



Transport
Roads & Maritime
Services

**WARRELL CREEK TO URUNGA
PACIFIC HIGHWAY UPGRADE
STAGING REPORT.**

Contents

1. Introduction	2
1.1 Background	2
1.2 Project Approval and Environmental Assessment staging requirements	2
1.3 Proposed staging	5
2. Proposed early pre construction works and construction stages	7
2.1 Early Pre Construction Works in Stage 1 and Stage 2 areas	7
2.2 Main Construction	7
2.2.1 Stage 1 – Nambucca Heads to Urunga, including soft soils early works	7
2.2.2 Stage 2 – Warrell Creek to Nambucca Heads	9
3. Addressing Minister for Planning and Infrastructure Conditions of Approval	11
3.1 Release of Relevant Project Plans	11
3.2 Addressing Minister for Planning and Infrastructure Conditions of Approval	12
4. Additional staging environmental impact and management measures	13
Appendix A Addressing Minister for Planning and Infrastructure’s Conditions of Approval	15

1. Introduction

1.1 Background

Approval from the Minister for Planning and Infrastructure for the Warrell Creek to Urunga Pacific Highway Upgrade (WC2U) was obtained on 19 July 2011. The WC2U upgrade is a declared critical infrastructure project under section 75C of the *Environmental Planning and Assessment Act 1979*. The upgrade involves a 42 kilometre upgrade of the existing highway to a four lane divided highway from the existing Allgomera deviation, south of Warrell Creek to Waterfall Way at Raleigh.

In the respective 2012-13 State and Commonwealth budgets, the two governments made conditional commitments to additional funding towards the Pacific Highway upgrade. By exchange of letters between the State and Federal Ministers in November 2012, an agreement was reached on joint funding of a further \$3.08 billion.

The additional \$3.08 billion is sufficient to complete the four lane divided road upgrade between Port Macquarie and Coffs Harbour and to commence enabling / soft soil treatment works on the section between Woolgoolga and Ballina.

On 9 January, 2012 the NSW Minister Roads and Ports wrote to the Federal Minister for Infrastructure and Transport seeking support to fast track the Nambucca Heads to Urunga (NH2U) section of the Warrell Creek to Urunga Upgrade, following a crash with multiple fatalities at Urunga.

On 20 January 2012, a Joint Media Statement was issued by the Federal Minister for Infrastructure and Transport and the NSW Minister for Roads and Ports relating to the Nambucca Heads to Urunga section of the Pacific Highway, "this 22 kilometre section is part of the larger 42 kilometre Warrell Creek to Urunga project. Following negotiations between the Australian and NSW Governments a bypass of Urunga is a step closer, with construction companies interested in designing and upgrading the Nambucca Heads to Urunga section of the Pacific Highway having until 23 February 2012 to register their details with the Roads and Maritime Services (RMS)".

Federal Infrastructure and Transport Minister Anthony Albanese said this is another important step in upgrading the Pacific Highway between Port Macquarie and Raleigh, north of Urunga. "Once completed in 2016, the Nambucca Heads to Urunga upgrade will deliver safer, smoother driving conditions for the 15,000 motorists and truck drivers who use this section of the Pacific Highway each and every day," said Mr Albanese.

The \$1.6 billion Warrell Creek to Urunga Pacific Highway Upgrade is proposed to be delivered in two stages:

- Nambucca Heads to Urunga (stage 1); and
- Warrell Creek to Nambucca Heads (stage 2).

Each stage of the upgrade is proposed to be delivered through a Design and Construct contract, which is a method used by RMS for delivering value for money large, complex infrastructure projects.

1.2 Project Approval and Environmental Assessment staging requirements

The Warrell Creek to Urunga Project Conditions of Approval (MCoA A5) require the following in regards to a staging report:

"The proponent may elect to construct and/ or operate the project in stages. 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 stages of works. Where staging is proposed, the Proponent shall submit a Staging Report to the Director General prior to the commencement of the first proposed stage, which 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.

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 proposed staging or applicable conditions.

The Proponent shall ensure that relevant plans, sub-plans and other management documents required by the conditions of this approval relevant to each stage (as identified in the 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”.

The Warrell Creek to Urunga Environmental Assessment make reference to staging of the Warrell Creek to Urunga Project in a number of locations and this is outlined in the following table 1.1.

Table 1.1. Staging Requirements of Warrell Creek to Urunga Environmental Approval and Assessment Documents.

Section of Environmental Approval/ Assessment Documents	Staging Information.	Meets EA requirement.
MCOA A 5.		<p>Yes. Addressing requirements in regards to Stage 1 and Stage 2 works.</p> <p>Appendix A Includes details of how relevant MCOAs would apply to each stage.</p>
Section 7.2 of the Environmental Assessment.	<p>As outlined in Section 7.2 of the Environmental Assessment Potential staging, it was noted that the Proposal could be constructed and operated in stages with the final staging to be determined by the RMS to suit funding and priority requirements. There are a number of possible staging opportunities which could include, but are not limited to, construction and operation of the Proposal in the following sections:</p> <ul style="list-style-type: none"> • Bypass of Warrell Creek. • Warrell Creek to Pacific Highway just north of the Nambucca River. • Pacific Highway just north of the Nambucca River to the Nambucca Heads Interchange. • Nambucca Heads interchange to Ballards Road interchange. • Ballards Road interchange to Waterfall Way interchange. • Early works stages, for example construction of 	<p>Yes. The project is being constructed in stages as allowed to suit funding, priority requirements, and may include early works to treat the soft soils on the Kalang River Flood plain.</p>

Section of Environmental Approval/ Assessment Documents	Staging Information.	Meets EA requirement.
	<p>floodplain embankments.</p> <ul style="list-style-type: none"> • Construction across the soft soil areas identified in Chapter 18 in advance of other sections of the Proposal. 	
Section 7.2 of the Environmental Assessment.	The EA also noted that other potential staging options could be identified during development of the detailed design. Combinations of the above staging options could also be possible, for example, constructing the section between the Warrell Creek interchange and Nambucca Heads interchange.	Yes, including options from Nambucca Heads to Urunga and potential early soft soil works option.
Section 7.2 of the Environmental Assessment.	Opportunities could be available to provide temporary connections between the Proposal and the existing highway within these potential staging options to provide benefits for motorists by opening sections of the Proposal sooner.	Yes. The planned staging allows for the approved project to be opened earlier. The Nambucca Heads to Urunga project will require a tie in to existing Pacific Highway at approximately Chainage 19700, near the Old Coast Road over bridge. RMS plans to complete the carriageway as a stub at Chainage 19500.
Section 7.2 of the Environmental Assessment.	<p>If the Proposal is delivered in stages, a Staging Report would be prepared. The report would:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Describe the proposed staging arrangements. <input type="checkbox"/> Identify and assess any additional potential environmental impacts associated with the proposed staging arrangements. <input type="checkbox"/> Identify any additional management measures (commitments) that would be implemented as a result of the staging process. 	Yes. This report addresses these issues.
Section 18.4.1.1 of the EA	"Embankment construction would likely require staging due to the presence of soft soils. Construction of the pavement on top of the embankment would commence only when the risk of settlement is low. Additional time would also be required during the construction on soft soils for drainage, preloading, surcharging, and relocation of some materials. Construction activities and staging are described in Chapter 7 – Design and construction of the Proposal".	Yes. Possible early treatment of soft soils areas.

This Staging Report has been prepared and structured to address Condition of Approval (CoA) A5. of the Project Approval which deals with the staging of construction as well as linkage to the Environmental Assessment requirements in regards to staging.

1.3 Proposed staging

The upgrade is proposed to be delivered in two stages:

- Nambucca Heads to Urunga (stage 1); and
- Warrell Creek to Nambucca Heads (stage 2).

The delineation of the two stages occurs to the south of the Nambucca interchange at approximately Chainage 19500 (Refer attached Figure 1.1). Note that chainages referred to are based the chainages from the EA. During construction chainages will be based on a distance north of Kempsey, the correction factor for this is +41.765km.

The Nambucca Heads to Urunga (NH2U) project involves construction of approximately 21.6km of new highway between Nambucca Heads, to the south of Nambucca Heads Interchange, at (Ch19500) and the existing Waterfall Way Interchange at Raleigh, north of Urunga. RMS is planning to commence construction on this stage 1 in 2013.

The Warrell Creek to Nambucca Heads (WC2NH) project involves construction of approximately 19.5km of new highway between the existing Allgoamera deviation south of Warrell Creek and extending to the southern extent of the NH2U stage 1. The program for the WC2NH section will be finalised when funding and timing has been confirmed.

