This may include the use of an appropriately qualified and experienced independent mediator.</p> <p>The Proponent shall maintain and implement the Strategy throughout construction of the project. The Strategy shall be approved by the Director General prior to the commencement of construction, or as otherwise agreed by the Director General.</p>		<p>Roads and Maritime and its construction partners have developed a Community Communications Strategy for each stage of the Project that among other things, address the requirements of this condition.</p> <p>The Stage 1 Construction Community Liaison Management Plan prepared to address the requirements of this condition was submitted to P&E for approval on 19 May 2014. The plan was subsequently approved by the P&E on 10 June 2014.</p> <p>The Stage 2 Community Communications Strategy was submitted to P&E for approval on 9 September 2014. The plan was subsequently approved by the P&E on 4 November 2014.</p> <p>The Stage 3 Community Communications Strategy was submitted to P&E for approval on 31 July 2014. The plan was subsequently approved by the P&E on 13 October 2014.</p>

CoA no.	Requirement	Stage	Status / Reference
	Environmental Management		
	<i>Environmental Representative</i>		
B29	<p>Prior to the commencement of construction of the project, or as otherwise agreed by the Director General, the Proponent shall nominate for the approval of the Director General a suitably qualified and experienced Environmental Representative(s) that is independent of the design (including preparation of documentation referred to in condition A1), and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall:</p> <p>(a) be the principal point of advice in relation to the environmental performance of the project;</p> <p>(b) be consulted in responding to the community concerning the environmental performance of the project where the resolution of points of conflict between the Proponent and the community is required;</p> <p>(c) monitor the implementation of environmental management plans and monitoring programs required under this approval;</p> <p>(d) monitor the outcome of environmental management plans and advise the Proponent upon the achievement of project environmental outcomes;</p> <p>(e) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the project;</p> <p>(f) ensure that environmental auditing is undertaken in accordance with the requirements of condition B24 and the project's Environmental Management System(s);</p> <p>(g) 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 required under condition B30; and</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.</p>	Pre-construction and construction	<p>Roads and Maritime sought approval for Mr Ben Luffman (GHD) as the Environmental Representative and Mr Maurice Pignatelli (GHD) as the alternative Environmental Representative on 17 May 2013. The P&I approved the nominations on 18 June 2013.</p> <p>Compliance with the condition is ongoing throughout all stages of the Project.</p>
	<i>Construction Environmental Management Plan</i>		
B30	<p>The Proponent shall prepare and (following approval) implement a Construction Environmental Management Plan for the project. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant 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 project or stages of</p>		<p>A Construction Environmental Management Plan (CEMP), including relevant sub-plans, was prepared for each stage of the Project in consultation with OEH and DPI (Fishing and Aquaculture) to address the relevant requirements of this condition.</p> <p>Roads and Maritime wrote to P&E on 3 April and 21 May 2014 seeking approval for the Stage 1 CEMP a number of sub plans. The CEMP and sub plans required by MCoA B31(a) to (e) were</p>

CoA no.	Requirement	Stage	Status / Reference
	<p>construction, as relevant;</p> <p>(b) statutory and other obligations that the Proponent is required to fulfil during construction including approvals, consultations and agreements required from agencies and key legislation and policies. Evidence of consultation with relevant agencies shall be included identifying how issues raised by these agencies have been addressed in the Plan;</p> <p>(c) a description of the roles and responsibilities for relevant employees involved in the construction of the project 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> <p>(d) identification of ancillary facility site locations, including an assessment against the location criteria outlined in condition C28;</p> <p>(e) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase and details of how environmental performance would be monitored and managed 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 project and/ or concurrent construction works with adjacent Pacific Highway Upgrade projects, as relevant). In particular, the following environmental performance issues shall be addressed in the Plan:</p> <p>(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;</p> <p>(ii) measures to minimise hydrology impacts, including measures to stabilise bed and bank structures as required,</p> <p>(iii) measures to monitor and manage impacts associated with the construction and operation of ancillary facilities,</p> <p>(iv) measures for the handling, treatment and management of contaminated materials,</p> <p>(v) measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; use of secondary waste material in construction wherever feasible and reasonable; procedures for dealing with green waste including timber and mulch from clearing activities; and measures for reducing demand on water resources (including the potential for reuse of treated water from sediment control basins);</p> <p>(vi) 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 and a stockpile management protocol detailing locational criteria that would guide the placement of stockpiles and management measures that would be implemented to avoid/ minimize amenity impacts to surrounding residents and environmental risks (including to surrounding water courses). Stockpile sites that affect heritage, threatened species, populations or endangered ecological communities require the approval of the Director General, in consultation with the OEH;</p> <p>(vii) measures to monitor and manage hazard and risks including emergency</p>		<p>approved on 7 July 2014.</p> <p>Roads and Maritime wrote to P&E on 9 and 12 September 2014 seeking approval for the Stage 2 CEMP a number of sub plans. The CEMP and sub plans required by MCoA B31(a) to (e) were approved on 4 November 2014.</p> <p>Roads and Maritime wrote to P&E on 30 July and 29 August 2014 seeking approval for the Stage 3 CEMP a number of sub plans. The CEMP and sub plans required by MCoA B31(a) to (e) were approved on 13 October 2014..</p>

CoA no.	Requirement	Stage	Status / Reference
	<p>management; and</p> <p>(viii) the issues identified in condition B31;</p> <p>(f) details of community involvement and complaints handling procedures during construction, consistent with the requirements of conditions B25 to B28;</p> <p>(g) details of compliance and incident management consistent with the requirements of condition B24; and</p> <p>(h) procedures for the periodic review and update of the Construction Environmental Management Plan and sub-plans required under condition B31, as necessary (including where minor changes can be approved by the Environmental Representative).</p> <p>The Plan shall be submitted for the approval of the Director General no later than one month prior to the commencement of construction, or within such period otherwise agreed by the Director General. Construction works shall not commence until written approval has been received from the Director General.</p>		
B31	As part of the Construction Environment Management Plan for the project required under condition B30, the Proponent shall prepare and implement the following sub plan(s):		
	<p>(a) a Construction Traffic Management Sub-plan, prepared in accordance with the Roads and Maritime Service's QA Specification G10 – Control of Traffic and Traffic Control at Work Sites Manual (2003) to manage disruptions to traffic movements as a result of construction traffic associated with the project. The sub-plan shall be developed in consultation with the relevant council and shall include, but not necessarily be limited to:</p> <p>(i) identification of construction traffic routes and quantification of construction traffic volumes (including heavy vehicle/ spoil haulage) on these routes;</p> <p>(ii) details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points;</p> <p>(iii) details of potential impacts to traffic on the existing highway and associated local roads, including intersection level of service and potential disruptions to pedestrians, public transport, parking, cyclists and property access;</p> <p>(iv) details of temporary and interim traffic arrangements to address potential impacts;</p> <p>(v) a response procedure for dealing with traffic incidents; and</p> <p>(vi) mechanism for the monitoring, review and amendment of this sub-plan;</p>		<p>A Construction Traffic Management Plan (TMP) to address the requirements of this condition was prepared for each stage of the Project.</p> <p>Roads and Maritime wrote to P&E on 21 May 2014 seeking approval for the Stage 1 TMP. The TMP required by this condition was approved on 7 July 2014.</p> <p>Roads and Maritime wrote to P&E on 9 September 2014 seeking approval for the Stage 2 TMP. The TMP required by this condition was approved on 4 November 2014.</p> <p>Roads and Maritime wrote to P&E on 29 August 2014 seeking approval for the Stage 3 TMP. The TMP required by this condition was approved on 13 October 2014.</p>
	<p>(b) a Construction Flora and Fauna Management Sub-plan to detail how construction impacts on ecology will be minimised and managed. The sub-plan shall be developed in consultation with the OEH and DPI (Fishing and Aquaculture) and shall include, but not necessarily be limited to:</p> <p>(i) details of pre-construction surveys undertaken to verify the construction boundaries/footprint of the project based on detailed design and to confirm the vegetation to be cleared as part of the project (including tree hollows, threatened flora and fauna species, mangroves, seagrass and riparian vegetation). The surveys shall be undertaken by a suitably qualified and experienced ecologist and include targeted surveys during suitable conditions for Koalas, Green-thighed Frog, Giant</p>		<p>A Construction Flora and Fauna Management Plan (FFMP) to address the requirements of this condition was prepared in consultation with OEH and DPI (Fishing and Aquaculture) for each stage of the Project.</p> <p>Roads and Maritime wrote to P&E on 21 May 2014 seeking approval for the Stage 1 FFMP. The FFMP required by this condition was approved on 7 July 2014.</p> <p>Roads and Maritime wrote to P&E on 12 September 2014 seeking approval for the Stage 2 FFMP. The FFMP required by this</p>

CoA no.	Requirement	Stage	Status / Reference
	<p>Barred Frog and microbats within and in the vicinity of the project corridor;</p> <ul style="list-style-type: none"> (ii) updated sensitive area/ vegetation maps based on B31(b)(i) above and previous survey work; (iii) details of general work practices and mitigation measures to be implemented during construction to minimise impacts on native fauna and native vegetation (particularly threatened species and EECs) not proposed to be cleared as part of the project, including, but not necessarily limited to: fencing of sensitive areas, a protocol for the removal and relocation of fauna during clearing, presence of a suitably qualified and experienced ecologist to oversee clearing activities and facilitate fauna rescues and re-location, clearing timing with consideration to breeding periods, 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>), erosion and sediment control and progressive re-vegetation; (iv) specific procedures to deal with EEC/ threatened species anticipated to be encountered within the project corridor including re-location, translocation and/or management and protection measures; (v) a management strategy for the Green-thighed Frog and Giant Barred Frog in the case that the pre-construction surveys identify the presence of these species or its habitats in the project corridor or its vicinity. The strategy shall include details of the measures to avoid, minimise and mitigate impacts to these species; (vi) a Microbat management strategy in the case that the pre-construction surveys (undertaken at least 12 months in advance of disturbance to potential roosting structures, or as agreed by the Director General) identify the presence of or evidence of microbat roosting in the project corridor or its vicinity. The strategy shall detail measures to avoid, minimise and mitigate impacts to microbats and identified roost sites, including short and long term management measures; (vii) an aquatic vegetation management strategy for mangroves and seagrass. The strategy shall: <ul style="list-style-type: none"> i. identify the potential for the translocation of mangroves and/ or seagrass impacted by the project; ii. if translocation is feasible, include details of a translocation plan consistent with Policy and Guidelines for Fish Habitat Conservation and Management (NSW Fisheries 1999) including details of ongoing maintenance such as responsibilities, timing and duration; iii. identify a process for incorporating appropriate compensatory habitat for mangroves and/ or seagrass impacted by the project in the Biodiversity Offset Strategy referred to in condition B8 of this approval, should the information obtained during the investigation find that translocation is not feasible or where the monitoring undertaken finds that translocation measures have not been 		<p>condition was approved on 4 November 2014.</p> <p>Roads and Maritime wrote to P&E on 30 July 2014 seeking approval for the Stage 3 FFMP. The FFMP required by this condition was approved on 13 October 2014.</p>

CoA no.	Requirement	Stage	Status / Reference
	<p>successful (as identified through performance criteria); and</p> <ul style="list-style-type: none"> iv. include detail of mitigation measures to be implemented during construction to avoid and minimise impacts to areas identified to contain these species, including impacts from the use and storage of construction plant, equipment, materials and entry by personnel; (viii) a procedure for dealing with unexpected EEC/ threatened species identified during construction including cessation of work and notification of the OEH, determination of appropriate mitigation measures in consultation with the OEH (including relevant re-location measures) and update of ecological monitoring and/ or biodiversity offset requirements consistent with conditions B8 and B10; and (ix) mechanism for the monitoring, review and amendment of this sub-plan; 		
	<ul style="list-style-type: none"> (c) a Construction Noise and Vibration Management Sub-plan to detail how construction noise and vibration impacts will be minimised and managed. The sub-plan shall be developed in consultation with the EPA and include, but not necessarily be limited to: <ul style="list-style-type: none"> (i) identification of nearest sensitive receptors and relevant construction noise and vibration goals applicable to the project; (ii) identification of key noise and/or vibration generating construction activities (based on representative construction scenarios, including at ancillary facilities) that have the potential to impact on surrounding sensitive receivers including expected noise/ vibration levels; (iii) identification of feasible and reasonable measures proposed to be implemented to minimize construction noise and vibration impacts (including construction traffic noise impacts); (iv) procedures for dealing with out-of-hour works in accordance with condition C4, including procedures for notifying the Director General concerning complaints received in relation to the extended hours approved under condition C4(d); (v) 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); (vi) 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; and (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 significant exceedances of relevant noise and vibration goals are detected; 		<p>A Construction Noise and Vibration Management Plan (NVMP) to address the requirements of this condition was prepared in consultation with EPA for each stage of the Project.</p> <p>Roads and Maritime wrote to P&E on 21 May 2014 seeking approval for the Stage 1 NVMP. The NVMP required by this condition was approved on 7 July 2014.</p> <p>Roads and Maritime wrote to P&E on 12 September 2014 seeking approval for the Stage 2 NVMP. The NVMP required by this condition was approved on 4 November 2014.</p> <p>Roads and Maritime wrote to P&E on 29 August 2014 seeking approval for the Stage 3 NVMP. The NVMP required by this condition was approved on 13 October 2014.</p>

CoA no.	Requirement	Stage	Status / Reference
	<p>(d) a Construction Soil and Water Quality Management Sub-plan to manage surface and groundwater impacts during construction of the project. The sub-plan shall be developed in consultation with the OEH, DPI (Fishing and Aquaculture) and NOW and include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) identification of potential sources of erosion and sedimentation, and water pollution (including those resulting from maintenance activities); (ii) details of how construction activities would be managed and mitigated to minimise erosion and sedimentation consistent with condition C17; (iii) where construction activities have the potential to impact on waterways or wetlands (through direct disturbance such as construction of waterway crossings or works in close proximity to waterways or wetlands), site specific mitigation measures to be implemented to minimise water quality, riparian and stream hydrology impacts as far as practicable, including measures to stabilise bed and/ or bank structures where feasible and reasonable, and to rehabilitate affected riparian vegetation to existing or better condition. The timing of rehabilitation of the waterways shall be identified in the sub-plan; (iv) a 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; (v) a tannin leachate management protocol to manage the stockpiling of mulch and use of cleared vegetation and mulch filters for erosion and sediment control; (vi) construction water quality monitoring requirements consistent with condition B16; and (vii) a groundwater management strategy, including (but not necessarily limited to): <ul style="list-style-type: none"> i. description and identification of groundwater resources (including depths of the water table and water quality) potentially affected by the project based on baseline groundwater monitoring undertaken in accordance with condition B16; ii. identification of surrounding licensed bores, dams or other water supplies and groundwater dependant ecosystems and potential groundwater risks associated with the construction of the project on these groundwater users and ecosystems; iii. measures to manage identified impacts on water table, flow regimes and quality and to groundwater users and ecosystems; iv. groundwater inflow control, handling, treatment and disposal methods; and v. a detailed monitoring plan to identify monitoring methods, locations, frequency, duration and analysis requirements; and 		<p>A Construction Soil and Water Management Plan (SWMP) to address the requirements of this condition was prepared in consultation with OEH, DPI (Fishing and Aquaculture) and NOW for each stage of the Project.</p> <p>Roads and Maritime wrote to P&E on 21 May 2014 seeking approval for the Stage 1 SWMP. The SWMP required by this condition was approved on 7 July 2014.</p> <p>Roads and Maritime wrote to P&E on 9 September 2014 seeking approval for the Stage 2 SWMP. The SWMP required by this condition was approved on 4 November 2014.</p> <p>Roads and Maritime wrote to P&E on 30 July 2014 seeking approval for the Stage 3 SWMP. The SWMP required by this condition was approved on 13 October 2014.</p>
	<p>(e) a Construction Heritage Management Sub-plan to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The sub-plan shall be developed in consultation with the OEH and registered Aboriginal stakeholders</p>		<p>A Construction Heritage Management Plan (HMP) to address the requirements of this condition was prepared in consultation with OEH, DPI (Fishing and Aquaculture) and NOW for each stage of</p>