As outlined above, both stages are being jointly funded between the Federal and NSW Governments.

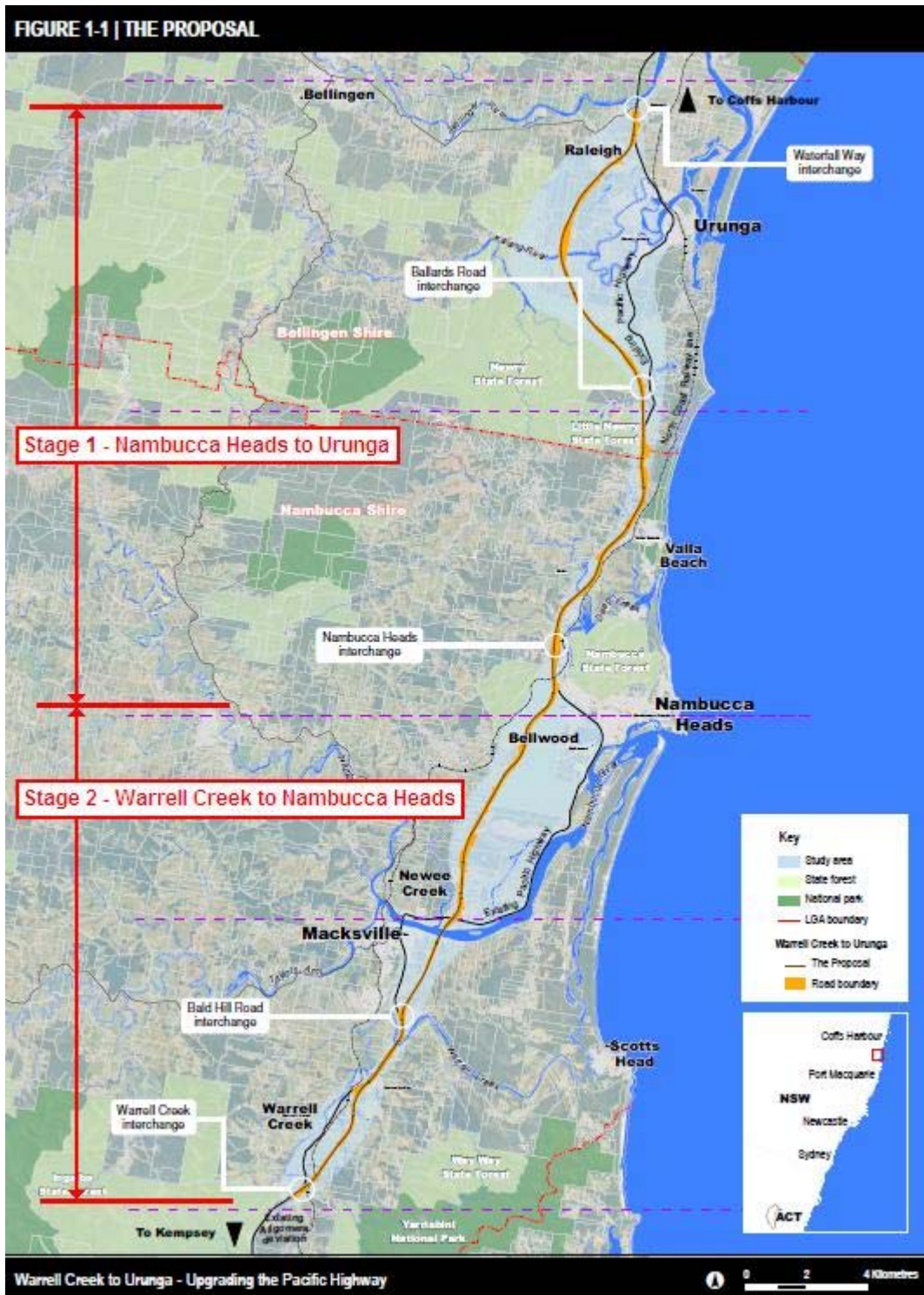


Figure 1.1. The two stages of work planned for the Warrell Creek to Urunga project.

2. Proposed early pre construction works and construction stages

2.1 Early Pre Construction Works in Stage 1 and Stage 2 areas

To meet the Government commitment for early commencement of activities on site, it is planned to undertake some pre-construction/early work activities prior to the commencement of Stage 1 and Stage 2. It is noted that there may be some refinements to these activities as the design and construction methodology are developed with the Design and Construct Contractor. The pre-construction/early work activities may include but not be limited to:

1. Finalisation of property acquisitions;
2. Relocation of utilities;
3. At resident noise mitigation measures;
4. Soft soil settlement treatment works on the Kalang flood plain (addressed below);
5. Site establishment, including ancillary facilities and the establishment of some environmental controls.

Acquisition of Properties

RMS initiated acquisitions have already commenced for both stages. In order to ensure properties are available for construction, the process for compulsory acquisition would commence on selected properties where required purchase timeframes cannot be met.

Relocation of Utilities

Utility design is being progressed for all major utilities that conflict with the proposal with some physical utility relocation work having already commenced in May 2012. As design works are completed, contracts are being called for the relocation of these utilities. The majority of relocation works are anticipated to be completed in early 2013. A separate Environmental Assessment has been undertaken for this utility relocation work and clearing of Endangered Ecological Communities (EEC's) will be avoided wherever possible. It is noted that where an interaction with EEC's is predicted, approval would be sought from the Director of Infrastructure Projects at the Department of Planning and Infrastructure as required in Schedule 2 of the Warrell Creek to Urunga Minister's Condition of Approval.

Noise mitigation measures

RMS plans to commence noise attenuation works at residences identified in the EA as requiring treatment in late 2012. Depending on the results of noise modelling for the project, at residence treatments will typically include air conditioning and/or the upgrading window seals and doors. RMS ENNM provides further detail on treatment options.

Other

Aboriginal sites have been salvaged in accordance with CoA B19, significantly reducing the risk of having unresolved Aboriginal heritage issues during construction. Some minor investigations are still being finalised, particularly in areas where there have been refinements to the design.

Other pre-construction activities, including activities specifically excluded from the definition of construction under the Minister for Planning and Infrastructure's Conditions of Approval, will be conducted prior to commencement of construction works.

2.2 Main Construction

2.2.1 Stage 1 – Nambucca Heads to Urunga, including soft soils early works

As noted above, RMS is planning to progress the Nambucca Heads to Urunga project as stage 1 of the proposal. A program for the delivery of the Nambucca Heads to Urunga upgrade section of the Pacific Highway by way of Design and Construct contract is included in Table 2.1.

Key features of this stage of the upgrade include:

- Dual carriageway between chainage 19,500 (Between Old Coast Road and the North Cast rail line and Ch 41,150 at the Waterfall Way interchange, Raleigh);
- Two new interchanges at Nambucca Heads (Ch 20,500) and Ballards Road (Ch 30600) and refinements to the existing Waterfall Way interchange;

- One major river crossing involving a significant bridge structure over the Kalang River. There are approximately 13 other bridge structures (excluding the interchanges);
- Twin bridge crossing of the North Coast Railway;
- Local access roads and property accesses;
- Construction over soft soils including the Kalang River flood plain and Deep Creek;
- A total project budget for Stage 1 has an estimated value of \$725 million (including contingency) in 2011 dollars;
- The project cost for this section is estimated at \$737 million including contingency in 2012 dollars.

Soft Soil Treatment at Kalang

The RMS construction program for NH2U shows that the settlement of soft soils is likely to be on the critical path for delivery.

Within this first stage RMS proposes to construct embankments across the Kalang floodplain and excavate adjacent cuttings to supply materials. The embankments to be constructed are immediately to the south and north of the Kalang River. Material required for the general embankment work and surcharging will likely come from the cutting immediately to the North and two cuttings to the south of the Kalang. The potential early commencement of this work would provide sufficient time for settlement, meet government's commitment to an early start, and provide opportunities for staging and early opening of Urunga Bypass.

The works, including access tracks, will be approximately 3.3 km in length and require the placement of approximately 400,000m³ of fill, including drainage material and the installation of soft soil treatments. Soft soil treatments will be developed during detailed design and may include a combination of wick drain and surcharging and ground improvement techniques such as:

- Concrete injected columns;
- Controlled Modulus Columns;
- Deep soil mixing;
- Stone columns; and
- Dynamic replacement

The likely process for any early works across the Kalang Floodplain will generally involve the following, although this could change slightly with the selected Contractor:

1. Installation of erosion and sediment controls.
2. Access tracks / haul road to access the site where public roads are not available.
3. Removal of trees from required embankment areas.
4. Placement of geofabric directly over grass.
5. Placement of drainage rock and/or working platforms.
6. Installation of wick drains and/or ground improvements.
7. Installation of culverts as required.
8. Installation of geofabric or geogrid.
9. Clearing and grubbing of required 'cut' areas within the approved clearing footprint.
10. Excavation of material from cutting and placement on embankments including surcharge.