CoA no.	Requirement	Stage	Status / Reference
	<p>(for Aboriginal heritage), and include, but not necessarily be limited to:</p> <p>(i) In relation to Aboriginal Heritage:</p> <ul style="list-style-type: none"> i. details of management measures to be carried out in relation to recorded sites and potential Aboriginal deposits (including further archaeological investigations, salvage measures and/ or measures to protect unaffected sites during construction works in the vicinity); ii. procedures for dealing with previously unidentified Aboriginal objects (excluding human remains) including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified archaeologist in consultation with the Department, OEH and registered Aboriginal stakeholders and assessment of the consistency of any new Aboriginal heritage impacts against the approved impacts of the project, and registering of the new site in the OEH's Aboriginal Heritage Information Management System (AHIMS) register; iii. procedures for dealing with human remains, including cessation of works in the vicinity and notification of the Department, NSW Police Force, OEH and registered Aboriginal stakeholders and not recommencing any works in the area unless authorised by the Department and/ or the NSW Police Force); and iv. Aboriginal cultural heritage induction processes for construction personnel (including procedures for keeping records of inductions) and procedures for ongoing Aboriginal consultation and involvement; and <p>(ii) In relation to non-Aboriginal Heritage:</p> <ul style="list-style-type: none"> i. details of management measures to be carried out in relation to recorded sites (including further heritage investigations, archival recordings and/ or measures to protect unaffected sites during construction works in the vicinity), consistent with the Mitigation and Management Strategies listed in Section 9 of the Non-Indigenous Heritage Impact Assessment prepared by South East Archaeology Pty Limited (dated December 2007); ii. procedures for dealing with previously unidentified non-Aboriginal objects, (including cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the Department and Office of Environment and Heritage (Heritage Branch) and assessment of the consistency of any new non-Aboriginal heritage impacts against the approved impacts of the project; and iii. non-Aboriginal heritage induction processes for construction personnel (including procedures for keeping records of inductions). 		<p>the Project.</p> <p>Roads and Maritime wrote to P&E on 21 May 2014 seeking approval for the Stage 1 HMP. The HMP required by this condition was approved on 7 July 2014.</p> <p>Roads and Maritime wrote to P&E on 9 September 2014 seeking approval for the Stage 2 HMP. The HMP required by this condition was approved on 4 November 2014.</p> <p>Roads and Maritime wrote to P&E on 30 July 2014 seeking approval for the Stage 3 HMP. The HMP required by this condition was approved on 13 October 2014.</p>

CoA no.	Requirement	Stage	Status / Reference
	Part C – During Construction		
	Biodiversity		
C1	The Proponent shall employ feasible and reasonable measures to minimise the clearing of native vegetation during the construction of the project.		The requirements of this condition have been incorporated into the CEMPs and associated FFMP for each stage of the Project. See discussion provided for MCoA B30 and MCoA B31(b).
	Air Quality Impacts		
C2	The Proponent shall employ feasible and reasonable measures (including cessation of relevant works, as appropriate) to ensure that the project is constructed in a manner that minimises dust generation, including wind-blown dust, traffic-generated dust, dust from stockpiles and material tracking from construction and ancillary facility sites onto public roads.		The requirements of this condition have been incorporated into a Construction Air Quality Management Sub-plan (AQMP) prepared as part of the CEMP for each stage of the Project. See discussion provided for MCoA B30.
	Noise and Vibration Impacts		
	<i>Construction Hours</i>		
C3	The Proponent shall only undertake construction activities associated with the project during the following standard construction hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; and (b) 8:00am to 1:00pm Saturdays; and (c) at no time on Sundays or public holidays.		The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).
C4	Works outside of the standard construction hours identified in condition C3 may be undertaken in the following circumstances: (a) works that generate noise that is: (i) no more that 5 dB(A) above rating background level at any residence; or (ii) no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009) at other sensitive land uses; or (b) for delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or (c) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm; or (d) construction works undertaken through sparsely populated areas (being those areas in which sensitive receptors are located greater than 200 metres away from the project boundary). In this case construction is permissible during the following hours: 6.00am to 6.00pm Monday to Friday and 7.00am to 4.00pm Saturdays and at no time on Sundays or public holidays. These works hours may be reviewed and/ or revoked by the Director General in consultation with the EPA in the case of excessive or unresolved noise		The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).

CoA no.	Requirement	Stage	Status / Reference
	complaints; or (e) with the approval of the Director General in accordance with condition C5.		
C5	<p>Construction activities (Out of Hours work) may be allowed to occur outside the construction hours specified in condition C3 with the prior written approval of the Director General. Requests for Out of Hours approval will be considered for construction activities which cannot be undertaken during the construction hours specified in condition C3 for technical or other justifiable reasons and will be considered on a case by case or activity-specific basis. Request for Out of Hours work must be accompanied by:</p> <p>(a) details of the nature and need for activities to be conducted during the varied construction hours;</p> <p>(b) written evidence to the EPA and the Director General that activities undertaken during the varied construction hours are justified, appropriate consultation with potentially affected receivers and notification of the relevant Council has been undertaken, issues raised have been addressed, and all feasible and reasonable mitigation measures have been put in place; and</p> <p>(c) evidence of consultation with the EPA on the proposed variation in standard construction hours.</p> <p>Despite the above, Out of Hours work may also occur in accordance with an approved Construction Environment Management Plan or Construction Noise and Vibration Management Sub-plan for this project, where that plan provides a process for considering the above on a case by case or activity specific basis by the Proponent, including factors (a) to (c) above.</p>		<p>The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).</p> <p>There have been no out of hours approval requests during the reporting period.</p>
C6	<p>Blasting associated with the project shall only be undertaken during the following hours:</p> <p>(a) 9:00am to 5:00pm, Mondays to Fridays, inclusive;</p> <p>(b) 9:00am to 1:00pm on Saturdays; and</p> <p>(c) at no time on Sundays or public holidays.</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>		<p>The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).</p>
<i>Construction Noise and Vibration Goals</i>			
C7	<p>The Proponent shall implement feasible and reasonable noise mitigation measures with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009) during construction activities. Any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Sub-plan required under condition B31.</p>		<p>The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).</p>
C8	<p>The Proponent shall implement all feasible and reasonable mitigation measures with the aim of achieving the following construction vibration goals:</p>		<p>The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for</p>

CoA no.	Requirement	Stage	Status / Reference											
	<p>(a) for structural damage, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures; and</p> <p>(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).</p>		MCoA B31(c).											
C9	<p>The Proponent shall ensure that airblast overpressure generated by blasting associated with the project does not exceed the criteria specified in Table 1 when measured at the most affected residence or other sensitive receiver.</p> <p>Table 1 – Airblast overpressure criteria</p> <table border="1"> <thead> <tr> <th>Airblast overpressure (dB(Lin Peak))</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td>115</td> <td>5% of total number of blasts over a 12 month period</td> </tr> <tr> <td>120</td> <td>0%</td> </tr> </tbody> </table>	Airblast overpressure (dB(Lin Peak))	Allowable exceedance	115	5% of total number of blasts over a 12 month period	120	0%		The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).					
Airblast overpressure (dB(Lin Peak))	Allowable exceedance													
115	5% of total number of blasts over a 12 month period													
120	0%													
C10	<p>The Proponent shall ensure that ground vibration generated by blasting associated with the project does not exceed the criteria specified in Table 2 when measured at the most affected residence or other sensitive receiver.</p> <p>Table 2 – Peak particle velocity criteria</p> <table border="1"> <thead> <tr> <th>Receiver</th> <th>Peak particle velocity (mm/s)</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Residence on privately owned land</td> <td>5</td> <td>5% of total number of blasts over a 12 month period</td> </tr> <tr> <td>10</td> <td>0%</td> </tr> <tr> <td>Non-Aboriginal Heritage item</td> <td>3</td> <td>0%</td> </tr> </tbody> </table>	Receiver	Peak particle velocity (mm/s)	Allowable exceedance	Residence on privately owned land	5	5% of total number of blasts over a 12 month period	10	0%	Non-Aboriginal Heritage item	3	0%		The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).
Receiver	Peak particle velocity (mm/s)	Allowable exceedance												
Residence on privately owned land	5	5% of total number of blasts over a 12 month period												
	10	0%												
Non-Aboriginal Heritage item	3	0%												
C11	To ensure that the criteria specified in conditions C9 and C10 are satisfied at the most affected residence or other sensitive receiver, blasting trials shall be undertaken prior to the commencement of the project's blasting program, with results from the trial blasts used to determine site specific blast design to satisfy the relevant criteria.		The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).											
C12	The blasting criteria identified in conditions C9 and/or C10 may be exceeded where the Proponent has a written agreement with the EPA and the relevant landowner to exceed the criteria identified in conditions C9 and/ or C10 and the Director General has approved the exceedance. In obtaining the Director General approval for any such exceedance the Proponent shall submit to the Director General:		The requirements of this condition have been incorporated into the NVMP for each stage of the Project. See discussion provided for MCoA B31(c).											

CoA no.	Requirement	Stage	Status / Reference
	<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) an assessment of 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;</p> <p>(c) details of the blast management, mitigation and monitoring procedures to be implemented; and (d) details of consultation undertaken (including clear identification of proposed blast limits and potential property impacts) and agreement reached with the relevant landowners and EPA (including a copy of the agreement in relation to increased blasting limits).</p> <p>Unless otherwise agreed by the Director-General, 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;</p> <p>(b) the blasting limit agreed to under any agreement can at no time exceed a maximum Peak Particle Velocity vibration level of 25 mm/s or maximum Airblast Overpressure level of 125 dBL; and</p> <p>(c) these provisions under condition C12 (to increase applicable blast criteria in agreement with the relevant landowners) do not apply where the property is a non-Aboriginal heritage item.</p>		
	<i>Operational Noise Mitigation Review</i>		
C13	<p>Unless otherwise agreed by the Director General, within six months of commencing construction, the Proponent shall, in consultation with the EPA, prepare and submit for the approval of the Director General, a review of the operational noise mitigation measures proposed to be implemented for the project. The review shall:</p> <p>(a) confirm the operational noise predictions of the project 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). The assessment shall specifically include verification of noise levels at the Mingaletta Road rest areas, based on additional noise monitoring undertaken at this location;</p> <p>(b) review the suitability of the operational noise mitigation measures identified in the documents listed under condition A1 to achieve the criteria outlined in the Environmental Criteria for Road Traffic Noise (Environment Protection Authority, 1999), based on the operational noise performance of the project 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 Environmental Criteria for Road Traffic Noise (Environment Protection Authority, 1999).</p>	Construction	<p>Roads and Maritime prepared an operational noise management report to address the requirements of this condition for Stage 2 and submitted it to P&I for approval on 5 November 2013. The Director General subsequently approved the plan on 29 January 2014.</p> <p>As detailed in the Staging Report, within six months of the commencement of Stage 3, or as otherwise agreed with P&E, Roads and Maritime will prepare and submit a report that reviews operational noise mitigation for Stage 1 and Stage 3 of the Project. Any refinements identified during this review will be implemented during construction of the Project. This report is currently being prepared and will be provided for review and approval on or before 13 April 2015.</p>

CoA no.	Requirement	Stage	Status / Reference
	Heritage		
C14	This approval does not allow the Proponent to destroy, modify or otherwise physically affect any human remains as part of the project.		Noted. Compliance with the condition is ongoing throughout all stages of the Project.
C14A	The proponent shall not destroy, modify or otherwise physically affect any heritage items outside the approved project footprint, except where this has been approved by the Director General in accordance with condition C28 of this project approval.		Noted. Compliance with the condition is ongoing throughout all stages of the Project.
C15	The Proponent shall not destroy, modify or otherwise physically affect the Maria River bridge (OHK14), unless otherwise agreed by the Director General.		Noted. Compliance with the condition is ongoing throughout Stage 2 of the Project.
C16	The measures to protect Aboriginal or historic heritage sites near or adjacent to the project during construction shall be detailed in the Heritage Management Sub-plan required under condition B31.		The requirements of this condition have been incorporated into the HMP for each stage of the Project. See discussion provided for MCoA B31(e).
	Sedimentation, Erosion and Water		
C17	Soil and water management measures consistent with <i>Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition</i> (Landcom, 2004) and <i>Managing Urban Stormwater Soils And Construction Vols 2A and 2D Main Road Construction</i> (Department of Environment and Climate Change, 2008) shall be employed during the construction of the project for erosion and sediment control.		The requirements of this condition have been incorporated into the SWMPs for each stage of the Project. See discussion provided for MCoA B31(d).
C18	Where available, and of appropriate chemical and biological quality, the Proponent shall use stormwater, recycled water or other water sources in preference to potable water for construction activities, including concrete mixing and dust control.		The requirements of this condition have been incorporated into the SWMPs for each stage of the Project. See discussion provided for MCoA B31(d).
	Property and Landuse		
	<i>Property Impacts</i>		
C19	The Proponent shall construct the project in a manner that minimises impacts to private properties and other public or private structures (such as dams, fences, utilities, services etc) along the project corridor. In the event that construction of the project results in direct or indirect damage to such property or structure, the Proponent shall arrange and fund repair of the damage to a standard comparable to that in existence prior to the damage occurring, unless otherwise agreed by the relevant property or utility owner.		Noted. Compliance with the condition is ongoing throughout all stages of the Project.
C20	The Proponent shall ensure that access to property is maintained during construction unless otherwise agreed with the property owner in advance and that access physically affected by the project is reinstated to at least an equivalent standard, in consultation with the property owner.		The requirements of this condition have been incorporated into the TMPs for each stage of the Project. See discussion provided for MCoA B31(a).
C21	The Proponent shall, in consultation with relevant property owners, construct the project in a		Noted.