Early Works option and timing on the Kalang

The project is being staged according to the stages described in the preceding sections as a design and construct contract (D&C). The Stage 1 contract includes a potential early works option and estimated dates for construction are included in Table 2.1 below. The Stage 1 contract option is based on:

- Baseline. Not allow for early works.

- Early Works Option. Include early works under the D&C contract, commencing at time of preferred tenderer selection.

Table 2.1. Summary of the Stage 1 options and proposed timing.

Milestone	Baseline	Early Works Option
Call ROI	January 2012	January 2012
Invite D&C Tenders	May 2012	May 2012
Utility Works	May 2012	May 2012
Invite Early separate Construction Contract	NA	NA
Noise Mitigation (At house treatments)	July 2012	July 2012
Announce Preferred tender	November 2012	November 2012
Soft Soil Treatment	NA	February 2013 utilising the 4 month period to obtain approval for the CEMP/ other requirements
Award full D&C Contract	March 2013	March 2013
Start D&C Early Works	NA	March 2013
Commence Construction (Excepting Kalang Floodplain)	August 2013	August 2013
Open to Traffic	May 2016	January 2016
Completion	November 2016	May 2016

The baseline option is not suitable for RMS as it results in a lost opportunity to open stage 1 early and realise safety benefits. Further discussion in relation the early works option is outlined below:

Issues / Benefits associated with early works option:

1. Open to traffic 4 months earlier than traditional D&C.
2. Allows early work to commence 6 months before work would normally commence on a traditional D&C.
3. Allows opening to traffic 6 months earlier than baseline.
4. Same personnel involved in developing early and full works and assists in progressing plans and procedures.
5. Advantages in regards to setting up ancillary facilities.

The early works option offers the same project completion outcome with significantly less risk. It is therefore the preferred RMS approach and the subject of this staging report. This approach could change slightly with the selected Contractor.

It is possible that the selected Contractor may propose early works at other locations and if so, this will be discussed further with the Department.

2.2.2 Stage 2 – Warrell Creek to Nambucca Heads

Key features of this stage of the upgrade include:

- 19.5km of dual carriageway between the existing Allgomer deviation south of Warrell Creek connecting to pavement stubs constructed under stage 1 at chainage 19500 to the north of Old Coast Road and to the west of Nambucca Heads.
- Two interchanges at Warrell Creek at the southern end of the project and Bald Hill Road at chainage 7500.
- Three major river crossings involving significant bridge structures; two over Warrell Creek and one over the Nambucca River. There are also 8 smaller bridge structures (excluding the interchanges and railway crossings).

Warrell Creek to Urunga - Staging Report

- One railway crossing.
- Crossing of the Nambucca River floodplain involving construction over soft soils.
- A total project budget for this section has an estimated value of \$890 million (including contingency) in 2011 dollars.
- The construction cost for this section is estimated at \$752 million including contingency in 2011 dollars.

A Grey Headed Flying Fox colony has moved to be located within the Warrell Creek to Nambucca Heads alignment near the southern end (south east of Macksville). The subject colony is located approximately 12km from the southern end of the Nambucca Heads to Urunga Upgrade section and is not directly impacted by stage 1 works. RMS are undertaking significance assessments for this population of Grey Headed Flying Foxes and koalas (recently listed under the Environmental Protection and Biodiversity Conservation (EPBC) Act), for both stage 2 Warrell Creek to Nambucca Heads and stage 1 Nambucca Heads to Urunga, of the upgrade.

Based on a significance assessment for Stage 1, it was concluded that Stage 1 (Nambucca Heads to Urunga) would not have a significant impact on either the Koala nor Grey Headed Flying Fox.

3. Addressing Minister for Planning and Infrastructure Conditions of Approval

3.1 Release of Relevant Project Plans

As outlined above, it is proposed to construct the Pacific Highway upgrade, Warrell Creek to Urunga in two stages and progressively develop the required project plans for each corresponding stage of work.

Template CEMP and sub plans are being prepared by RMS and will be used for the early works and updated by the Contractor as required.

Table 3.1 shows the relationship between the various project sub plans and contracts in regards to their expected development. It is proposed to release project plans which deal with the contract/ stage of work to be constructed at the time. This approach could change slightly with the selected Contractor and would be discussed with Department of Planning and Infrastructure (DP&I) post award of the Stage 1 D&C contract.

■ **Table 3.1 Expected Relationship Between Contractor Project Plan and Work Stage,**

Document	Stage 1 (Kalang Early Works ¹)	Stage 1 contract (Main Construction)	Stage 2 contract (Main Construction)
Construction Environmental Management Plan (CEMP)	Tailored for early works adjusting Template CEMP	Full	Full
Construction Noise and Vibration Management Sub Plan (NVMP)	Tailored for early works adjusting Template NVMP	Full	Full
Flora and Fauna Management Sub Plan (FFMP)	Tailored for early works adjusting Template FFMP, Management plan for threatened species, Nest box Management Plan and Weed Management Plan	Full	Full
Soil and Water Management Sub Plan (SWMP)	Tailored for early works adjusting Template SWMP	Full	Full
Acid Sulfate Management Sub Plan (included in SWMP)	Tailored for early works adjusting Template Acid Sulfate Management Sub Plan	Full	Full
Construction Traffic Management Sub Plan	Full sub plan for that section of works.	Full	Full
Heritage Management Sub Plan	Tailored for early works adjusting Template Heritage Management Sub Plan	Full	Full
Air Quality Management Sub Plan	Tailored for early works adjusting Template Air Quality Management Sub Plan	Full	Full
Waste Management Management Sub Plan	Tailored for early works adjusting Template Waste Management Sub Plan	Full	Full
Urban Design and Landscape Management Sub Plan.	NA as early works and restoration and revegetation would be addressed for the full stage 1 and detailed design is being finalised during the early works.	Full	Full

Note: ¹ Early works would likely be refined depending on which of the three tenderers is selected. The approach to use of Management Plans for the early works may be further refined.

Final versions of the template plans will be issued to allow stage 1 and 2 to progress.

Tailored project CEMP and management sub plans for the Kalang early works (and any other proposed early works) will be issued to allow the early works to progress while the full stage 1 CEMP and management sub plans are being finalised. In the case of Stage 1 Kalang early works the project plans will address the environmental requirements and conditions of approval relevant to the early works activities and locations.

3.2 Addressing Minister for Planning and Infrastructure Conditions of Approval

Appendix A lists all the Minister for Planning and Infrastructure's Conditions of Approval, and addresses how they will be met for each stage. This includes details of how compliance with the Conditions of Approval will be managed across and between the stages of the project.

4. Additional staging environmental impact and management measures

As required by Section 7.2 of the project Environmental Assessment, when staging is proposed an assessment of additional impacts and management measures associated with the staging arrangements is required. The activities associated with delivering the upgrade in two stages, are described in the Environmental Assessment and project approval, particularly Chapter 7 and in the mitigation measures and Statement of Commitments (SOC's) throughout the Environmental Assessment and Environmental Documents. The activities included acquisition, early works, construction materials, haulage, treatment of soft soils and compounds.

Potential Kalang River Floodplain Early works.

RMS does not consider that early works at the Kalang River floodplain, should they be adopted will create additional environmental impacts above those assessed in the Environmental Assessment. Clearing areas would be consistent, remaining inside approved clearing limits for the project works whilst detailed design is being finalised. A compound may be required in this area for all delivery options considering the nature and scale of the works. Stockpiling of unsuitable/ works material in cleared areas inside the corridor and outside of floodways was always logical to effectively use previously cleared land.

The use of local sources of materials for both early works and subsequent project works, has advantages in regards to safety, traffic and greenhouse reduction. The project EA noted there would be importation of quarry material (Chapter 7.3.2.1) and other material (Chapter 7.3.2).