CoA no.	Requirement	Stage	Status / Reference
	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 relevant property owner.		Compliance with the condition is ongoing throughout all stages of the Project.
<i>Forestry Impacts</i>			
C22	Where the project traverses the Cairncross, Ballengarra and Maria River state forests, the Proponent shall, in consultation with DPI (Forests), ensure that construction activities do not unduly disrupt existing forestry activities, access for fire fighting and recreation activities during construction, unless otherwise agreed by DPI (Forests).		Noted. Compliance with the condition where relevant is ongoing throughout Stage 2 and Stage 3 of the Project.
<i>Traffic Impacts</i>			
C23	The roads likely to be used by the project's heavy construction vehicles shall be identified in the Traffic Management Sub-plan required under condition B31(a). Road dilapidation reports shall be prepared for local roads likely to be used by the project's construction traffic, and a copy of the report(s) shall be provided to the relevant council, prior to use by the project's heavy construction vehicles. Any damage resulting from the use of the identified local roads by the project's heavy construction vehicles, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent, unless otherwise agreed by the relevant council.		The requirements of this condition have been incorporated into the TMP for all stages of the Project. See discussion provided for MCoA B31(a). Road dilapidation reports were not required within the Stage 1 scope of works. All traffic movements for Stage 1 are on roads that will be upgraded throughout the course of the Project by either the Stage 1 or Stage 3 contractor. Dilapidation assessments of local roads used by the Stage 2 and Stage 3 contractors have been undertaken prior to the commencement of construction with extensive involvement from Kempsey and Port Macquarie Hastings councils, respectively. The reports are currently being finalised subject to a Roads and Maritime review process and will be formally issued shortly. Agreements to repair damage due to construction traffic have been documented in regular meeting minutes and will be formalised in the final dilapidation reports.
<i>Waste Management</i>			
C24	The Proponent shall not cause, permit or allow waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the Protection of the Environment Operations Act 1997, if such a licence is required in relation to that waste.		The requirements of this condition have been incorporated into a Construction Waste and Energy Management Sub-plan prepared as part of the CEMP for each stage of the Project. See discussion provided for MCoA B30.
C25	The Proponent shall maximise the reuse and/or recycling of waste materials generated on site as far as practicable, to minimise the need for treatment or disposal of those materials off site.		The requirements of this condition have been incorporated into a Construction Waste and Energy Management Sub-plan prepared as part of the CEMP for each stage of the Project. See discussion provided for MCoA B30.
C26	The Proponent shall ensure that liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with <i>Waste Classification Guidelines</i> (Department of Environment and Climate Change, 2008) and where removed from the site is directed to a waste management facility lawfully permitted to accept the materials.		The requirements of this condition have been incorporated into a Construction Waste and Energy Management Sub-plan prepared as part of the CEMP for each stage of the Project. See discussion provided for MCoA B30.

CoA no.	Requirement	Stage	Status / Reference
	Hazards and Risks		
C27	<p>The Proponent shall store and handle dangerous goods, as defined by the Australian Dangerous Goods Code, strictly in accordance with:</p> <ul style="list-style-type: none"> (a) 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 <i>Environment Protection Manual for Authorised Officers: Bunding and Spill Management</i>, 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. 		The requirements of this condition have been incorporated into a Construction Waste and Energy Management Sub-plan prepared as part of the CEMP for each stage of the Project. See discussion provided for MCoA B30.
	Ancillary Facilities		
C28	<p>Unless otherwise approved by the Director General in accordance with this condition, the sites for ancillary facilities (except stockpiles) associated with the construction of the project shall:</p> <ul style="list-style-type: none"> (a) be located more than 50 metres from a waterway; (b) have ready access to the road network or direct access to the construction corridor; (c) be located in areas of low ecological significance and require minimal clearing of native vegetation (not beyond that already required by the project); (d) be located on relatively level land; (e) be separated from the nearest residences by at least 200 metres (or at least 300 metres for a temporary batching plant); (f) not unreasonably affect the land use of adjacent properties; (g) be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; (h) provide sufficient area for the storage of raw materials to minimise, to the greatest extent practical, the number of deliveries required outside standard construction hours; and (i) be located in areas of low heritage conservation significance (including identified Aboriginal cultural value) and not impact on heritage sites beyond those already impacted by the project. <p>Ancillary sites identified that do not meet the above criteria shall be assessed against this criteria to demonstrate how any impacts can be mitigated and managed to acceptable standards (including demonstrating consistency with project impacts identified in the documents listed under condition A1, to the satisfaction of the Director General. Such assessment(s) can be submitted separately or as part of the Construction Environmental Management Plan required under condition B30.</p>		The requirements of this condition have been incorporated into the CEMPs prepared for each stage of construction. See discussion provided for MCoA B30.
C28A	The proponent may request to establish and operate an ancillary facility prior to		Noted.

CoA no.	Requirement	Stage	Status / Reference
	commencement of construction under condition C28. Where establishment and operation of an ancillary facility prior to commencement of construction is proposed, the proponent shall demonstrate that establishment and operation of that ancillary facility prior to commencement of construction complies with all relevant conditions of approval, to the satisfaction of the Director General.		Roads and Maritime wrote to P&E on 23 May 2014 seeking approval to establish and operate an ancillary facility at chainage 7000 (Stage 3) subject to the requirements of this condition. Following revisions to the initial environmental review, P&E approved operation of the facility on 15 October 2014.
C29	<p>The Director General's approval is not required for minor ancillary facilities (e.g. lunch sheds, office sheds, and portable toilet facilities) that do not comply with the criteria set out in condition C28 of this approval and which:</p> <p>(a) are located within an active construction zone within the approved project footprint; and</p> <p>(b) have been assessed by the Environmental Representative to have:</p> <ul style="list-style-type: none"> (i) minimal amenity impacts to surrounding residences, with consideration to matters such as noise and vibration impacts, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and (ii) minimal environmental impact in respect to waste management, and no impacts on flora and fauna, soil and water, and heritage beyond those approved for the project; and <p>(c) have environmental and amenity impacts that can be managed through the implementation of environmental measures detailed in a Construction Environment Management Plan for the project.</p>		<p>Noted.</p> <p>Compliance with the condition is ongoing throughout all stages of the Project.</p>
	Part D – Prior to operation		
	Operational Environmental Management System		
D1	Prior to the commencement of operation, the Proponent shall incorporate the project into its existing environmental management systems.	Construction Operation	Ongoing operational requirements, subject to this approval, will be incorporated into the Roads and Maritime operational management system.

CoA no.	Requirement	Stage	Status / Reference
	Part E – During operation		
	Operational Noise		
E1	<p>Within 12 months of the commencement of operation of the project, or as otherwise agreed by the Director General, the Proponent shall undertake operational noise monitoring to compare actual noise performance of the project against noise performance predicted in the review of noise mitigation measures required by condition C13, and prepare an Operational Noise Report to document this monitoring. The Report shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) noise monitoring to assess compliance with the operational noise levels predicted in the review of operational noise mitigation measures required under condition C13 and documents specified under condition A1 of this approval; (b) a review of the operational noise levels in terms of criteria and noise goals established in the Environmental Criteria for Road Traffic Noise (Environment Protection Authority, 1999); (c) methodology, location and frequency of noise monitoring undertaken, including monitoring sites at which project noise levels are ascertained, with specific reference to locations indicative of impacts on sensitive receivers; (d) details of any complaints and enquiries received in relation to operational noise generated by the project between the date of commencement of operation and the date the report was prepared; (e) any required recalibrations of the noise model taking into consideration factors such as actual traffic numbers and proportions; (f) an assessment of the performance and effectiveness of applied noise mitigation measures together with a review and if necessary, reassessment of all feasible and reasonable mitigation measures; and (g) identification of additional feasible and reasonable measures to those identified in the review of noise mitigation measures required by condition C13, that would be implemented with the objective of meeting the criteria outlined in the Environmental Criteria for Road Traffic Noise (Environment Protection Authority, 1999), when these measures would be implemented and how their effectiveness would be measured and reported to the Director General and the EPA. <p>The Proponent shall provide the Director General 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 Director General.</p>	Operation	<p>Noted.</p> <p>As detailed in the Staging Report, within 12 months of the commencement of operation of each stage of the Project, or as otherwise agreed, Roads and Maritime will undertake operational noise monitoring, and prepare and submit a report addressing the requirements of this condition. Due to the geographical relationship between Stage 1 and Stage 3, one operational noise report would be prepared to cover both stages. The report would be prepared and submitted within 60 days of completion of the operation noise monitoring as prescribed by this condition.</p>

Table 2 - Revised statement of commitments (March 2011)

CoA no.	Requirement	Stage	Status / Reference
	Environmental Management		
EM1	The head contractor for the Proposal will have an environmental management system.	Construction	Ferrovial Agroman (Australia) Pty Ltd were appointed the Roads and Maritime construction partner for Stage 1 McConnell Dowell & OHL Joint Venture were appointed the Roads and Maritime construction partner for Stage 2. Lend Lease Engineering Pty Limited were appointed the Roads and Maritime construction partner for Stage 3 All of Roads and Maritime construction partners for the Project have an environmental management system in place that fulfills the requirements of ISO 14001.
EM2	Suitable qualified and experienced personnel will develop and implement project-specific environmental management plans and procedures. The environmental management plans and procedures will incorporate management measures identified in the environmental assessment.	Construction	A CEMP and associated sub-plans were developed to address the requirements of this commitment for each stage of the Project. See further detail in Table 1 / MCoA B30.
EM3	A construction resource plan will be developed to ensure there are adequate resources to undertake the proposed works according to programme.	Pre-construction	Roads and Maritime has developed an overarching resource plan for the Pacific Highway and one specifically for the Oxley Highway to Kempsey Project. Specific measures and/or considerations that form part of these plans, and others developed by Roads and Maritime's construction partners that would otherwise be included in a project specific construction resource plan, have been incorporated into various other construction related documentation including: construction programs, earthworks plans, quality management system and plans, and the CEMPs.
EM4	The head contractor will implement a construction environmental management plan.	Construction	A CEMP and associated sub-plans have been developed for each stage of the Project for implementation to address the requirements of this condition. See further detail in Table 1 / MCoA B30.
	Community consultation		
CC1	The community will be provided with regular project updates, given prior notice of project activities and provided contact details for enquiries. Where required, affected individuals or groups will be consulted directly and provided with targeted notifications (eg watercourse users and noise affected residences).	Construction	Roads and Maritime and its construction partners for each stage have developed community communications strategies to outline, among other things, how the requirements of this commitment will be addressed. See further detail in Table 1 / MCoA B26. Five community updates were published during the reporting period and included information about the commencement of construction on each stage, programmed future works, Christmas

CoA no.	Requirement	Stage	Status / Reference
			closures etc. Further community updates will be issued during subsequent compliance tracking reporting periods.
CC2	The community will be able to make complaints using the project's 24-hour toll free complaints number or the project web page. The number will be publicised and the project-specific web page will include directions on how to register a complaint. All complaints will be acknowledged within a specified timeframe, recorded and tracked until resolved.	Construction	Refer above to CC1. A toll free 24-hour complaint number has been publicised on the project webpage.
CC3	A community consultation plan will be implemented.	Construction	Refer above to CC1.
CC4	Consultation will take place between the RTA and Forests NSW and all other necessary agencies to agree management principles for Crown land.	Construction	Noted. There is no known crown land adjacent to the Project. If circumstances were to change, the requirements of this commitment would be met by Roads and Maritime.
Land use and property			
LP1	All property acquisitions will be negotiated in accordance with the RTA Land Acquisitions, Policy Statement and compensation will be assessed under the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> .	Pre-construction	All property acquisitions associated with the Project have been undertaken in accordance with the requirements of this condition.
LP2	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 owners for the acquisition of the property in accordance with the provisions of the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> .	Pre-construction and Construction	Noted. Compliance with the condition is ongoing throughout all stages of the Project.
LP3	Forests NSW will have access to areas of state forest land identified for acquisition to remove any harvestable timber within the footprint of the Proposal.	Pre-construction and Construction	Noted. Compliance with the condition is ongoing throughout Stage 2 and Stage 3 of the Project.
LP4	Where a licensed bore, dam or other property water supply is adversely affected the RTA will investigate an alternative source of water or negotiate compensation with the property owner.	Pre-construction and Construction	A number of private bores and one spring fed dam may be affected during construction of Stage 2 and Stage 3 of the Project. Monitoring and/or mitigation of any impacts at these locations has been, or will be, conducted in accordance with the approved Water Quality Monitoring Program. Compliance with the condition is ongoing throughout Stage 2 and Stage 3.
Socio-economic			
SE1	On-going consultation with potentially affected community and businesses will occur prior to and during construction to address concerns and issues and to identify any adaptive management requirements where feasible and reasonable.	Pre-construction and Construction	Roads and Maritime and its construction partners for the Project have developed community communications strategies to outline, among other things, how the requirements of this commitment will be addressed. Further detail is provided in Table 1 / MCoA B26.

CoA no.	Requirement	Stage	Status / Reference
SE2	Adequate signage will be implemented during construction and operation to ensure businesses and their patrons are aware of new access routes and/or potential disruptions.	Pre-construction / Construction / Operation	Roads and Maritime and its construction partners have developed traffic management sub-plan with a process to ensure the requirements of this condition are fulfilled. Further detail is provided in Table 1 / MCoA B26.
SE3	Occupation and use of compounds and work sites will minimise disturbance to adjacent residents by managing, and minimising where possible: the movement of vehicles, particularly outside of standard working hours; providing temporary noise attenuation (eg, shielding) if practicable; and providing screening to minimise visual intrusion.	Construction	CEMPs that incorporate a construction traffic management sub-plans have been prepared for each stage of the Project to address the relevant requirements of this commitment. Further detail is provided in Table 1 / B31(a).
SE4	Traffic management procedures to minimise disruption.	Construction	See comment above for SE3.
SE5	Adopt a construction environmental management plan to minimise amenity impact.	Construction	The CEMPs and Urban Design and Landscape Management Plans developed for each stage of the Project contain a number of measures to minimise amenity impacts during construction. Further detail is provided in Table 1 / B20 and B30.
SE6	Management of acid sulfate soils to minimise impacts on priority oyster aquaculture areas.	Construction	The requirements of this condition have been incorporated into the SWMP for Stage 3 of the Project. Further detail is provided in Table 1 / B31(d).
Surface and groundwater			
SGW1	Bunded areas will be used for storage of oils, chemicals, toxic substances and combustible liquids, and for potentially hazardous and contaminating activities (eg washing construction vehicles, plant and equipment, handling and pouring hazardous materials and liquids etc).	Construction	CEMPs and associated sub-plan (eg SWMP) for each stage of the Project have been prepared in consultation with the EPA, DPI (Fishing and Aquaculture) and NOW to address the requirements of this commitment. Further detail is provided in Table 1 / MCoA B31(d).
SGW 2	Spills will be contained immediately and will be stored in bunded areas until disposal. Spills will be disposed of at a facility that is licensed to receive the waste, or may be disposed of after appropriate treatment.	Construction	Roads and Maritime's Environmental Incident Classification and Reporting Procedure has been adopted by all the construction partners on the Project and will be implemented to address the requirements of this commitment.
SGW 3	Water quality will be monitored upstream and downstream of the Proposal site during construction to determine the effectiveness of mitigation strategies. The monitoring program will be developed in consultation with DECCW.	Construction	Roads and Maritime have developed a Water Quality Monitoring Program in consultation with OEH and NOW to address the requirements of this commitment. The program was provided to the P&I for approval on 11 February 2014. The P&I subsequently approved the program on 5 March 2014.
SGW 4	Specific work method statements for in-stream works will be developed and implemented in consultation with relevant government agencies.	Construction	See comment above for SGW1.
SGW 5	Sediment and erosion control measures will be implemented during the construction and the post construction rehabilitation process.	Construction	See comment above for SGW1.

CoA no.	Requirement	Stage	Status / Reference
SGW 6	The potential for changes in the groundwater table will be further investigated before any major earthworks (defined as a cut or fill with a depth or height exceeding five metres) are undertaken. Where a potential for change is identified, the significance of the change and any resultant impacts will be determined. Where necessary, measures to manage the changes will be designed and implemented.	Pre-construction	Roads and Maritime have developed a Water Quality Monitoring Program in consultation with OEH and NOW to document and address the requirements of this commitment. The report was provided to the P&I for approval on 11 February 2014. The P&I subsequently approved the program on 5 March 2014.
SGW 7	Areas of potential acid sulfate soils and actual acid sulfate soils will be confirmed and managed in accordance with standard environmental management measures.	Construction	See comment above for SGW1. The SWMPs for each stage of the Project contain a Construction Acid Sulfate Management Sub-Plan that outlines how the requirements of this commitment will be addressed.
SGW 8	Design to be sensitive to stream morphology, reduce scour and minimise impacts to vegetation.	Pre-construction and Construction	SWMPs for each stage of the Project have been prepared for the Project in consultation with the EPA, DPI (Fishing and Aquaculture) and NOW to address the requirements of this commitment. Further detail is provided in Table 1 / MCoA B31(d).
SGW 9	The detailed design of minor waterway crossing structures will be refined during detailed design to maximise hydraulic performance.	Pre-construction and Construction	Roads and Maritime and its construction partners have completed the detailed design for the Project. The design incorporates the requirements of this commitment.
SGW 10	Measures to mitigate potential impacts on local geomorphology will be investigated during detailed design.	Pre-construction and Construction	Roads and Maritime and its construction partners have completed the detailed design for the Project. The design incorporates the requirements of this commitment.
SGW 11	A water management plan will be developed to ensure water resources are used in the most efficient manner with a focus on achieving water savings and targeting water recycling and re-use.	Construction	See comment above for SGW1.
Flora and fauna			
F1	Detailed design will minimise the area of native vegetation and habitat to be cleared wherever reasonable and feasible.		Roads and Maritime and its construction partners have completed the detailed design for the Project and have taken into consideration the requirements of this commitment. Minimising the extent of native vegetation clearing has remained a focus throughout this detailed design process. Any further refinements adopted during construction of the Project would also consider this commitment.
F2	The limits of clearing and other native vegetation disturbance will be clearly marked on relevant work plans and on site with temporary fencing installed prior to clearing.		The CEMP and associated FFMPs prepared for each stage of the Project outline how the requirements of this commitment have been addressed.
F3	Rehabilitation and revegetation will be undertaken in stages and as early as practicable to		The FFMP and SWMP prepared for each stage of the Project in consultation with the EPA, and DPI (Fishing and Aquaculture)

CoA no.	Requirement	Stage	Status / Reference
	restore and enhance habitat opportunities.		outline how the requirements of this commitment have been addressed.
F4	Habitat features and resources for native fauna (such as hollow-bearing trees, hollow logs, nest boxes and bush rocks) impacted by the Proposal will be relocated where feasible and reasonable. Such relocation will be undertaken in a manner to limit damage to existing vegetation and will not occur in high condition remnant vegetation.		The FFMP prepared for each stage of the Project in consultation with the EPA, and DPI (Fishing and Aquaculture) outline how the requirements of this commitment have been addressed.
F5	Native and locally indigenous plants will be used in the landscaping and disturbed areas will be progressively revegetated.		The FFMP and Urban Design and Landscape Plan (UDLP) prepared for each stage of the Project in consultation with the EPA outline how the requirements of this commitment have been addressed. Further detail is provided in Table 1 / MCoA B20, MCoA B31.
F6	Watercourse crossings will be designed to facilitate fish passage where appropriate and in consultation with relevant government agencies.		Waterway crossings associated with the Project have been design with reference to the NSW Department of Primary Industries, <i>Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings</i> , 2003 and in consultation with the DP&I (Fishing and Aquaculture) to fulfill the requirements of this commitment.
F7	Water quality control measures will be installed as early as possible in the construction program and will be designed / selected to meet identified receiving water objectives.		SWMPs have been prepared for each stage of the Project in consultation with the EPA, DPI (Fishing and Aquaculture) and NOW to address the requirements of this commitment. In addition, EPLs issued for the Project require a number of temporary and/or permanent water quality control basins to be installed prior to broad-scale clearing and earthworks. This has occurred extensively across the Project.
F8	A weed management strategy would be developed as part of the construction environmental management plan.		FFMPs that include Weed Management Strategies have been prepared for each stage of the Project to address the requirements of this commitment.
F9	Threatened plants in proximity to the Proposal that are to be retained will be identified by pre construction surveys and protected during construction through exclusion fencing and education of construction workers through the site induction process.		FFMPs have been prepared in consultation with OEH for each stage of the Project to address the requirements of this commitment.
F10	The feasibility of relocating individuals of threatened species to suitable habitat will be investigated.		FFMPs prepared in consultation with OEH for each stage of the Project include a consideration of the feasibility of relocating individuals of threatened species to address the requirements of this commitment. One threatened plant species (<i>Maundia triglochinooides</i>) will be directly impacted by the Project. The species occurs at four locations within the Project corridor and will be directly impacted at two of these locations. Due to the species requisite habitat requirements and the relatively small impact attributable to the

CoA no.	Requirement	Stage	Status / Reference
			Project, relocation of individual plants is not proposed. Rather, further direct impacts attributable to the Project will be avoided by the implementation of mitigation measures that define clearing limits and protect water quality in adjacent waterways.
F11	Consideration would be given to constructing artificial frog ponds if appropriate.		CFFMPs prepared for Stage 2 and Stage 3 of the Project detail the location of four artificial frog ponds to be constructed to address the requirements of this commitment. There will be two ponds in each stage.
F12	A suitably qualified ecologist will undertake pre-clearance surveys. Searches will include nests and large hollow-bearing trees and target habitats of hollow-dwelling species, koalas and frogs. Fauna species found in pre-clearance surveys will be relocated to suitable habitat as close as possible to the area in which they were found.		FFMPs prepared for the Project in consultation with the EPA outline how the requirements of this commitment will be addressed. Pre-clearing surveys have occurred extensively during this reporting period.
F13	Where feasible and reasonable, removal of frog habitat along drainage lines will not be undertaken during periods of wet weather.		Roads and Maritime and its construction partners have prepared FFMPs for each stage of the Project to address the requirements of this commitment.
F14	The construction contractor will maintain contact details for local DECCW officers, WIRES and/or other relevant local wildlife carer groups.		Contact details for local OEH officers, WIRES and/or other relevant local carer groups have been included in the FFMPs prepared for each stage of the Project. The plans will be updated as required by the mechanisms outlined in Section 9 of the respective CEMPs.
F15	Surveys will be undertaken for threatened bat species by a suitably qualified ecologist to identify any roosting bats prior to the demolition of the existing highway bridges. Any bats will be moved and relocated following consultation with DECCW.		Roads and Maritime has developed a micro-bat strategy in consultation with OEH to address the requirements of this commitment. The micro-bat strategy forms an important comment of the FFMPs prepared for each stage of the Project. See further detail at Table 1 / MCoA B31(b)(vi)
F16	Development of a nest box strategy will be undertaken.		Roads and Maritime prepared a Nest Box Plan to address the requirements of this commitment and submitted it to the P&I for approval on 30 July 2013. P&I subsequently approved the plan on 14 October 2013. The nest box strategy has been incorporated into the FFMPs prepared for each stage of the Project.
F17	Culverts and bridges identified in the Environmental Assessment as having a potential role in fauna crossing will be designed to facilitate fauna movements where feasible and reasonable.		Detailed design of fauna and waterway crossings has been completed for the Project. Roads and Maritime wrote to the P&I on 26 July 2013 regarding Stage 2 advising that there were changes to the final design of some fauna crossing locations and dimensions compared to that presented in Table 6-2 of Appendix B of the document listed under MCoA A1(d). A report prepared in consultation with DPI (Fishing and Aquaculture) and EPA outlining those changes, among other things, was provided at the same time and approval for those

CoA no.	Requirement	Stage	Status / Reference
			<p>changes sought. The P&I approved the changes in correspondence provided to Roads and Maritime on 25 September 2013.</p> <p>Detailed design of fauna and waterway crossings has also been completed for Stage 3. Roads and Maritime wrote to the P&E on 9 December 2014 advising that there were changes to the final design of some fauna crossing locations and dimensions compared to that presented in Table 6-2 of Appendix B of the document listed under condition A1(d). A report prepared in consultation with DPI (Fishing and Aquaculture) and EPA outlining those changes, among other things, was provided at the same time and approval for those changes sought. An approval from P&E remains outstanding.</p>
F18	The feasibility of widening the median will be further investigated in consultation with DECCW during the detailed design.		<p>Roads and Maritime prepared an Oxley Highway to Kempsey Widened Median Assessment and provided it to P&I for approval on 19 September 2013. The department reviewed the assessment and indicated that they had no objections to the conclusions drawn by the assessment, but noted that further matters needed to be addressed to fully satisfy conditions B4 and B5.</p> <p>Roads and Maritime subsequently prepared an Oxley Highway to Kempsey Widened Median Assessment Supplementary Report and provided it to P&I for approval on 11 February 2014.</p> <p>Following a review, the department advised that the original and supplementary assessments satisfied both conditions B4 and B5 with respect to Stage 3 of the Project. However, noted that the two reports satisfied only condition B4 with respect to Stage 3 of the Project.</p> <p>The department indicated that a further supplementary report for Stage 3 would be required to satisfy the outstanding requirements outlined in earlier correspondence. Roads and Maritime and its construction partners prepared a further supplementary report to address the outstanding requirements and provided it to P&E on 15 September 2014. P&E subsequently approved the supplementary report on 8 January 2015.</p>
F19	Fauna exclusion fencing (eg floppy-top fencing) will be erected along the Proposal at appropriate locations to direct fauna movement towards fauna crossing structures.		Detailed design has been completed for the Project and includes the provision of about 50 kilometres of fauna exclusion fencing (eg floppy top fencing, frog fencing) consistent with the requirements of this commitment.
F20	An agreement will be developed in negotiation with Department of Planning and in consultation with DECCW for habitat offsets.		Roads and Maritime have developed a Biodiversity Offset Strategy to address the requirements of this commitment in consultation with OEH and DPI (Fishing and Aquaculture). The report was

CoA no.	Requirement	Stage	Status / Reference
			provided to the P&I for approval on 31 October 2013. The P&I subsequently approved the strategy on 27 January 2014.
F21	A monitoring program will be developed to allow the effectiveness of mitigation and offset measures to be assessed and allow for their modification if necessary. The program will be for a minimum of 12 months after construction completion.		Roads and Maritime have developed an Ecological Monitoring Program to address the requirements of this commitment in consultation with OEH and DPI (Fishing and Aquaculture). The report was provided to the P&I for approval on 4 December 2013. The P&I subsequently approved the program on 29 January 2014.
Noise and vibration – construction noise			
CN1	All feasible and reasonable mitigation and management measures to minimise construction noise and vibration at sensitive receivers will be investigated. Noise and vibration will be monitored to measure against predicted levels. Where required, feasible and reasonable mitigation measures will be implemented.	Construction	NVMPs prepared for the Project in consultation with the EPA address the relevant requirements of this commitment. Further detail is provided in Table 1 / B31(c).
CN2	All reasonable attempts will be made to contact sensitive receivers that will be affected by blasting at least 48 hours prior. Blasting will normally be limited to between 9am and 5pm Monday to Friday and between 9am and 1pm Saturday. No blasting will take place outside these hours without approval from Department of Planning and following consultation with and/or notification of local residents and DECCW.	Construction	See comment above for CN1.
CN3	<p>Construction will normally be limited to the following hours:</p> <ul style="list-style-type: none"> • Between 6am and 6pm Monday to Friday. • Between 7am and 4pm Saturday. <p>There would be no works outside these hours, or on Sundays or public holidays, except:</p> <ol style="list-style-type: none"> (a) For works that do not cause construction noise to be audible at any sensitive receivers. (b) For the delivery of materials required outside these hours by the Police or other authorities for safety reasons. (c) Where work is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm. (d) For any other work as agreed through negotiations between the RTA and potentially affected sensitive receivers. Any such agreement must be recorded in writing and a copy kept on site for the duration of the works. (e) Where the work is identified in the construction noise and vibration management plan and approved as part of the construction environmental management plan. (f) As otherwise agreed by the DECCW. Local residents and the DECCW will be informed of the timing and duration of work approved under items (d) and (e) at least 48 hours before that work commences. Hours of work will be addressed in the construction noise and vibration management plan, which will be finalised in consultation with the Department of Planning and the DECCW. 	Construction	See comment above for CN1.