Issues that will be addressed in the Kalang early works CEMP and associated Management Sub Plans should the Kalang River floodplain early works be adopted, are considered below and in Appendix A. RMS does not consider that these issues create additional impacts but they are outlined to assist progressing early works:

1. MCOA B13 for the Kalang River requires "*Prior to commencement of construction within areas affected by an increased afflux from the Nambucca River and Kalang River crossings, the Proponent shall submit a hydrological mitigation report for the approval of the Director General detailing all feasible and reasonable flood mitigation measures for all properties where flood impacts are predicted to increase as a result of the project*". RMS aims to finalise and forward this report as quickly as possible but anticipates the possibility of delay. In view of the importance of the early works, RMS seeks DP&I consideration of an option to allow all early works such as drainage/ wick drainage/ culvert construction as early works, revising the prior to construction requirement for this one waterway. This would minimise flooding impacts and allow the placement of geofabric directly over grass; placement of drainage rock; installation of wick drains and installation of geofabric or geogrid.
2. There are a number of drainage culverts potentially required on the Kalang River floodplain that may need to be constructed during the early works depending on the detailed design. These drainage culverts are located at approximately Ch 35200, 36150, and 36430.
3. There are incidental and combined drainage/ fauna crossings proposed at Ch 34450, 34780, 35095 and 36905, these are located in areas where haulage of earthworks material may be required as part of the early works. There are no fauna crossing proposed on the floodplain. RMS considers that material can be removed from the cuttings and transported on haul roads using temporary crossings whilst the detailed design of fauna structures is progressing and therefore the fauna crossings are not required to be installed earlier than other fauna structures on the project. However, if the detailed design requires construction of any of these structures, MCoA B 3 requirements will be addressed before progressing early works.
4. Minimisation of impacts on the Spider orchid (threatened species) located in the area around 34300 to 34800. Fauna culverts were moved slightly to minimise impacts on spider orchid habitat as advised in correspondence to DP&I dated May and June 2011. There are no other known threatened flora or fauna species in the areas of the proposed early works. Marsdenia populations are further north of the proposed early works. This issue will be addressed further in the early works CEMP and Flora and Fauna Management Plan.

5. RMS does not consider there is a need for blasting for the Kalang River floodplain early works as earthworks materials are only required for general fill for the early embankments.

Stage 1 including early works.

Staging was specifically addressed in section 7.2 of the EA, this included a number of staging options to provide flexibility in project delivery, as well as addressing temporary connections and early works (including soft soil issues). RMS considers that Stage 1 works, including early works, would not create additional environmental impacts above those assessed in the project EA, apart from temporary connections where there could be additional impacts from staging. This is the proposed temporary connection point south of the Nambucca Heads interchange, tying the new works in with the existing Pacific Highway at Nambucca. Temporary connections were discussed in section 7.2 of the EA, and detail on this is provided in Table 1.1. These issues would be assessed in an environmental assessment using the Contractor's final detailed design.

RMS considers that issues such as haulage of earthworks material (such as rock and sand) across the existing Macksville and Urunga Pacific Highway bridges, and provision of drainage/fill material associated with early works would not create additional impacts but are consistent with the project Environmental Assessment in regards to staging and detailed design development.

There are significant social and environmental advantages in opening stage 1 early in 2016 utilising the advantages of staging as funding is available.

Management measures to address the proposed Kalang early works and stage 1 works include:

1. The early works CEMP and applicable sub plans for the Kalang River should they be required will be forwarded to agencies and DP&I for review using the RMS prepared templates and updated works information with amendments to any approved plans in revision mode to assist with review .
2. Environmental Work Method Statement's (EWMS's) will be prepared covering the early works, should they be adopted, and addressing risk issues. These EWMS's would be forwarded to regulatory agencies for opportunities to comment at the same time as the CEMP and sub plans.
3. Measures outlined in Appendix A of this report.

Stage 2.

As noted earlier in this staging report, the program for the WC2NH section will be finalised when funding and timing has been finalised. At this time there are no known additional impacts from staging.

Appendix A Addressing Minister for Planning and Infrastructure's Conditions of Approval

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
A1(a)	The proponent shall carry out the project generally in accordance with the: (a) Major Projects Application 07_0112;	Yes.	Yes.	Yes.	
A1(b)	The Proponent shall carry out the project generally in accordance with the: (b) Upgrading the Pacific Highway – Warrell Creek to Urunga - Environmental Assessment (Volumes 1 and 2), prepared by Sinclair Knight Merz Pty Ltd for the NSW Roads and Traffic Authority and dated January 2010	Yes.	Yes.	Yes.	
A1(c)	The Proponent shall carry out the project generally in accordance with the: (c) Upgrading the Pacific Highway – Warrell Creek to Urunga - Environmental Assessment Submissions and Preferred Project Report, prepared by the NSW Roads and Traffic Authority and dated November 2010	Yes.	Yes.	Yes.	
A1(d)	The Proponent shall carry out the project generally in accordance with the: (d) Letter from the NSW Roads and Traffic Authority titled Pacific Highway Upgrade – Warrell Creek to Urunga Upgrade Addendum to Submissions Report - Fauna Crossing Structures, dated 25 May 2011 and accompanying attachments and Letter from the NSW Roads and Traffic Authority titled Pacific Highway Upgrade – Warrell Creek to Urunga Upgrade Addendum to Submissions Report - Fauna Crossing Structures, dated 1 June 2011 and accompanying attachment	Yes.	Yes.	Yes.	
A1(e)	The Proponent shall carry out the project generally in accordance with the: (e) conditions of this approval	Yes.	Yes.	Yes.	
A2(a)	In the event of an inconsistency between: (a) the conditions of this approval and any document listed from condition A1(a) to A1(e) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency;	Yes.	Yes.	Yes.	
A2(b)	In the event of an inconsistency between: (b) any document listed from condition A1(a) to A1(e) inclusive, and any other document listed from condition A1(a) to A1(e) inclusive, the most recent document shall prevail to the extent of the inconsistency.	Yes.	Yes.	Yes.	
A3(a)	The Proponent shall comply with any reasonable requirement(s) of the Director General arising from the Department's assessment of: (a) any reports, plans or correspondence that are submitted in accordance with this approval; and	Yes.	Yes.	Yes.	
A3(b)	The Proponent shall comply with any reasonable requirement(s) of the Director General arising from the Department's assessment of: (b) the implementation of any actions or measures contained within these reports, plans or	Yes.	Yes.	Yes.	

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	correspondence.				
A4	Subject to confidentiality, the Proponent shall make all documents required under this approval available for public inspection on request.	Yes.	Yes.	Yes.	
A5	<p>The proponent may elect to construct and/ or operate the project in stages. 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 stages of works. Where staging is proposed, the Proponent shall submit a Staging Report to the Director General prior to the commencement of the first proposed stage, which provide details of:</p> <p>(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</p> <p>(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.</p> <p>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 proposed staging or applicable conditions.</p> <p>The Proponent shall ensure that relevant plans, sub-plans and other management documents required by the conditions of this approval relevant to each stage (as identified in the 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.</p>	Yes.	Yes.	Yes and RMS will update DPI further in relation to this at the appropriate time.	RMS staging report and compliance table.
A6	The Proponent shall ensure that all necessary licences, 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 licences, 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.	Yes.	Yes.	Yes.	Refer staging report in regards to CEMP and Management Plans which will address licensing.
A7	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.	Noted.	Noted.	Noted.	Construction will start in 2013 before 2021
A8	The Proponent shall implement the bridge crossing option (Option 2 in the Environmental Assessment) to traverse the floodplain from the northern bank of the Nambucca River to the existing Pacific Highway.	-	-	Yes.	Yes. Option 2 will be progressed.
A9	The proposed trailer exchange facility located in the vicinity of the Nambucca Heads rest area does not form part of this approval.	Noted.	Noted.	Noted.	

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B1	The Proponent shall implement the fauna and waterway crossings identified in the documents listed under condition A1(d) at the locations and in accordance with the minimum design dimensions identified in the documents listed under condition A1(d), unless otherwise agreed to by the Director-General.	No. No fauna structures proposed in early works at this stage.	Yes.	Yes.	Structures will be built addressing requirements in condition A1(d) and progressed by the Contractors in detailed design with ecological input.
B2	As part of detailed design, the Proponent shall further investigate design refinements to improve fauna connectivity between Chainages 19150 and 19820.	NA.	Yes.	Yes.	Part of detailed design in Stages 1 and 2 as overlaps both stages.
B3	All investigations into fauna crossings design undertaken during detailed design (with respect to the crossing design and locations identified in conditions B1 and B2 shall be undertaken with the input of a qualified and experienced ecologist and in consultation with OEH and DPI (Fisheries) through a process of workshops and on-site ground verification. Where detailed design refinements are made, the Proponent shall prior to the commencement of construction of the relevant crossings, submit a report to the Director-General identifying the final design of the fauna crossings and demonstrating consistency with the locations and minimum design parameters identified in the documents listed under condition A1(d) or where there have been changes, how the new location and/ or design would result in a better biodiversity outcome. The report shall also clearly identify how the fauna crossings structures will work in conjunction with complementary fauna exclusion fencing measures to be implemented for the project. The report must be accompanied by evidence of consultation with OEH and DPI (Fisheries) in relation to the suitability of any changes to the crossings design.	Finalisation of fauna/ fish drainage structure design likely not needed for Kalang early works, but will address if required.	Yes.	Yes.	
B4	The Proponent shall in consultation with OEH, ensure that the design of the project as far as feasible and reasonable, incorporates provision for glider crossings (such as widened medians and maintenance or enhancement of habitat within the medians and corresponding carriageway boundaries) where the alignment crosses areas of recognised glider habitat.	NA.	Yes.	Yes	
B5	The Proponent shall in consultation with DPI (Fisheries) ensure that all waterway crossings are designed and constructed consistent with the principles of the Guidelines for Controlled Activities Watercourse Crossings (DWE), Fish Note: Policy and Guidelines for Fish Friendly Waterway Crossings (NSW Fisheries) and Policy and Guidelines for Design and Construction of Bridges, Roads, Causeways, Culverts and Similar Structures (NSW Fisheries). As far as feasible and reasonable, culvert replacements as part of the project shall incorporate naturalised bases and where multiple cell culverts are proposed for creek crossings, shall include at least one cell for fish passage, with an invert or bed level that mimics creek flows.	Unlikely structures would be required for early works but will address if required.	Yes.	Yes.	

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B6	<p>Prior to the commencement of any construction work that would result in the disturbance of any native vegetation (or as otherwise agreed to by the Director General), the Proponent shall in consultation with OEH prepare and submit for the approval of the Director-General a Nest Box Plan to provide replacement hollows for displaced fauna consistent with the requirements of SoC F7. 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>	Yes.	Yes	Yes	Nest box plan being finalised by RMS and will be issued to DPI pre construction.
B7	<p>Prior to the commencement of any construction work that would result in the disturbance of <i>Amorphospermum whitei</i> and <i>Marsdenia longiloba</i>, the Proponent shall in consultation with the OEH develop a management plan for these species which:</p> <p>a) investigates the potential for the translocation of plants impacted by the project;</p> <p>b) if investigation under Condition B7(a) reveals translocation of impacted plants is feasible, includes details of a translocation plan for the plants consistent with the Australian Network for Plant Conservation 2nd Ed 2004: Guidelines for the Translocation of Threatened Species in Australia, including details of ongoing maintenance such as responsibilities, timing and duration;</p> <p>c) identifies a process for incorporating appropriate compensatory habitat for the impacted plants in the Biodiversity Offset Strategy referred to in Condition B8 should the information obtained during the investigation referred to in Condition B7(a) find that translocation is not feasible or where the monitoring undertaken as part of condition B10 finds that translocation measures have not been successful (as identified through performance criteria); and</p> <p>d) includes detail of mitigation measures to be implemented during construction to avoid and minimise impacts to areas identified to contain these species, including excluding construction plant, equipment, materials and unauthorised personnel.</p> <p>Unless otherwise agreed to by the Director General, the Plan shall be submitted for the Director General's approval prior to the commencement of any construction work that would result in the disturbance of <i>Amorphospermum whitei</i> and <i>Marsdenia longiloba</i>.</p>	Addressed in Threatened Plant Species Management Plan prepared by the project ecologist and reviewed by EPA (second review underway). There are Spider orchids impacted in the area of early works..	Yes. Addressed in Threatened Plant Species Management Plan	Yes. Addressed in Threatened Plant Species Management Plan	This plan has been prepared by RMS..
B8	<p>Biodiversity Offsets</p> <p>B8. The Proponent shall, in consultation with the OEH and DPI (Fisheries), develop a Biodiversity Offset Strategy that identifies available options for offsetting the biodiversity impacts of the project in perpetuity, with consideration to OEH's Principles for the Use of Biodiversity offsets in NSW (OEH Website, June 2011). Unless otherwise agreed to by OEH, 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 and threatened species or their habitat identified in the Environmental Assessment to be impacted by the project and poorly conserved vegetation communities identified as being more than 75% cleared in the catchment management area) and 2:1 for the</p>	Yes. RMS submitting this offset strategy for approval 6 weeks prior to any early works such as in the Kalang in early 2013.	Yes, noting RMS will submit strategy.	Yes, noting RMS will submit strategy.	Strategy has been forwarded to EPA in September 2012 and DPI submission envisioned in the near future.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>remainder of native vegetation areas (including mangroves, seagrass, salt marsh and riparian vegetation). The Strategy shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> a) confirmation of the vegetation communities/ habitat (in hectares) to be offset and the size of offsets required (in hectares); b) details of the available offset measures that have been identified to compensate for the biodiversity impacts of the project, such as (but not necessarily limited to): suitable compensatory land options and/ or contributions towards biodiversity programs for high conservation value areas on nearby lands (including research programs). Where the use of State Forest land managed in accordance with an Integrated Forestry Operations Approval is proposed to offset biodiversity impacts, the Proponent shall clearly demonstrate how this would provide the biodiversity outcomes required under this condition including any additional offset requirements to cover residual impacts; c) 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; d) a process for addressing and incorporating offset measures for changes to impact (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 footprint due to design changes; II. changes to predicted impacts resulting from changes to mitigation measures; III. identification of additional species/habitat through pre-clearance surveys; and IV. additional impacts associated with ancillary facilities; and e) options for the securing of biodiversity options in perpetuity. <p>The Biodiversity Offset Strategy shall be submitted to, and approved by, the Director General prior to the commencement of any construction work that would result in the disturbance of any native vegetation, unless otherwise agreed by the Director General. Unless otherwise agreed, the Biodiversity Offset Strategy shall be submitted to the Director General for approval no later than 6 weeks prior to the commencement of any construction that would result in the disturbance of any native vegetation.</p> <p>The Proponent may elect to satisfy the requirements of this condition by implementing a suitable offset package which addresses impacts from multiple Pacific Highway Upgrade projects (including the Warrell Creek to Urunga Project) within the North Coast Bio-region. Any such 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>				