CoA no.	Requirement	Stage	Status / Reference
	Noise and vibration – operational noise		
ON1	Where required, reasonable and feasible noise and vibration management measures will be further developed and implemented during detailed design in consultation with relevant property owners.		Roads and Maritime prepared an operational noise management report to address the requirements of this commitment for Stage 2 and submitted it to P&I for approval on 5 November 2013. The Director General subsequently approved the plan on 29 January 2014. As detailed in the Staging Report, within six months of the commencement of Stage 3, or as otherwise agreed with P&E, Roads and Maritime will prepare and submit a report that reviews operational noise mitigation for Stage 1 and Stage 3 of the Project. Any refinements identified during this review will be implemented during construction of the Project. This report will be provided for review and approval on or before 13 April 2015.
ON2	Operational noise will be monitored within one year after construction is finished. If monitoring indicates a clear trend that traffic noise levels exceed those predicted, all further feasible and reasonable measure will be investigated. Any additional mitigation measures will be developed in consultation with a suitably qualified and experienced acoustic specialist and the affected property owner.		Noted.
	Visual amenity and design		
VAD1	A detailed urban and landscape design plan would be developed during the detailed design phase. The detailed design and implementation of built elements (such as new carriageways, bridges and roadside furniture) and landscapes, and the mitigation of residual impacts will be undertaken in accordance with the visual and design objectives and principles of the Proposal.		Urban design and landscape plans have been developed for each stage of the Project and approved by P&E. These plans address this and other visual amenity and design commitments. Further detail on each plan is provided in Table 1 / MCoA 20.
VAD2	Built elements will be robust, long-lasting, replaceable and easy to maintain materials and designs.		See comment above for VAD1.
VAD3	The schedule of species to be used in the landscaping treatments will include self-sustaining native and locally indigenous plants that will be selected in consultation with a qualified landscape officer.		See comment above for VAD1.
VAD4	Disturbed areas will be progressively revegetated with consideration to related controls such as erosion and sedimentation controls, drainage and future road user safety requirements.		See comment above for VAD1.
VAD5	Design criteria will be applied during detailed design to reduce any potential adverse visual impacts to the existing landscape character and visual amenity.		See comment above for VAD1.
VAD6	Landscaped or rehabilitated areas will be monitored and maintained for a minimum of two years after opening.		An Ecological Monitoring Program in response to MCoA B10 has been prepared to address the requirements of this commitment. Also see comment above for VAD1.

CoA no.	Requirement	Stage	Status / Reference
	Traffic and transport		
T1	Pre-construction dilapidation reports will be prepared for all non-arterial roads likely to be used by construction traffic. Copies of the reports will be provided to the relevant roads authority.	Pre-construction	<p>The requirements of this commitment have been incorporated into the TMP for all stages of the Project. See discussion provided for MCoA B31(a).</p> <p>Road dilapidation reports were not required within the Stage 1 scope of works. All traffic movements for Stage 1 are on roads that will be upgraded throughout the course of the Project by either the Stage 1 or Stage 3 contractor.</p> <p>Dilapidation assessments of local roads used by the Stage 2 and Stage 3 contractors have been undertaken prior to the commencement of construction with extensive involvement from Kempsey and Port Macquarie Hastings councils, respectively. The reports are currently being finalised subject to a Roads and Maritime review process and will be formally issued shortly. Agreements to repair damage due to construction traffic have been documented in regular meeting minutes and will be formalised in the final dilapidation reports.</p>
T2	Post-construction dilapidation reports will be prepared for the roads assessed in T1 above. Copies of the reports will be provided to the relevant roads authority. Any damage resulting from construction, (not normal wear and tear), will be repaired or an alternative arrangement for road damage will be agreed with the relevant roads authority.	Operation	<p>Traffic management plans have been developed for each stage of the Project to address the requirements of this commitment.</p> <p>Further detail is provided in Table 1 / B31(a).</p>
T3	Construction vehicle movements, work programs and traffic control measures will be planned to avoid or minimise impacts on traffic through the implementation of all feasible and reasonable design, and mitigation and management measures.	Construction	<p>Traffic management plans have been developed for each stage of the Project to address the requirements of this commitment.</p> <p>Further detail is provided in Table 1 / B31(a).</p>
T4	The centre spans of the bridges over the Hastings River and the Wilson River will be no lower in height than the existing bridges to ensure navigational clearance is maintained.	Pre-construction	Detailed design for Stage 3 of the Project addressed the requirements of this commitment.
T5	Consultation with those residents whose access will be affected during construction will be undertaken.	Construction	<p>Roads and Maritime and its construction partner for the Project have developed community communications strategies and traffic management plan to outline, among other things, how the requirements of this commitment will be addressed.</p> <p>Further detail is provided in Table 1 / MCoA B26, MCoA B31(a).</p>
T6	Signposting and crossing points will be provided for cyclists at the on and off ramps at interchanges offering a safer cycling and pedestrian environment.	Operation	Detailed design for the Project has been completed and includes features that address the requirements of this commitment.
T7	Provision will be made to maintain access for the existing bus operation.	Construction and Operation	Detailed design for the Project has been completed and includes features that address the requirements of this commitment.

CoA no.	Requirement	Stage	Status / Reference
	Aboriginal heritage		
AH1	An Aboriginal heritage management plan will be developed to document procedures, management measures and protocols to minimise impacts.	Pre-construction	Construction heritage management sub-plans have been prepared for each stage of the Project in consultation with OEH and registered Aboriginal stakeholders to address the relevant requirements of this commitment. Further detail is provided in Table 1 / B31(e).
AH2	Items and areas of archaeological significance not directly affected will be protected during construction.	Construction	See comment above for AH1.
AH3	Protocols will be established and implemented should any previously unidentified Aboriginal objects or human skeletal remains be encountered during construction works on the project. All works in the vicinity of the find will cease until Police and Aboriginal heritage specialist advice is obtained and the DECCW.	Construction	See comment above for AH1.
AH4	Any Aboriginal heritage items directly affected will be managed in consultation with Aboriginal stakeholders and the DECCW.	Construction	See comment above for AH1.
AH5	All construction personnel will receive Aboriginal heritage awareness training on their obligations for protection of Aboriginal cultural materials, including information on site locations, conservation management requirements and legal obligations in regard to Aboriginal cultural materials.	Construction	See comment above for AH1.
AH6	The RTA will comply with the NSW Government's Aboriginal Participation in Construction Guidelines.	Construction	Noted.
AH7	The RTA will consult with the Birpai Local Aboriginal Land Council regarding management of any potential adverse impacts on the identified sensitive site in accordance with the aboriginal heritage management plan.	Pre-construction and construction	Consultation with Birpai Local Aboriginal Land Council is ongoing with an agreement on appropriate management measures to protect sensitive sites reached. Further liaison is in progress to finalise the design measures agreed and make arrangements for representation to be available during implementation of the measures.
	Air quality		
AQ1	Feasible and reasonable mitigation measures will be adopted to minimise windblown, traffic-generated or equipment-generated dust and emissions.	Construction	The requirements of this commitment have been incorporated into the construction air quality management sub-plans prepared for each stage of the Project. Further detail is provided in Table 1 / MCoA B30.
AQ2	Dust generating activities will stop where visible dust is being emitted outside the construction corridor and when dust suppression methods are ineffective.	Construction	See comment above for AQ1.

CoA no.	Requirement	Stage	Status / Reference
	Greenhouse gases and energy		
G1	Energy efficient work practices will be adopted to limit energy use. Where reasonable and feasible, equipment and management measures will be adopted to minimise energy use and greenhouse gas production. Minimise vegetation clearance where possible.	Construction	The requirements of this commitment have been incorporated into construction waste and energy management sub-plans prepared for each stage of the Project and form part of the respective CEMPs. Further detail is provided in Table 1 / MCoA B30.
G2	A lighting scheme will be developed during detailed design. The aim of the design will be to minimise the use of lighting.	Pre-construction	Noted. Lighting was considered during detailed design, with the aim of minimising the use of lighting, where possible.
	Non-Aboriginal heritage		
NH1	The detailed design will minimise impacts to the identified non-Aboriginal heritage items where feasible and reasonable.	Pre-construction and Construction	Noted. In addition, HMPs have been prepared for each stage of the Project in consultation with OEH and registered Aboriginal stakeholders to address the relevant requirements of this commitment. Further detail is provided in Table 1 / B31(e).
NH2	A non-Aboriginal heritage management plan will be developed.	Pre-construction	See comment above for NH1.
NH3	Staff will receive training with respect to identifying items of non-Aboriginal heritage during construction and the correct methods of communication on the worksite.	Construction	See comment above for NH1.
NH4	If any material of potential archaeological significance is unearthed, work will cease until specialist heritage advice has been obtained. Should any material of potential archaeological significance be unearthed, the Heritage Branch would be notified.	Construction	See comment above for NH1.
	Waste minimisation and management		
WMM1	The 'waste hierarchy' (avoid/reuse/recycle/ resource recovery/disposal) will be maximised during construction; incorporated into work programs, purchase strategies and site inductions; and will be assessed quarterly to identify opportunities for improvement. Recycled materials will be used where feasible.	Construction	The requirements of this commitment have been incorporated into construction waste and energy management sub-plans prepared for each stage of the Project and form part of the respective CEMPs. Further detail is provided in Table 1 / MCoA B30.
WMM2	Staff to be trained in waste reduction.	Construction	See comment above for WMM1.
WMM3	A waste register to be developed during construction.	Construction	See comment above for WMM1.
WMM4	Any waste material that is unable to be re-used, reprocessed or recycled will be disposed at a facility approved to receive that type of waste. Waste will be disposed at a facility licensed to accept that classification of waste.	Construction	See comment above for WMM1.

CoA no.	Requirement	Stage	Status / Reference
	Contamination		
C1	Areas of potential contamination identified during preconstruction and construction activities will be further investigated and appropriately managed.	Pre-construction and Construction	<p>The Environmental Assessment identified five areas of potential for contamination within the Project. Further investigations have been undertaken to identify potential sources of contaminated soils. For Stage 1 and Stage 3, this includes Expressway Spares within the Sancrox Traffic Arrangement, Birdon Marine at Hastings River, and potential areas of opportunistic dumping of asbestos. In April 2013, Roads and Maritime finalised a targeted contamination report for areas within the Sancrox Traffic Arrangement works considered to present a contamination risk.</p> <p>The outcomes of this report, among other things, have been incorporated in the SWMPs prepared for Stage 1 and Stage 3. These SWMPs have been developed in consultation with the EPA, DPI (Fishing and Aquaculture) and NOW, and address contamination matters as they related to each specific stage.</p> <p>No specific sites either known to be contaminated or with the potential to be contaminated were identified in Stage 3. However, in the event contamination is discovered during construction, the unexpected finds procedure contained within the SWMP would be implemented.</p> <p>Further detail on the approved SWMPs are provided in Table 1 / MCoA B31(d).</p>
	Geology and soils		
GS1	Erosion and sedimentation management and control measures will be designed and installed with the advice of a soil conservationist. Controls will be inspected regularly, maintained and managed to maximize their effectiveness.	Construction	<p>SWMPs have been prepared for each stage of the Project in consultation with the EPA, DPI (Fishing and Aquaculture) and NOW to address this commitment.</p> <p>Further detail is provided in Table 1 / MCoA B31(d).</p>
GS2	Acid Sulphate Soil Management Plan will be developed to outline strategies that will be implemented to manage potential impacts of development works that are likely to disturb acid sulfate soils.	Construction	<p>See comment above for GS1.</p> <p>The SWMPs contain construction acid sulfate management sub-plans that outline how the requirements of this commitment will be addressed.</p>
GS3	Geotechnical investigations will be undertaken as part of the detailed design phase to confirm preliminary geotechnical investigative works.	Pre-construction	Completed and incorporated into the Project during development of the detailed design.
GS4	Geomorphologic investigations will be undertaken during the detailed design phase to determine bank and riverbed stability.	Pre-construction	Completed and incorporated into the Project during development of the detailed design.
GS5	A spoil management strategy will be identifying opportunities for re-using the material onsite and locations outside the Proposal for re-use or disposal. Re-use onsite will be the priority.	Construction	Spoil management strategies were prepared as part of the detailed design phase and will be implemented as part of the

CoA no.	Requirement	Stage	Status / Reference
			SWMP for the respective stages.
GS6	Detailed design of cut slopes and embankments will be undertaken to ensure there will be minimal long term adverse impacts to banks.	Pre-construction	Completed and incorporated into the Project during development of the detailed design.
	Utility services		
US1	Utilities and services potentially affected by construction will be identified and requirements for their diversion, protection and / or support identified. Alterations to services will be determined in negotiation with the service providers and will ensure that disruption to services resulting from the project are limited and advised to customers.	Pre-construction and Construction	Completed and incorporated into the Project during development of the detailed design.

Appendix B

Complaints

Complaints

No.	Receipt	Entity	Category	Description of issue	Response	Action taken	Status
Stage 1 – Sancrox Traffic arrangement works							
1	25/09/2014	Roads and Maritime works depot staff	Dust	Concern was raised about dust being generated from construction activities on Service Road 1	25/09/2014	Site foreman and engineer were made aware of the complaint and a water cart was deployed to manage the area of concern. Plant and vehicle operators were reminded of site speed limits and the need to adhere to them at all times.	Closed
2	7/11/2014	Roads and Maritime works depot staff	Dust	Concern was raised about dust being generated from construction activities.	7/11/2015	Site foreman and engineer were made aware of the complaint and a water cart was deployed to manage the area of concern. Plant and vehicle operators were reminded of site speed limits and the need to adhere to them at all times.	Closed
3	6/02/2015	Port News local newspaper	Property access	A newspaper article in the Port News alleged access to the adjacent Abundance Nursery off Sancrox Road had been prevented.	17/2/2015	Roads and Maritime consulted with businesses in the area prior to the proposed road closure and signage was provided to Abundance Nursery to assist mitigate any access issues. Council subsequently removed the signs as they did not comply with their requirements. After which time the news article was published indicating that access to Abundance Nursery had been prevented. Additional consultation has been undertaken, and signs that conform with council requirements have been ordered. Feedback from Abundance Nursery indicates they are satisfied with the level of consultation and action to date.	Closed
Stage 2 – Kundabung to Kempsey							
4	1/09/14	Resident	Worker behaviour	A resident on Mingaletta Road complained that a Lend Lease vehicle had driven recklessly on his property.	1/09/14	An investigation determined that the vehicle in question was a subcontractor's survey vehicle working on behalf of the Stage 2 contractor. The vehicle had unintentionally used a private property access to turn around. A toolbox training session was held for personnel working in the area to highlight the need to avoid the property and to ensure the action did not reoccur. The advice was also reiterated during the daily pre-starts for the work area.	Closed