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B9	<p>Within two years of the approval of the Biodiversity Offset Strategy, unless otherwise agreed by the Director General, the Proponent shall prepare and submit a Biodiversity Offset Package which identifies the final suite of offset measures to be implemented for the project for the approval of the Director General. The Package shall be developed in consultation with OEH, and shall provide details of:</p> <p>a) the final suite of the biodiversity offset measures selected for the project demonstrating how it achieves the requirements and aims of the Biodiversity Offset Strategy (including specified offset ratios);</p> <p>b) the final selected means of securing the biodiversity values of the offset package in perpetuity including ongoing management, monitoring and maintenance requirements; and</p> <p>c) timing and responsibilities for the implementation of the provisions of the package over time. The requirements of the Package shall be implemented by the responsible parties according to the timeframes set out in the Package.</p>	NA as early works completed well before submission of this package.	Yes, noting RMS will submit package.	Yes, noting RMS will submit package.	
B10	<p>Prior to the commencement of any construction work that would result in the disturbance of any native vegetation, the Proponent shall develop an Ecological Monitoring Program to monitor the effectiveness of the mitigation measures implemented as part of the project. The program shall be developed in consultation with OEH and prepared by a suitably qualified ecologist 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 condition 81 to 86, B7(b), B7(d), 821(c) and B3'1(b) and allow amendment to the measures if necessary. The monitoring program shall nominate appropriate and justified monitoring periods and performance targets against which effectiveness will be measured. The monitoring shall include operational road kill surveys to assess the effectiveness of fauna crossing and exclusion fencing implemented as part of the project;</p> <p>b) mechanism for developing additional monitoring protocols to assess the effectiveness 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 five successive monitoring periods (i.e. 5 years) after opening of the project to traffic, unless otherwise agreed to by the Director General. The monitoring period may be reduced with the agreement of the Director General in consultation with OEH, depending on the outcomes of the monitoring;</p> <p>d) provision for the assessment of the data to identify changes to habitat usage and if this can be attributed to the project;</p> <p>e) details of contingency measures that would be implemented in the event of changes to habitat</p>	Yes.	Yes	Yes	Ecological Monitoring Program being prepared by RMS, and will be forwarded to DPI for approval pre construction.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>usage patterns directly attributable to the construction or operation of the project; and f) provision for annual reporting of monitoring results to the Director General and OEH, or as otherwise agreed by those agencies.</p> <p>The Program shall be submitted for the Director General's approval prior to the commencement of any construction work that would result in the disturbance of any native vegetation. Unless otherwise agreed, the Program shall be submitted to the Director General for approval no later than 6 weeks prior to the commencement of any construction that would result in the disturbance of any native vegetation.</p>				
B11	<p>The Proponent shall undertake further flood modelling during detailed design to ensure that the Nambucca River crossing is designed and constructed with the aim of not exceeding the afflux and other flood characteristics predicted in the Environmental Assessment and Response to Submissions.</p>	NA as south of Stage 1 works.	NA.	Yes.	
B12	<p>Prior to the commencement of construction within areas affected by an increased afflux from the project, the Proponent shall in consultation with the OEH, DPI (Fisheries) and Nambucca Shire Council undertake flood modelling of the Nambucca River and floodplain based on the detailed design of the project, and submit the flood modelling report for the approval of the Director General. The flood modelling shall:</p> <p>a) assess the impacts of the project on flood behaviour (in relation to Nambucca River and floodplain); b) confirm the location and size of structures for the crossing the Nambucca River and floodplain which meet the performance criteria outlined in Condition 81 1; c) examine flood behaviours through the full range of flood events including but not limited to the 1 0%, 5%, 2%, 1o/o 0.5% and 0.2% Annual Exceedence Probability; d) examine any changes in the flood behaviour under climate change conditions; and e) examine any changes to existing conditions for flood timing, afflux, inundation, flood velocity, scour and siltation flood warning and flood evacuation strategies including stock.</p>	No.	No.	Yes.	Flood modelling will be completed by RMS.
B13	<p>Prior to commencement of construction within areas affected by an increased afflux from the Nambucca River and Kalang River crossings, the Proponent shall submit a hydrological mitigation report for the approval of the Director General detailing all feasible and reasonable flood mitigation measures for all properties 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. The report shall:</p> <p>(a) identify all properties likely to have an increased flooding impact and detail the predicted increased flooding impact; (b) identify mitigation measures to be implemented where increased flooding is predicted to adversely affect access, property or infrastructure; (c) identify measures to be implemented to minimise scour and dissipate energy at locations</p>	Yes. Kalang works will be designed to minimise afflux impacts. Contractor will be required to prepare this report quickly for Kalang early works to enable quick	Yes.	Yes.	Hydrological mitigation report to be submitted to DPI prior to Kalang early works

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>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 OEH, the relevant Council, NSW State Emergency Service and directly-affected property owners; and</p> <p>(e) identify operational and maintenance responsibilities for items (a) to (e) inclusive.</p> <p>The Proponent shall not commence construction of the project on or within 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>	<p>works.</p> <p>RMS is undertaking flood modelling pre construction and during construction.</p> <p>RMS seeks DPI consideration of an option to allow all early works such as drainage/ wick drainage/ culvert construction and not fill till the condition is addressed. This would minimise flooding impacts and allow the placement of geofabric directly over grass; placement of drainage rock; installation of wick drains and installation of geofabric or</p>			

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
		geogrid			
B14	Based on the mitigation measures identified in condition B13, 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) no later than two months prior to the implementation 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 relevant Council and the Department prior to the implementation / construction of the mitigation measures on the property.	Yes. Refer to B13.	Yes.	Yes.	To be addressed by Construction contractor.
B15	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 814), 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) to advise and assist affected property owners in negotiating feasible and reasonable mitigation measures.	Yes. Refer to B13.	Yes.	Yes.	To be addressed if required.
B16	The Proponent shall provide assistance to the relevant Council's 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, as identified in the documents listed under condition A1 and the modelling undertaken as part of condition B12.	Yes.	Yes.	Yes.	
B17	The Proponent shall prepare and implement a Water Quality Monitoring Program to monitor the impacts of the project on SEPP 14 wetlands, surface water quality and groundwater resources during construction and operation. The Program shall be developed in consultation with OEH and DPI and shall include but not necessarily be limited to: a) identification of surface water and groundwater quality monitoring locations which are representative of the potential extent of impacts from the project; b) 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 and risks to oyster farming in the Nambucca, Bellinger, and Kalang rivers; c) representative background monitoring of surface water and groundwater quality parameters for a minimum of six (6) months (considering seasonality) prior to the commencement of construction to establish baseline water conditions; d) development and presentation of indicators or standards against which any changes to surface water quality will be assessed, having regard to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (ANZECC, 2000);	Yes.	Yes.	Yes.	Within the CEMP/ Management Plan. RMS is progressing this

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>e) contingency and ameliorative measures in the event that adverse impacts to surface water quality are identified;</p> <p>f) a minimum monitoring period of three years following the completion of construction or until any disturbed waterways/ 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); and</p> <p>g) reporting of the monitoring results to the Department, OEH and DPI.</p> <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 OEH and DPI prior to its implementation.</p>				
B18	<p>As part of detailed design, the Proponent shall ensure that the final design of the alignment is aligned to minimise project impacts on the Cow Creek Aboriginal Reserve (21-6-0228) as far as practicable and detail these design considerations in the Heritage Management Plan required to be prepared under condition B31(e).</p>	NA	Yes.	No.	Detailed design. Heritage Management Plan.
B19	<p>Prior to the commencement of pre-construction and construction activities affecting the following Aboriginal sites the Proponent shall undertake the relevant salvage mitigation measures outlined in the Environmental Assessment for these sites:</p> <p>a) Butchers Creek 1 (previously PAD 1);</p> <p>b) Stoney Creek 1 (previously PAD 24);</p> <p>c) Bald Hill Road 1 (previously PAD 7);</p> <p>d) Old Coast Road Stone Artefact (previously PAD 2);</p> <p>e) Boggy Creek Artefact 1 & resource gathering area (previously PAD 16);</p> <p>f) Cow Creek Artefact Scatter (previously PAD 8);</p> <p>g) Kalang Spur Artefact Scatter (previously PAD 12);</p> <p>h) Kalang Flat 1 9(a) (previously PAD 9);</p> <p>i) Kalang Flat 2 9(b) (previously PAD 9);</p> <p>j) South Arm Road 1;</p> <p>k) Tyson's Flat Ridge Artefact Scatter (previously PAD 29);</p> <p>l) Tyson's Flat 1 (previously PAD 28); and</p> <p>m) Tyson's Flat 2 (previously PAD 27).</p> <p>The results of the salvage program shall be provided to the Department, OEH and Aboriginal stakeholders within six months of the completion of the salvage program, unless otherwise agreed by the Director General.</p>	Yes for early works, noting will be completed pre construction.	Will be completed pre construction.	Will be completed pre construction.	Surveys undertaken, many sites completed and will be finalised before construction.
B20	<p>B20. Prior to the commencement of pre-construction and construction activities affecting the possible house site identified as Site 12 in Table 19-3 of the Environmental Assessment, the</p>	No	Yes.	Yes.	RMS undertaking this. SKM engaged to

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>Proponent shall prepare an archaeological assessment in consultation with the OEH (Heritage Branch), and generally in accordance with the Departments Archaeological Assessments Guideline (1996), and submit the assessment for the Director General's approval.</p> <p>Any further archaeological work recommended on this site by the assessment shall be undertaken by the Proponent in consultation with the OEH (Heritage Branch) and reported to the Director General within six months of the completion of the work, unless otherwise agreed by the Director General.</p>				<p>undertake initial archaeological assessment. Detail would be included in Heritage MP.</p>
B21	<p>Prior to the commencement of construction (unless otherwise agreed to by the Director General), 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) a principle goal of achieving the urban design objectives outlined in Section 13.4 of Volume 1 of the Environmental Assessment; b) sections and perspective sketches; c) 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.) which are proposed to be actively rehabilitated, regenerated and/ or revegetated to promote 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; d) location of existing vegetation and proposed landscaping, including use of indigenous and endemic species where possible. The plan shall assess the visual screening affects of existing vegetation and the proposed landscaping at residences and businesses, which have been identified as likely to experience high visual impact as a result of the project. Where high residual impacts are identified to remain, the plan 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; e) strategies for progressive landscaping incorporating other environmental controls such as erosion and sedimentation controls, drainage, noise mitigation; f) location and design treatments for built elements including retaining walls, cuttings, bridges, and noise barriers; 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 community on the proposed urban design and landscape 	<p>Not applicable for early works on the Kalang with detailed design still under progression. Condition will be addressed in Stage 1 works. Fill embankment will be consistent with concept design outlined in the EA Assessment.</p>	<p>Yes.</p>	<p>Yes.</p>	

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>measures prior to its finalisation; and</p> <p>i) monitoring and maintenance procedures for the built elements and landscaping (including weed control) including responsibilities, timing and duration and contingencies where landscaping measures fail</p> <p>The Plan shall be submitted for the approval of the Director General prior to commencement of construction of the project. The Plan may be submitted in stages to suit the staged construction program of the project.</p>				
B22	<p>The Proponent shall ensure that the project is designed in consultation with DPI (Forests NSW) 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 the State forests to enable continued forestry operations, fire management and recreation during construction and operation</p>	NA.	Yes.	Yes.	
B23	<p>The Proponent shall ensure that the project is designed to incorporate appropriate signage for townships along the project alignment, in consultation with the relevant Council and businesses 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 route to the bypass.</p>	NA.	Yes.	Yes.	RMS retaining this MCoA.
B24	<p>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):</p> <p>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</p> <p>b) negotiating appropriate compensation and/or arrangements for the purchase of the property under the Land Acquisition (Just Terms Compensation) Act 1991.</p>	Yes.	Yes.	Yes.	Property purchase under progression.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B25	<p>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:</p> <ul style="list-style-type: none"> 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); b) provisions for periodic review of project compliance with the requirements of this approval, Statement of Commitments and documents listed under condition A1; c) provisions for periodic reporting of compliance status against the requirements of this approval, Statement of Commitments and documents listed under condition A1 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; d) a program for independent environmental auditing in accordance with ISO 19011:2003 - Guidelines for Quality and/ or Environmental Management Systems Auditing; e) mechanisms for reporting and recording incidents and actions taken in response to those incidents; f) provisions for reporting environmental incidents to the Director General during construction and operation; and g) procedures for rectifying any non-compliance identified during environmental auditing, review of compliance or incident management. 	Yes.	Yes.	Yes.	Will be prepared by RMS and incorporated with tender documents.
B26	<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 ages including, but not necessarily limited to:</p> <ul style="list-style-type: none"> a) information on the current implementation status of the project; 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; c) a copy of this approval and any future modification to this approval; d) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the project; e) a copy of each current strategy, plan, program or other document required under this approval; and f) the outcomes of compliance tracking in accordance with the requirements of Condition B.25. 	Yes.	Yes.	Yes.	Will be managed by RMS.