No.	Receipt	Entity	Category	Description of issue	Response	Action taken	Status
5	20/11/2014	Resident	Worker behaviour	Concern expressed regarding the speed of a water truck using a local road (ie Mingaletta Road) to turn around.	20/11/2014	Traffic control for Mingaletta Road amended to restrict the movement of construction vehicles in the area and to ensure that these movements do not extend beyond the project corridor unless specific arrangements are made. Daily pre-start amended to include instructions to not use private driveways for u-turns and to adhere to the speed limits on local roads. A follow up phone call to resident was made to inform them of the new traffic control measures. Resident happy with the response.	Closed
6	20/11/2014	Resident	Traffic management	Truck delivering gravel to site turned up earlier than instructed and used resident's driveway on Mingaletta Road to perform a u-turn.	20/11/2014	Traffic control for Mingaletta Road amended to restrict the movement of construction vehicles in the area and to ensure that these movements do not extend beyond the project corridor unless specific arrangements are made. Daily pre-start amended to include instructions to not use private driveways for u-turns and to adhere to the speed limits on local roads. Quarry supplier reminded of the importance to adhere to booking times and to avoid arriving early. Follow up phone call to resident to inform them of the new traffic control measures. Resident indicated that they were glad the issue had been taken seriously.	Closed
7	4/12/2014	Resident	Traffic management	New traffic signage installed during out of hours work placed too low and creates a blind spot for resident when leaving their driveway.	5/12/14	Sign shifted during the following day shift (5/12/14)	Closed
8	18/12/2014	Resident	Lighting	Concern that compound site security lighting shines into bedroom.	18/12/2014	Light turned off on evening of complaint. The light was subsequently shifted and directed toward the ground to minimise light spill.	Closed
9	05/01/2015	Resident	Lighting	Follow up call from earlier complaint regarding site security lighting. Light spill considered to still be an issue and that redirecting the lighting was insufficient to resolve the issued.	05/01/2015	Lighting turned off by security personnel for the evening and resident contacted to inform them of the action taken. The resident was also advised that site staff would liaise with them the following day to discuss a resolution to the issue. Lighting identified to be the problem rewired to a separate circuit and now turned off each night.	Closed
10	18/01/2015	Motorist	Traffic management	Travelling westbound on Kundabung Road the motorist shifted over to the left to allow more room	19/1/2015	Safety Manager and Community Relations Officer investigated at 7am Monday 19 January	Closed

No.	Receipt	Entity	Category	Description of issue	Response	Action taken	Status
				for larger vehicle traveling east. Front passenger tyre went down into a service location hole that was not back filled. The motorist experienced a large sound and felt the event may have caused damage to the vehicle. A Project security guard was driving through after the event and assisted with getting the car out and locating sand bags from the compound to fill in the hole temporarily.		2015. Photos of the site were taken, and incident report and investigation completed. Service location holes were backfilled on Monday day shift. A toolbox training session across the site was undertaken on the incident on Wednesday 21 January 2015. Resident informed by phone of process that had followed and advised that they were happy that hole had been repaired. Repeated offers for inspection of residents' car for damage was politely turned down.	
11	19/01/2015	Motorist	Damage to property	Motorist's vehicle windscreen damaged from debris falling from gravel truck transporting material for the Project.	13/02/2015	Motorist provided with details of local business where damage would be repaired at no cost. Motorist advised that they were satisfied with Project team response.	Closed
12	20/01/2015	Motorist	Traffic management	Motorist advised that construction signage south of Wharf Road was blocking views when attempting to turn right on to the Highway.	23/01/2015	Motorist advised that investigation would be undertaken. Sign relocated following investigation by Traffic Manager.	Closed
13	02/02/2015	Busways	Traffic management	Busways advised that they had received an email from concerned parents about the safety of their children waiting on the side of the highway prior to and following pick-ups and drop-offs. An area historically used by parents for parking was now being utilised by construction light vehicles.	11/02/2015	A meeting with the Traffic Manager, Community Relations Officer and Busways on site was held to discuss concerns and issues. Open and ongoing consultation with Busways is continuing. Each bus stop within the Project is being evaluated and improvements proposed/implemented.	Open
Stage 3 – Oxley Highway to Kundabung							
14	1/09/14	Resident	Damage to public roads	A resident on Glen Ewan Road was concerned about the impact on the road surface by construction traffic. He also expressed a view that noise and dust had increased since Lend Lease arrived in the area. He was advised that Lend Lease had put a proposal to Port Macquarie Hasting Council to upgrade the roadway before it was used as an access to a construction compound.	1/09/14	Resident was satisfied that if the road was upgraded it would improve conditions in the area. The road was upgraded in November 2014. This included grading the road and applying a new surface. Ongoing maintenance is undertaken by the Stage 3 contractor.	Closed
15	13/10/14	Motorist	Traffic management	Complaint regarding traffic control near Cooperabung Drive. Driver suggested that there was not enough warning that traffic was stopped ahead and he was concerned that trucks could not stop in time for queuing traffic	13/10/14	Matter was investigated including interviews with on-site traffic controllers. Amendments to traffic control had been made on site at the time. The driver had indicated that he did not require a further response from the Stage 3 construction	Closed

No.	Receipt	Entity	Category	Description of issue	Response	Action taken	Status
						partner.	
16	17/10/14	Resident	Traffic management	Resident off Pacific Highway complained that surveyors had entered private property.	17/10/14	Surveyors were reminded of property access arrangements and additional signage placed at the property to ensure construction vehicles do not enter the property without relevant approvals in place.	Closed
17	23/10/14	Resident	Road design	Resident of Glen Ewan Road complained that groundwater wells from which water is currently drawn will be filled in by Project.	23/10/14	Alternative wells were provided by the Project prior to construction commencing. Additional measures to maintain connectivity between old and new wells are being implemented.	Closed
18	27/10/14	Resident	Road design	Resident of Glen Ewan Road complained about the proposed pavement type of the new highway. He also complained that he had not received drawings showing the pavement type.		Roads and Maritime is currently reassessing the requirement to provide low noise pavement at this location.	Open
19	27/10/14	Resident	Property access	Resident on Pacific Highway complained that access to property had been disrupted by construction vehicles blocked the driveway.	27/10/14	Paraweb fencing was installed to delineate the private driveway to prevent construction vehicles using the driveway. The issue was discussed as part of a toolbox training session and all workers in the area directed to avoid using the driveway whenever possible.	Closed
20	6/11/14	Resident	Road design	Resident off Wyndell Close concerned about the potential increased traffic on Wyndell Close when it becomes part of the interchange.	11/11/14	<p>The proposed arrangement of the interchange at Wyndell Close has not changed from what was proposed in the Environmental Assessment. Traffic will increase along Wyndell Close as it is currently a dead end. Whilst the resident was aware of this, further discussion was had regarding the proposed arrangement and any traffic impacts.</p> <p>The resident also expressed concern regarding the landscaped area at the front of their property that currently sits within the road reserve. Assistance was provided to this landowner to relocate some landscape plantings and a water feature out of this area, in preparation for upcoming construction works.</p>	Closed
21	10/11/14	Resident	Noise and vibration	Resident on Glen Ewan Road concerned about vibration from vibratory roller	19/1/15	Vibration monitoring was undertaken that showed the levels to be within acceptable criteria. The resident was advised that the monitoring had taken place and of the monitoring results. Work practices were revised	Closed

No.	Receipt	Entity	Category	Description of issue	Response	Action taken	Status
						whereby the roller was used for shorter periods of time.	
22	10/11/14	Resident	Dust	Resident on Glen Ewan Road concerned dust monitoring was not occurring in the area	19/1/15	Dust monitor since installed in April 2015. The resident was informed that the monitor would be installed. The monitor is now visible from the resident's property. The resident was advised in a letter that dust monitoring results for the Project will be published on a six monthly basis and made publically available.	Closed
23	10/11/14	Resident	Road design	Resident on Glen Ewan Road requested that the pavement type be changed in the area.		Roads and Maritime is currently reassessing the requirement to provide low noise pavement at this location.	Open
24	20/11/14	Resident	Worker behaviour	Concern regarding the speed of construction vehicles travelling on Cooperabung Road.	20/11/14	Expectations for driver behaviour was the subject of a toolbox training session where drivers were reminded to travel slowly in the area and adhere to posted speed limits. The resident confirmed that vehicles appeared to have slowed down.	Closed
25	25/11/14	Resident	Operational noise mitigation	Resident on Pacific Highway complained that noise mitigation measures have not been installed on their home prior to the commencement of construction work.		The operational noise report is currently being finalised to determine the level of treatment required at each individual sensitive receiver. No commitment has been made by the Project to install these mitigation measures prior to the commencement of construction of the Project. The Environmental Assessment identifies that management measures at individual residences would be refined during detailed design in consultation with the affected property owners and that this would include detailed operational noise modeling. As mentioned above, this work is currently being finalised. This resident has been provided an update on the progress of this work.	Open
26	1/12/14	Resident	Property access	Resident on Pacific Highway complained that property access had been blocked by construction vehicle.	1/12/14	Procedures regarding access to the work site via private driveways were revised. Resident was advised of the direction to workers to keep the driveway clear.	Closed
27	10/12/14	Resident	Traffic management	Resident on Federation Way complained that vehicles badged with 'Lend Lease' were speeding on Cooperabung Drive.	10/12/14	Toolbox talk training session undertaken to reiterate expectations for drivers of construction vehicles on the local road network ie obeying posted speed limits and being respectful of other	Closed

No.	Receipt	Entity	Category	Description of issue	Response	Action taken	Status
						road users. Further traffic control measures for construction vehicles on Cooperabung Drive are under consideration.	
28	23/01/15	Resident	Water quality	Resident adjacent to Pacific Highway concerned that debris in site runoff (eg leaves, sticks) may result in the boundary fence flood flap being trapped open and in turn allow stock (eg cattle) to escape.	23/01/15	The complaint was investigated and noted the extreme rain event that triggered the complaint (ie greater than 200mm). It was agreed to monitor the waterway during future rain events and clear any obvious build up of debris.	Closed
29	31/01/15	Resident	Road design	Residents of Glen Ewan Road attended a community information session in Port Macquarie and expressed concern at potential operational noise of the new highway if the pavement is concrete.		Roads and Maritime is currently reassessing the requirement to provide low noise pavement at this location.	Open

Appendix C

Incidents

Stage 1 environmental incidents

No.	Activity in progress	Incident description	Damage caused	Contributing factor(s)	Action taken
1	Topsoil stripping and excavation for sediment basin partially outside of Environmental Protection Licence (EPL) scheduled premises boundary.	Works outside of project / EPL scheduled premises boundary.	Breach of EPL / approval. Small excavation and topsoil stockpile placed outside of Project boundary. Removal of ground cover and understorey vegetation. No impact on upper-storey vegetation.	Survey set out was not checked against Project or EPL scheduled premises boundary.	Works ceased immediately at this location, the approved EPL scheduled premises boundary established and delineated with flagging tape. Topsoil was also re-instated across area immediately. Temporary controls installed and to remain until ground cover established. Preventative actions include: <ul style="list-style-type: none"> • Survey to ensure set out against approved limit of works. • Permit to excavate updated to include EPL and clearing limits counter approval. • Toolbox talk training session undertaken on 29 July 2014 for site team covering the need for clear delineation of the Project boundary prior to any works commencing within any area of the site.
2	Vegetation clearing for bridge abutment.	Clearing outside of EPL scheduled premises boundary for the western bridge abutment	Breach of EPL / approval.	Confusion with several boundaries associated with the approval (including works approval, clearing limits, fencing limits).	Works ceased immediately at this location, the approved EPL boundary established and delineated with flagging tape as a no-go area. Preventative actions include: <ul style="list-style-type: none"> • Survey to ensure set out against approved limit of works. • Permit to excavate updated to include EPL and clearing limits counter approval. • Toolbox talk training session undertaken for site team covering the need for clear delineation of the Project boundary prior to any works commencing within any area of the site.
3	Stockpile of cleared vegetation in low-lying area near waterway.	A post rainfall event inspection identified tannin impacted waters beyond	Tannin impacted waters beyond the project boundary. Watercourse downstream	Mulch had been used as a perimeter bund for erosion and sediment control in numerous locations around the site	Vegetation was immediately removed from low-lying areas adjacent to Fern Bank Creek Road. Mulch bunds were substituted

No.	Activity in progress	Incident description	Damage caused	Contributing factor(s)	Action taken
		Project boundary	may have potentially received tannin affected runoff. Any potential impacts would be considered minimal given the limited amount of rainfall received.		in low-lying areas of the site with silt fencing, or similar, where standing water is likely to occur.
4	Hauling general fill to approved stockpile site at Ancillary Site 3.	Material staining/mud tracking onto the Pacific Highway from near Ancillary Site 3.	Material on public road with the potential to result in dirty runoff in future rain event, potential dust generation and/or potential to damage to motorist vehicles.	<ul style="list-style-type: none"> Machinery operating on stockpile too soon after rain event. Access road not sufficiently stabilised to prevent mud tracking. 	<p>The haulage and stockpiling operation between Sancrox to Ancillary Site 3 were suspended until measures could be implemented to eliminate further impact to the Pacific Highway at this location.</p> <ul style="list-style-type: none"> Haul roads re-surface with clean material where practical. Rumble strips to at least 15 metres long and containing large size rock installed. Rock 'turned over' prior to haulage activities to remove fines. Rock rumble strips refreshed regularly.

Stage 2 environmental incidents

No.	Activity in progress	Incident description	Damage caused	Contributing factor(s)	Action taken
5	Vegetation clearing with harvester at chainage 34740	Hydraulic fluid spill from harvester.	Release of about 12 liters of hydraulic fluid to ground immediately adjacent to harvester. Oil contained to site.	Tracking between stump cut areas – stump caught hose.	<ul style="list-style-type: none"> Contaminated / affected soil collected and removed from site for disposal at licensed landfill. Plant repaired and inspection undertaken to ensure no further damage.
6	Vegetation clearing of spoil site	A parcel of vegetation was cleared outside of the Roads and Maritime approved clearing limits.	Clearing of 189m ² of Moist Floodplain Forest and 633m ² of Moist Slopes Forest	<ul style="list-style-type: none"> Clearing limit flagging tape had been removed. Ineffective supervision at time of clearing 	<ul style="list-style-type: none"> Site wide toolbox talk training session on the importance of clearing limits. Clearing permit amended to include daily check of clearing limits by foreman, environmental team member and clearing sub-contractor. Foreman and clearing subcontractor to have copy of clearing permit at all

No.	Activity in progress	Incident description	Damage caused	Contributing factor(s)	Action taken
					times.
7	Vegetation clearing	A parcel of vegetation was cleared outside of approved clearing limits by sub-contractor	Clearing of about 100m ² of Moist Floodplain Forest.	<ul style="list-style-type: none"> Ineffective supervision at time of clearing. Breakdown of procedure for clearing activities. Operator error. 	<ul style="list-style-type: none"> Operator removed from site. Re-trained clearing crews in Roads and Maritime clearing DVD. Supplementary toolbox training session on requirements of the clearing Environmental Work Method Statement. Site wide toolbox training session on the incident.
8	Storage of mulched vegetation in stockpiles	Tannin leachate sump overtopped below mulch stockpile due to insufficient upslope controls.	Release of tannin-laden water into clean water drainage system.	<ul style="list-style-type: none"> Poor positioning of stockpile. Insufficient sump capacity for catchment. Absence of up-slope bunding to divert water from stockpiles. 	<ul style="list-style-type: none"> Site wide toolbox training session on the requirements for tannin leachate management. Daily checks of Environmental Action Lists including stockpile mulch. Warning issued to site personnel responsible for management of area.

Stage 3 environmental incidents

No.	Activity in progress	Incident description	Damage caused	Contributing factor(s)	Action taken
9	Access to Project corridor by grader through State Forest NSW track network – ie Passionfruit Road, Cooperabung (State Forest).	To gain access to the Project corridor a grader operator had to drive the Grader along a 300 metres section of forestry access track. Without instruction, the operator decided to lower the blade and graded the existing track.	Grader ground disturbance on access track without permit outside Project boundary	Operator negligence	All works in that area stopped, an inspection was carried out and minor works by hand were undertaken to control sediment run-off in event of wet weather. Persons involved in the incident, Project staff and the subcontractor participated in an incident review meeting to try and determine actions that lead to the event. Northern site team reviewed all activities including safety and environmental obligations and communicated this to all site personnel.
10	Clearing and grubbing between chainage 10450 and chainage 10613 on the southbound arm of	A subcontractor bulldozer operator continued to clear around 160 metres past the end of day chainage of the	A 160 metre long track cleared within clearing limits without a clearing permit.	Operator negligence	All clearing operations in the Southern section of the Project were stopped immediately. A preliminary investigation was undertaken by Project and

No.	Activity in progress	Incident description	Damage caused	Contributing factor(s)	Action taken
	the widened median north of Mahogany Road.	clearing permit.			subcontractor personnel. A change to the pre-clearing procedure has been implemented that now makes it compulsory for plant operators to attend pre-clearing walks in addition to supervisors. Stop signs are also erected at end chainages of the clearing permits, along with blue and white danger tape. Disciplinary action for both the dozer operator and the supervisor involved is under consideration.
11	Operation of excavator at Hastings Floodplain (South) chainage 5500.	Hydraulic hose of excavator was broken during works.	Release of approximately 20 litres of hydraulic fluid onto the ground. Spill was contained to site		The environmental coordinator was notified immediately and the spill cleaned up with spill kit. All materials used to clean up the spill were transported to the Project workshop for off site disposal at a licensed facility.
12	Drainage works / rock placement at East Road.	Landholder agreement was in place for access to a drainage retention area for the purpose of construction water. Requests were underway for access through Forestry by the Stage 3 contractor. However, clean rock was placed in ruts on an existing access track without an approval in place	Clean rock was placed in ruts on an existing access track.	Breakdown in communication	Once identified all works were ceased and the environmental team were informed. Works only recommenced once environmental consistency was approved and released.
13	Vegetation clearing at chainage 10550	During a period of strong winds a tree being felled fell outside the approved limit of clearing. Removal of the tree from this area was not conducted in accordance with the approved process.	Minor impacts on vegetation to be retained outside clearing limit.	Strong wind gusts.	The tree was removed and clearing delineation fencing re-instated. The area was assessed by the Project ecologist who determined the level of impact to be negligible. Tree felling operations during periods of high wind to be reviewed.

Appendix D

Monitoring

Flora and fauna

Fauna relocations, injuries and mortalities by species

No. of species	Species / common name	Number	Status
	Stage 1 – Sancrox		
1	Blackish Blind Snake (<i>Ramphotyphlops nigrescens</i>)	1	Relocated
2	Lace monitor (<i>Varanus varius</i>)	3	Relocated
	Stage 2 – K2K		
1	Bar-sided forest-skink (<i>Eulamprus tenuis</i>)	11	Relocated
2	Blackish Blind snakes (<i>Ramphotyphlops nigrescens</i>)	10	Relocated
3	Blue-tongue Lizard (<i>Tiliqua scincoides</i>)	1	Deceased [#]
4	Brown Antechinus (<i>Antechinus stuartii</i>) - 2 adults, 13 young	15	Relocated
5	Common Brush-tailed Possum (<i>Trichosurus vulpecula</i>)	1	Relocated
	Common Brush-tailed Possum (<i>Trichosurus vulpecula</i>)	3	Deceased [#]
6	Common Froglet (<i>Crinia signifera</i>)	2	Relocated
7	Delicate Skink (<i>Lampropholis delicata</i>)	20	Relocated
8	Diamond Python (<i>Morelia spilota</i>)	1	Relocated
	Diamond Python (<i>Morelia spilota</i>)	1	Deceased [#]
9	Dwarf-crowned Snake (<i>Cacophis krefftii</i>)	1	Deceased [#]
10	Eastern Bearded Dragon (<i>Pogona barbata</i>)	1	Relocated
11	Eastern Brown Snake (<i>Pseudonaja textilis</i>)	1	Relocated
12	Eastern Crevice Skink (<i>Egernia mcpheei</i>)	4	Relocated
13	Eastern Dwarf Tree Frog (<i>Litoria fallax</i>)	>5	Relocated
14	Eastern Grey Kangaroo (<i>Macropus giganteus</i>)	3	Deceased [#]
15	Feather-tailed Glider (<i>Acrobates pygmaeus</i>) -1 adult, 3 young	4	Relocated
16	Great Barred Frog (<i>Mixophyes fasciolatus</i>)	>10	Relocated
17	Green Tree Frog (<i>Litoria cerulean</i>)	1	Relocated
18	Green Tree Snake (<i>Dendrelaphis punctulata</i>)	1	Relocated
19	Green-thighed Frog (<i>Litoria brevipalmata</i>)	12	Relocated
20	Marsh Snake (<i>Hemiaspis signata</i>)	1	Relocated
21	Red-backed Toadlet (<i>Pseudophryne coriacea</i>)	>10	Relocated
22	Red-necked Wallaby (<i>Macropus rufogriseus</i>)	1	Deceased [#]
23	Red-tailed Calyptotis (<i>Calyptotis ruficauda</i>)	5	Relocated
24	Ring-tailed Possum (<i>Pseudocheirus peregrinu</i>)	2	Deceased [#]
25	Peron's tree frog (<i>Litoria peronii</i>)	2	Relocated
26	Pink-toughed Skink (<i>Cyclodomorphus gerrardii</i>)	5	Relocated
	Pink-toughed Skink (<i>Cyclodomorphus gerrardii</i>)	1	Relocated
27	Sacred Kingfisher (<i>Todiramphus sanctus</i>) – eggs only	2	Relocated
28	Southern Leaf-tailed Gecko (<i>Phyllurus cornutus</i>)	10	Relocated
29	Stephens' Banded Snake (<i>Hoplocephalus stephensii</i>)	1	Relocated

No. of species	Species / common name	Number	Status
30	Stripped Marsh Frog (<i>Limnodynastes peroni</i>)	>30	Relocated
31	Swamp Wallaby (<i>Wallabia bicolor</i>)	12	Deceased [#]
32	Tusked Frog (<i>Adelotus brevis</i>)	4	Relocated
	Stage 3 – OH2Ku		
1	<i>Adelotus brevis</i>	1	Relocated
2	Antechinus	1	Relocated
3	Bandy Bandy	2	Relocated
4	Black bellied Swamp Snake	4	Relocated
5	Blackish Blind Snake	2	Relocated
6	Blind Snake	1	Relocated
	Blind Snake	1	Mortality
7	Blue tongue Lizard	1	Relocated*
8	Brown Antechinus	2	Relocated
	Brown Antechinus	1	Mortality
	Brown Antechinus (juvenile died in care)	5	Mortality
	Brown Antechinus pinkies	5	Died in care
9	Brush-tail Possum spp.	1	Relocated
10	Bush Rat	1	Relocated
11	<i>Calyptotis</i> spp	1	Relocated
12	Common Ringtail Possum	1	Relocated
13	Common Tree Snake (Green)	1	Relocated
14	Eastern Small-eyed Snake	1	Relocated
15	Echidna	2	Relocated
	Echidna	1	Relocated*
16	<i>Egernia mcpheeii</i>	3	Relocated
17	<i>Eulampris</i> spp.	1	Relocated
	<i>Eulampris</i> spp.	2	Relocated
18	<i>Eulampris tenuis</i>	1	-
	<i>Eulampris tenuis</i>	7	Relocated
19	<i>Eulamprus</i> sp	1	Relocated
20	Feathertail Glider spp.	2	Relocated
21	Figbird eggs	3	Euthanased
22	Fossorial Skink spp.	1	Relocated
23	Green tree snake	1	Mortality
24	Jacky Lizard	1	Relocated
25	Koala	1	Relocated*
26	Lace Monitor	1	Relocated

No. of species	Species / common name	Number	Status
27	<i>Lampropholis amricula</i>	1	Relocated
28	<i>Lampropholis delicata</i>	15	Relocated
29	<i>Litoria dentata</i> tadpoles	~170	Relocated
30	<i>Litoria fallax</i>	21	Relocated
31	<i>Litoria nasuta</i>	2	Relocated
	<i>Litoria nasuta</i>	1	Mortality
32	<i>Litoria peronii</i>	3	Relocated
33	<i>Litoria tyleri</i>	6	Relocated
34	Narrow toed Feathertail Glider	5	Relocated
35	Pink Tongue Lizard	1	Relocated
36	<i>Pseudophryne coreacea</i>	2	Relocated
37	Sacred Kingfisher eggs	9	N/A
	Sacred Kingfisher nestlings	4	Relocated
	Sacred Kingfisher chicks	3	Relocated
	Sacred kingfisher eggs	4	Destroyed
	Sacred kingfisher eggs	4	Destroyed
	Sacred Kingfisher Chicks	5	Mortality
38	<i>Saiphos equalis</i>	1	Relocated
39	<i>Saproscicus oriarus</i>	1	Relocated
40	Small Eyed Snake	2	Relocated
41	Sugar Glider (5 released, 2 stolen)	7	Relocated
	Sugar Glider	2	Relocated
42	Tawny Frogmouth	1	Relocated
43	<i>Uperolia</i> spp.	1	Relocated
44	Yellow Faced Whip Snake	1	Relocated

Recorded as road kill within the Project area.

* - Taken to off-site care eg veterinary hospital, wildlife care.

Vegetation clearing by vegetation type

Vegetation type	Total for period (hectares)	Total to date (hectares)	Remaining (hectares)
Stage 1 – Sancrox			
Moist Slopes Forest	6.28	6.28	0.25
Moist Gully Forest	0.04	0.04	0.00
Riparian Forest	0.71	0.71	0.00
Total	7.02	7.02	0.25
Stage 2 – K2K			
Note available at this time			
Total	35	35	
Stage 3 – OH2Ku			
Paperbark Swamp Forest	3.41	3.41	6.11
Moist Floodplain Forest	10.05	10.05	11.12
Dry Ridgetop Forest	19.55	19.55	6.25
Moist Slopes Forest	8.56	8.56	24.58
Moist Gully Forest	8.76	8.76	8.61
Moist Floodplain closed Forest	0.00	0.00	2.85
Riparian Forest	0.41	0.41	0.66
Swamp Mahogany Forest	1.47	1.47	8.87
Swamp Oak Forest	0.00	0.00	1.11
Fresh Wetland	0.73	0.73	3.09
Total	52.93	52.93	73.25

Air quality

Stage 1 air quality monitoring (dust)

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month	Comments (where applicable)
Sancrox D1	Cassegrain Winery access road	15/07/14	13/08/14	2.3	
		13/08/14	11/09/14	0.8	
		11/09/14	10/10/14	0.9	
		10/10/14	10/11/14	1.9	
		10/11/14	10/12/14	3.2	
		10/12/14	8/01/15	1.3	
		Annual rolling average			2
Sancrox D2	Roads and Maritime depot south east of Sancrox Road and Pacific Highway	15/07/14	13/08/14	0.9	
		13/08/14	11/09/14	0.6	
		11/09/14	10/10/14	0.9	
		10/10/14	10/11/14	1.3	
		10/11/14	10/12/14	1.3	
		10/12/14	8/01/15	0.8	
		Annual rolling average			1

Stage 2 air quality monitoring (dust)

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month	Comments (where applicable)
K2K 01	Mingaletta Road West	21/07/14	20/08/14	0.4	
		20/08/14	19/09/14	<i>Not Available</i>	
		19/09/14	21/10/14	0.5	
		20/10/14	20/11/14	4.5	Prior to construction
		20/11/14	19/12/14	2.0	
		19/12/14	22/01/15	0.4	
		Annual rolling average			1.6
K2K 02	Mingaletta Road East	21/07/14	20/08/14	0.8	
		20/08/14	19/09/14	0.3	
		19/09/14	21/10/14	1.5	
		20/10/14	20/11/14	4.1	Prior to construction
		20/11/14	19/12/14	0.9	
		19/12/14	22/01/15	1.0	
		Annual rolling average			1.4
K2K 03	35 Old Pacific Highway	21/07/14	20/08/14	0.3	
		20/08/14	19/09/14	1.0	
		19/09/14	21/10/14	1.3	
		20/10/14	20/11/14	2.3	
		20/11/14	19/12/14	2.9	
		19/12/14	22/01/15	4.1	
		Annual rolling average			2.0
K2K 04	183 Old Pacific Highway	21/07/14	20/08/14	1.5	
		20/08/14	19/09/14	0.3	
		19/09/14	21/10/14	1.1	
		20/10/14	20/11/14	7.6	Prior to construction
		20/11/14	19/12/14	4.8	Construction 420 metres away on other side

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month)	Comments (where applicable)
					of forested area
		19/12/14	22/01/15	0.4	
		Annual rolling average		2.6	
K2K 05	8 Wharf Road	21/07/14	20/08/14	1.0	
		20/08/14	19/09/14	1.0	
		19/09/14	21/10/14	3.3	
		20/10/14	20/11/14	0.6	
		20/11/14	19/12/14	1.9	
		19/12/14	22/01/15	1.9	
		Annual rolling average		1.6	
K2K 06	Tipping Property	21/07/14	20/08/14	0.1	
		20/08/14	19/09/14	0.6	
		19/09/14	21/10/14	0.6	
		20/10/14	20/11/14	1.4	
		20/11/14	19/12/14	2.5	
		19/12/14	22/01/15	0.4	
		Annual rolling average		0.9	
K2K 07	180 Rodeo Drive	21/07/14	20/08/14	0.7	
		20/08/14	19/09/14	0.3	
		19/09/14	21/10/14	0.3	
		20/10/14	20/11/14	1.8	
		20/11/14	19/12/14	2.0	
		19/12/14	22/01/15	0.7	
		Annual rolling average		1.0	
K2K 08	100 Ravenswood Road	21/07/14	20/08/14	0.8	
		20/08/14	19/09/14	2.8	
		19/09/14	21/10/14	2.3	

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month)	Comments (where applicable)
		20/10/14	20/11/14	2.4	
		20/11/14	19/12/14	1.9	
		19/12/14	22/01/15	0.5	
		Annual rolling average		1.8	
K2K 09	1359 Pacific Highway	21/07/14	20/08/14	0.4	
		20/08/14	19/09/14	0.5	
		19/09/14	21/10/14	0.8	
		20/10/14	20/11/14	1.0	
		20/11/14	19/12/14	1.7	
		19/12/14	22/01/15	0.8	
		Annual rolling average		0.9	
K2K 10	722 Pacific Highway	21/07/14	20/08/14	1.8	
		20/08/14	19/09/14	0.5	
		19/09/14	21/10/14	1.2	
		20/10/14	20/11/14	1.8	
		20/11/14	19/12/14	1.4	
		19/12/14	22/01/15	1.5	
		Annual rolling average		1.4	
K2K 11	38 Kemps Road	21/07/14	20/08/14	4.2	
		20/08/14	19/09/14	2.1	
		19/09/14	21/10/14	5.6	Prior to construction.
		20/10/14	20/11/14	4.0	
		20/11/14	19/12/14	1.8	
		19/12/14	22/01/15	1.3	
		Annual rolling average		3.2	
K2K 12	74 Kemps Road	21/07/14	20/08/14	1.1	
		20/08/14	19/09/14	0.8	

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month)	Comments (where applicable)
		19/09/14	21/10/14	3.8	
		20/10/14	20/11/14	3.3	
		20/11/14	19/12/14	5.7	No construction in area. Large development unrelated to the Project to the north.
		19/12/14	22/01/15	1.6	
		Annual rolling average		2.7	

Stage 3 air quality monitoring (dust)

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month	Comments (where applicable)
DML1	Pacific Highway – Chainage 1700 south bound carriageway	09/09/2014	08/10/2014	1.6	
		08/10/2014	09/11/2014	3.7	
		09/11/2014	12/12/2014	1.7	
		12/12/2014	09/01/2015	0.7	
		09/01/2015	06/02/2015	0.7	Full
		Annual rolling average			1.7
DML2	Hastings River – Chainage 5500 south bound carriageway	09/09/2014	08/10/2014	1.1	
		08/10/2014	09/11/2014	2	
		09/11/2014	12/12/2014	1.2	Insects, very dirty
		12/12/2014	07/01/2015	3.5	Insects
		09/01/2015	06/02/2015	5.8	Full, insects, fine dust
		Annual rolling average			2.7
DML3	Floodplain – Chainage 11400 south bound carriageway at Bill Hill Road (Gauge to be relocated following clearing of the corridor if required)	09/09/2014	08/10/2014	1.5	Sticks, Insects
		08/10/2014	09/11/2014	3.3	
		09/11/2014	12/12/2014	1.1	Insects, moderately dirty
		12/12/2014	09/01/2015	3.2	Algae
		09/01/2015	06/02/2015	0.8	Full, algae
		Annual rolling average			2.0
DML4	Private property Chainage 18000 north bound	09/09/2014	08/10/2014	1.4	
		08/10/2014	09/11/2014	4.4	Insects
		09/11/2014	12/12/2014	1.2	Some vegetation, slightly dirty
		12/12/2014	09/01/2015	1.4	
		09/01/2015	06/02/2015	1.8	Full

Site reference number	Location	Deployed	Retrieved	Total insoluble matter g/m ² /month	Comments (where applicable)
		Annual rolling average		2.0	
DML5	State Forest Chainage 21000 south bound	09/09/2014	08/10/2014	1.1	Leaves, dirt
		08/10/2014	09/11/2014	5	Vegetation, dirt
		09/11/2014	12/12/2014	3.5	Insects, moderately dirty
		12/12/2014	08/01/2015	2.3	
		09/01/2015	06/02/2015	0.7	Broken funnel neck in bottle, low volume
		Annual rolling average		2.5	

Noise and vibration monitoring

Stage 1 noise monitoring

July 2014

Noise monitoring was not undertaken during July.

August 2014

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	05/08/2014	Not recorded	North 13 (Fernbank Creek Road – 200m north east of project boundary)	59dB	Not recorded – no Project were in progress	Construction noise not audible. Noise attributable to Pacific Highway road traffic and industrial activities adjacent to the Project
2	05/08/2014	16:36-16:51 15 minutes	South 12 (private access track - 300m south of project boundary)	59dB	53.2dB	Clearing works were being undertaken approximately 300 metres from the monitoring location. Pacific Highway was dominant noise source with clearing works inaudible.

September 2014

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	1/9/14	10:17-10:32 15 minutes	North 13	59dB	52.5dB	Clearing of Sancrox Service Road 3 (SSR3) being undertaken adjacent to monitoring location. Pacific Highway and Fernbank Creek Road were the dominant noise sources.
2	1/9/14	10:41-10:56 15 minutes	South 12	59dB	53.2dB	Sediment basin construction/minor earthworks were being undertaken. Works were visible but noise inaudible (monitoring location approximately 300 metres from the works).

October 2014

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	1/10/14	9:26-9:41 15 minutes	South 12	59dB	53.7dB	Earthworks being undertaken included topsoil stripping and cut to fill. The monitoring location was approximately 300 metres from the works. Background noise was primarily the Pacific Highway, with the construction works audible.
2	1/10/14	11:02-11:17 15 minutes	North 13	59dB	55.3dB	Construction activities included services installation and erosion and sediment control installation. Construction works audible. Pacific Highway Predominant noise source

November 2014

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	12/11/14	13:15-13:30 15 minutes	North 13	59dB	54dB	Construction activities were earthworks on Sancrox Service Road 3.
2	12/11/14	11:00-11:15 15 minutes	South 12	59dB	53.1dB	Construction works included bridge works and the placement of select material. Works were inaudible, with the Pacific Highway being the primary noise source.

December 2014

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	18/12/14	13:00-13:15/15 minutes	North 13	59dB	53.9dB	Construction activities involved the stripping of topsoil. Works were inaudible.
2	18/12/14	11:00-11:15/15 minutes	South 12	59dB	52.7dB	Construction activity involved stockpiling mulch. Works were visible, but inaudible

January 2015

Monitoring was not undertaken during January due the absence of suitably trained field staff to operate the noise monitoring equipment and prevailing wet weather conditions. Less construction activity was undertaken during the first two weeks of the month given the large amount of construction staff on leave. Construction activities in progress during the month were consistent with those during earlier months and therefore it has been considered that exceedances of the noise management level were unlikely.

Stage 2 noise monitoring

On Stage 2, the Construction Noise and Vibration Management Plan requires quarterly unattended monitoring, due to commence in February 2015. However, this is currently being reviewed to align with the noise monitoring being conducted on the other stages of the project (ie monthly, attended).

Stage 3 noise monitoring

December 2014

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	17/12/14	10:18am – 15 minutes	404 Cooperabung Drive, Cooperabung	61	53.3	Sources of noise heard at the noise monitoring location included birds, insects, traffic on local road and dogs barking. The construction noise heard included: truck and dogs as well as light vehicles moving. The dominant noise source was the insects and birds.
2	17/12/14	NA	9336 Pacific Highway, Cooperabung	59		Unable to get representative reading due to angry dog as well as an unsafe alternative location place to record reading due to proximity to highway.
3	17/12/14	10:38am – 15 minutes	247-275 Cooperabung Drive, Cooperabung	53	50.5	The sources of noise heard at this location included resident/business sawing wood, birds, insects, traffic on local roads and the rustling of trees due to wind. No construction noise was heard at the noise monitoring location. The dominant noise sources were the insects and the resident/business sawing wood.
4	17/12/14	11:35am – 15 minutes	8 Haydons Wharf Road, Cooperabung	57	55.5	Construction noise was heard at the noise monitoring location in the form of excavators working, a hydro digger working, light vehicles travelling down local roads, traverse alarms and a water cart working within the construction area. Other noise noises included birds, insects and traffic on the Pacific Highway. Construction was the dominant noise source.
5	15/12/14	3:55pm – 15 minutes	540 Hacks Ferry Road, Hacks Ferry	37	46.8	Sources of noise heard at the noise monitoring location included: insects, birds, trees rustling due to wind and faint traffic from the Pacific Highway. No construction noise was heard at the noise monitoring location. The dominant noise source was the wind in the trees and the insects (cicadas and crickets).

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq} (15 min))	Observations
6	15/12/14	3:34pm – 15 minutes	98 Rollands, Plains Road, Telegraph Point	58	64.9	Sources of noise heard at the monitoring location were: local traffic, traffic on the Pacific Highway, birds, insects and a resident using a power tool. No construction noise was heard and the main noise source was the local traffic.
7	15/12/14	3:05pm – 15 minutes	52 Moorside Drive, Telegraph Point	57	45	Sources of noise heard from the noise monitoring location included: birds, insects, trees rustling due to the wind, dogs barking and a resident moving a garbage bin which causes a rustling/rumbling sound. No construction noise was heard at the noise monitoring location.
8	15/12/14	12:33pm – 15 minutes	The Hatch East Road, The Hatch	43	48	No construction noise was heard at the noise monitoring location. The sources of noise heard at the noise monitoring location included birds, insects and the wind. The wind rustling the trees along with the insects were dominant noise sources.
9	15/12/14	2:39pm – 15 minutes	79 Glen Ewan Road, Pembroke	43	41	Sources of noise that were heard at the noise monitoring location included: water from the Hastings River, traffic from the Pacific Highway and birds. Construction work consisted of the construction of a wick drain. This work could not be heard from the noise monitoring locations. The main sources of noise were the traffic on the Pacific Highway.
10	15/12/14	2:20pm – 15 minutes	11 Glen Ewan Road, Pembroke	56	55.7	Sources of noise that could be heard from the noise monitoring location included: traffic travelling on the Pacific Highway, local traffic and birds. Construction equipment that could be seen and heard from the noise monitoring location included light vehicles travelling down local roads and faint reverse alarms. The main source of noise was the traffic travelling on the Pacific Highway.

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
11	15/12/14	1:30pm – 15 minutes	26 Bushland Drive, Sancrox	51	49.9	Construction work consisted of placing barriers on the Pacific Highway; however this noise could not be heard from the noise monitoring location. Faint reverse alarms could be heard but they were from Stage 1 construction site. The main sources of noise that could be heard from the noise monitoring location included: traffic on the Pacific Highway, insects (mainly crickets) and local traffic. This was the main source of noise.
12	15/12/14	1:50pm – 15 minutes	764 Fernbank Creek Road, Fernbank Creek	59	58.9	Stage 1 construction work could be heard and seen from the noise monitoring location including: light vehicles, reverse alarms, bulldozer moving soil, truck and dogs entering and leaving and a water cart. The sources of noise included: traffic on the Pacific Highway, cars and one truck travelling on local road. Main noise source was Stage 1 construction work.

January 2015

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq(15 min)})	Observations
1	13/01/15	3:55pm – 15 minutes	404 Cooperabung Drive Cooperabung	61	53.2	Sources of noise heard at the noise monitoring location included birds, insects, traffic on local road and Pacific Highway and dogs barking. A truck was heard on the local road at 4:03 pm. The construction noise heard included: reverse alarms. The dominant noise source was the reverse alarms and the dogs barking.
2	13/01/15	3:33pm – 15 minutes	Cooperabung Cl, Cooperabung	59	53.8	The sources of noise included: insects, traffic on the Pacific Highway (especially trucks) and birds. No construction noise was heard at noise monitoring location. The dominant noise source was traffic on the Pacific Highway.

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq} (15 min))	Observations
3	13/01/15	4:18pm – 15 minutes	Cnr Cooperabung Drive and Wyndell Cl, Cooperabung	53	51.2	The sources of noise heard at this location included birds, insects, traffic on local roads and the rustling of trees due to wind. No construction noise was heard at the noise monitoring location, except for faint reverse alarms and some equipment at the end of the monitoring period. The dominant noise sources were the insects, wind and the local traffic.
4	9/01/15	12:10pm – 15 minutes	8 Haydons Wharf Rd, Cooperabung	57	59.1	Construction noise was heard at the noise monitoring location in the form of excavators working and trucks entering. However, noise levels from these items did not exceed the noise management level. This measurement was heavily impacted by Pacific Highway traffic that was the primary contributor to the elevated noise level.
5	9/01/15	12:34pm – 15 minutes	540 Hacks Ferry Road, Hacks Ferry	37	40	Sources of noise heard at the noise monitoring location included: insects (mainly crickets), birds, trees rustling due to wind and the water. No construction noise was heard at the noise monitoring location.
6	13/01/15	3:09pm – 15 minutes	Rollands, Plains Road, Telegraph Point	58	51.9	Sources of noise heard at the monitoring location were: local traffic, traffic on the Pacific Highway, birds and insects. No construction noise was heard and the main noise source was the local traffic.
7	13/01/15	4:41pm – 15 minutes	52 Moorside Drive, Telegraph Point	57	51.2	Sources of noise heard from the noise monitoring location included: birds, insects, trees rustling due to the wind, local traffic and a resident riding a dirt bike. No construction noise was heard at the noise monitoring location. The dominant noise source was the dirt bike and insects.
8	9/01/15	10:58am – 15 minutes	Bill Hill Rd, The Hatch	43	41.3	No construction noise was heard at the noise monitoring location. The sources of noise heard at the noise monitoring location included birds, insects and the wind.

Event No.	Date	Time / duration	Location	Calculated noise management level	Result (L _{A eq} (15 min))	Observations
9	9/01/15	11:28am – 15 minutes	79 Glen Ewan Road, Pembroke	43	40.6	Sources of noise that were heard at the noise monitoring location included: water from the Hastings River, traffic from the Pacific Highway, insects and boats on the Hastings River. Construction work consisted of the construction of a wick drain pad. This work could not be heard from the noise monitoring locations.
10	9/01/15	10:37am – 15 minutes	11 Glen Ewan Road, Pembroke	56	51.2	Sources of noise that could be heard from the noise monitoring location included: traffic travelling on the Pacific Highway, local traffic and birds. Construction noise was not audible at noise monitoring location. Dominant noise source was insects and birds.
11	14/01/15	3:03pm – 15 minutes	26 Bushland Drive, Sancrox	51	43	Construction noise could not be heard from the noise monitoring location. The main sources of noise that could be heard from the noise monitoring location included: traffic on the Pacific Highway, insects (mainly crickets) and local traffic. This was the main source of noise.
12	14/01/15	2:40pm – 15 minutes	764 Fernbank Creek Road, Fernbank Creek	59	48	No construction noise heard at noise monitoring location. The sources of noise included: insects, birds, traffic from the Pacific Highway, car doors being shut, people and children talking as well as dogs barking. The dominant noise source was the traffic on the Pacific Highway and the insects.

Stage 1 vibration monitoring

Vibration monitoring on Stage 1 was not undertaken during the reporting period due to the distance of vibration inducing activities from relevant sensitive structures.

Stage 2 vibration monitoring

Vibration monitoring on Stage 2 was not undertaken during the reporting period due to the distance of vibration inducing activities from relevant sensitive structures.

Stage 3 vibration monitoring

Vibration monitoring on Stage 3 was not undertaken during the reporting period due to the distance of vibration inducing activities from relevant sensitive structures.