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B27	<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> <ul style="list-style-type: none"> a) a telephone number on which complaints and enquiries about construction and operation activities may be registered; b) a postal address to which written complaints and enquiries may be sent; and c) an email address to which electronic complaints and enquiries may be transmitted. <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>The Proponent must 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, must be maintained by the Proponent and included in a complaints register. The information contained within the System must be made available to the Director General on request.</p>	Yes.	Yes.	Yes.	Will be addressed by selected Contractor/s.
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> <ul style="list-style-type: none"> a) identification of stakeholders to be consulted as part of the Strategy, including affected and adjoining landowners; b) procedures and mechanisms for the regular distribution of information to stakeholders on the progress of the project and matters associated with environmental management; 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; d) procedures and mechanisms through which the Proponent can respond to any enquires or feedback from stakeholders in relation to the environmental management and delivery of the project; and e) procedures and mechanisms that would be implemented to resolve any 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. 	Yes.	Yes.	Yes.	To be prepared by selected Contractor/s.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<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>				
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 Environment Representative(s) that is independent of the design (including preparation of documentation referred to condition A1), and construction personnel. The Proponent shall employ the Environment Representative(s) for the duration of construction, or as otherwise agreed by the Director General. The Environment Representative(s) shall:</p> <ul style="list-style-type: none"> a) be the principal point of advice in relation to the environmental performance of the project; b) be consulted in responding to the community concerning the environmental performance of the project; c) monitor the implementation of all environmental management plans and monitoring programs required under this approval; d) monitor the outcome of all environmental management plans and advise the Proponent upon the achievement of all project environmental outcomes; e) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and all other licences and approvals related to the environmental performance and impacts of the project; f) ensure that environmental auditing is undertaken in accordance with the requirements of condition 825 and the project Environmental Management System(s); 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 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. 	Yes.	Yes.	Yes.	Tenderers have nominated three potential ER's.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B30	<p>Prior to the commencement of construction, 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 OEH, DPI and relevant Council and include, but not necessarily be limited to:</p> <p>a) a description of all relevant activities to be undertaken during construction of the project or stages of construction, as relevant;</p> <p>b) statutory and other obligations that the Proponent is required to fulfil during construction including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies. Evidence of consultation with relevant public authorities, shall be included identifying how issues raised by these public authorities have been addressed in the plan;</p> <p>c) a description of the roles and responsibilities for all relevant employees involved in the construction of the project including relevant training and induction provisions for ensuring that all 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 C27;</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 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 generated by haulage trucks, traffic on unsealed public roads and stockpile management;</p> <p>(ii) measures to monitor and manage waste generated during construction including but not necessarily limited to: general procedures for waste classification, handling, reuse, and disposal; how contaminated materials would be handled and disposed; use of secondary waste material in construction wherever feasible and reasonable; procedures for dealing with green waste including timber and much 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>(iii) measures to monitor and manage spoil and fill including details of how excavated material would be handled, stockpiled, reused and disposed and a stockpile management protocol detailing location criteria that would guide the placement of stockpiles and minimum management measures (including rehabilitation) that would be implemented to avoid/ minimise amenity impacts to surrounding residents and environmental risks (including to surrounding watercourses);</p> <p>(iv) measures to monitor and manage hazard and risks including emergency management; and</p>	Yes. Focused CEMP addressing the key issues for the Kalang early works.	Yes.	Yes.	Template CEMP' and Management Sub Plans updated by selected Contractor.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>(v) the issues identified in condition 831; f) details of community involvement and complaints handling procedures during construction, consistent with the requirements of conditions B26 to B28; g) details of compliance and incident management consistent with the requirements of condition B25; and h) procedures for the periodic review and update of the Construction Environmental Management Plan 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, a)	<p>As part of the Construction Environment Management Plan for the project required under condition B30 of this approval, the Proponent shall prepare and implement the following sub plan(s):</p> <p>a) a Construction Traffic Management Plan, prepared in accordance with the RTA's QA Specification G10 - Control of Traffic and Traffic Control at Work Sites Manual (2003) to manage disruptions to highway and local traffic movements as a result of construction traffic associated with the project. The Plan shall be developed in consultation with 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; (ii) details of vehicle movements for construction sites and site compounds including parking, dedicated vehicle turning areas, and ingress and egress points; (iii) potential impacts to traffic on the existing highway and associated local roads including intersection level of service and potential disruptions to arrangements for pedestrians, property access, public transport, parking and/ or cyclist; (iv) details of temporary and interim traffic arrangements including intersections, property access and alternative traffic routes; (v) traffic and other arrangements to minimise impacts including safe pedestrian access at all times, and the provision of alternative facilities and locations for pedestrians and/or cyclist access; (vi) a response procedure for dealing with traffic incidents; and (vii) mechanism for the monitoring, review and amendment of this plan;</p>	Yes. Traffic MP for this early work.	Yes.	Yes.	Template CEMP's/ associated plans updated by selected Contractor.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B31, b)	<p>b) a Construction Flora and Fauna Management Plan to detail how construction impacts on ecology will be minimised and managed. The Plan shall be developed in consultation with the OEH and shall include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (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 and riparian vegetation). The surveys shall be undertaken by a qualified ecologist and include surveys of existing bridges and culverts for the presence of micro-bat roosting at least 6 months prior to the planned disturbance of such structures and targeted surveys for the Giant Barred Frog within and in the vicinity of the project corridor undertaken during suitable conditions; (ii) updated sensitive area /vegetation maps based on 831(b)(i) above and previous survey work; (iii) a Giant Barred Frog management plan, in the case that this species or its habitat is identified to occur in the project corridor or its vicinity, based on surveys undertaken as part of 831(bX₁); (iv) a micro-bat management strategy, in the case that micro bats or evidence of roosting are identified during pre-construction surveys. The strategy shall detail measures to avoid, minimise and mitigate impacts to these species and identified roost sites, including short and long term management measures; (v) details of general work practices to minimise the potential for damage to native vegetation (particularly EECs) not proposed to be cleared as part of the project and native fauna during construction, including (but not necessary limited to): fencing of sensitive areas, a protocol for the removal and relocation of fauna during clearing, presence of an 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, erosion and sediment control and progressive re-vegetation; (vi) 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; (vii) a procedure for dealing with unexpected EEC/ threatened species identified during construction including stopping works and notification of OEH, determination of appropriate mitigation measures in consultation with OEH (including relevant relocation measures) and update of ecological monitoring and/ or biodiversity offset requirements consistent with conditions 88 and 810; and (viii) mechanism for the monitoring, review and amendment of this plan; 	Yes within focussed CEMP and FFMP to be developed for this small section of early work. Works unlikely to have a large ecological impact.	Yes.	Yes.	Template CEMP's/ associated management sub plans prepared by RMS and finalised by the Contractor.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
B31, c)	<p>c) a Construction Noise and Vibration Management Plan to detail how construction noise and vibration impacts will be minimised and managed. The Plan shall be developed in consultation with the OEH and include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) identification of nearest sensitive receptors and relevant construction noise and vibration goals applicable; (ii) identification of key noise and/or vibration generating construction activities (based on representative construction scenarios) that have the potential to impact on surrounding sensitive receivers including expected noise/ vibration levels; (iii) identification of all feasible and reasonable measures proposed to be implemented to minimise construction noise and vibration impacts (including construction traffic noise impacts); (iv) procedure 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 supported by test blast results, 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 building damage; (vi) (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 exceedences of relevant noise and vibration goals are detected; 	Yes within focussed CEMP for this small section of early work.	Yes.	Yes.	Template CEMP's/ associated management sub plans prepared by RMS and finalised by the Contractor..
B31, d)	<p>d) a Construction Water Quality Management Plan to manage surface water quality and groundwater impacts during construction of the project. The Plan shall be developed in consultation with OEH, DPI (Fisheries and NOW) and include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (i) a contingency plan, consistent with the Acid Sulphate Soils Manual, to deal with the unexpected discovery of actual or potential acid sulphate soils; (ii) a tannin leachate management protocol to manage the stockpiling of mulch and use of cleared vegetation and mulch filters for erosion and sediment control; (iii) details of how construction activities would be managed and mitigated to minimise erosion and sedimentation consistent with condition C17; (iv) 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 steam hydrology impacts as far as practicable, including measures to stabilise bank structure and rehabilitate affected riparian vegetation to existing or better condition 	Yes SWMP within focussed CEMP for this small section of early work.	Yes.	Yes.	Template CEMP's/ associated management sub plans prepared by RMS and finalised by the Contractor.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>(including relevant performance indicators and monitoring requirements). The timing of rehabilitation of the waterways shall be as agreed to with DPI (Fisheries and NOW) shall be identified in the plan;</p> <p>(v) construction water quality monitoring requirements consistent with condition 817; and</p> <p>(vi) a groundwater management strategy, including (but not necessarily limited to):</p> <p>I. description and identification of groundwater resources (including depths of the water table and groundwater quality) potentially affected by the proposal based on baseline groundwater monitoring undertaken in accordance with condition B17(c);</p> <p>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;</p> <p>III. measures to manage identified impacts on water table, flow regimes and quality and to groundwater users and ecosystems;</p> <p>IV. groundwater inflow control, handling, treatment and disposal methods; and</p> <p>V. a detailed monitoring plan to identify monitoring methods, locations, frequency, duration and analysis requirements; and</p>				
B31, e)	<p>e) a Construction Heritage Management Plan to detail how construction impacts on Aboriginal and non-Aboriginal heritage will be minimised and managed. The Plan shall be developed in consultation with the OEH (Heritage Branch) (for non-Aboriginal heritage) and OEH and Registered Aboriginal Stakeholders (for Aboriginal heritage), and include, but not necessarily be limited to:</p> <p>(i) In relation to Aboriginal Heritage:</p> <p>I. details of management measures to be carried out in relation to already 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);</p> <p>II. ii. procedures for dealing with previously unidentified Aboriginal objects excluding human remains (including halting 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 qualified archaeologist in consultation with registered Aboriginal stakeholders, 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 AHIMS register);</p> <p>III. iii. procedures for dealing with human remains (including halting of works in the vicinity and notification of the NSW Police, OEH and registered Aboriginal stakeholders and not-recommending any works in the area unless authorised by OEH and/ or the NSW Police); and</p> <p>IV. iv. Aboriginal cultural heritage induction processes for construction personnel (including procedures for keeping records of inductions undertaken for the duration of the project) and procedures for ongoing Aboriginal consultation and involvement; and</p> <p>(ii) In relation to non-Aboriginal Heritage:</p> <p>I. details of management measures to be carried out in relation to already recorded sites</p>	Yes within focussed CEMP and Heritage MP for this small section of early work.	Yes.	Yes.	Template CEMP's/ associated management sub plans prepared by RMS and finalised by the Contractor.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	(including further heritage investigations, archival recordings and/ or measures to protect unaffected sites during construction works in the vicinity), consistent with the measures listed in Environmental Assessment Table 19-4; II. procedures for dealing with previously unidentified non-Aboriginal objects, (including halting 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 qualified archaeologist and assessment of the consistency of any new non-Aboriginal heritage impacts against the approved impacts of the project; and III. non-Aboriginal cultural heritage induction processes for construction personnel.				
C1	The Proponent shall employ all feasible and reasonable measures to minimise the clearing of native vegetation to the greatest extent practicable during the construction of the project.	Yes.	Yes.	Yes.	Addressed in FFMP.
C2	The Proponent shall employ all feasible and reasonable measures (including temporary cessation of relevant works, as appropriate) to ensure that the project is constructed in a manner that minimises dust emissions from the site, including wind-blown, traffic-generated dust, stockpiles and material tracking from construction sites onto public roads.	Yes.	Yes.	Yes.	Addressed in Air Quality MP.
C3	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.	Yes.	Yes.	Yes.	NVMP.
C4	Works outside of the construction hours identified in conditions C3 may be undertaken in the following circumstances: a) works that generate noise that is not audible at any sensitive receptor; b) or delivery of materials required outside these hours by the Police 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 in which sensitive receptors are located greater than 300 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 OEH in the case of excessive or unresolved noise complaints; or e) where an EPL applies to the construction of the project, construction hours which are approved in accordance with the conditions of an EPL for the project; or f) where an EPL does not apply to the construction of the project, Out of Hours Works as agreed to by the Director General in accordance with condition C5.	Yes.	Yes.	Yes.	NVMP.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
C5	<p>For the purposes of condition C4 (f), certain construction activities (Out of Hours Works) may be allowed to occur outside the construction hours specified in conditions 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 conditions C3 for technical or other justifiable reasons and will be considered on a case by case or activity-specific basis. Any request for Out of Hours Works must be accompanied by:</p> <ul style="list-style-type: none"> a) details of the nature and need for activities to be conducted during the varied construction hours; b) written evidence to the OEH and the Director General that activities undertaken during the varied construction hours are justified, appropriate consultation with potentially affected receivers and notification of Council has been undertaken, issues raised have been addressed, and all feasible and reasonable mitigation measures have been put in place; and c) evidence of consultation with the OEH on the proposed variation in standard construction hours. <p>Despite the above, Out of Hours Works may also occur in accordance with an approved Construction Environment Management Plan or Construction Noise and Vibration Management 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>	Yes.	Yes.	Yes.	NVMP.
C6	<p>Blasting associated with the project shall only be undertaken during the following hours</p> <ul style="list-style-type: none"> a) 9:00 am to 5:00 pm, Mondays to Fridays, inclusive; b) 9:00 am to 1:00 pm on Saturdays; and c) at no time on Sundays or public holidays. <p>This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons to avoid loss of life, property loss and/or to prevent environmental harm.</p>	NA. Blasting not required for early works, only using surface soil material.	Yes.	Yes.	NVMP. Blast Management Plan to be prepared..
C7	<p>The Proponent shall implement all feasible and reasonable noise mitigation measures with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 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 Plan required under condition B31(c) of this approval.</p>	Yes.	Yes.	Yes.	NVMP.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.						
C8	<p>The Proponent shall implement all feasible and reasonable mitigation measures with the aim of achieving the following construction vibration goals and ground-borne noise levels:</p> <p>a) for structural damage vibration, the vibration limits set out in the German Standard D/N 4150 Part 3-1999 Structural Vibration in Buildings - Effects on Structures;</p> <p>b) for works in the vicinity of the heritage structures, the vibration limits set out in the German Standard DIN 4150-3: 1999 Structural Vibration - part 3: Effects of vibration on structures; and</p> <p>c) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (DEC 2006); and</p> <p>d) the ground-borne noise levels set out in the Interim Construction Noise Guidelines (DECC, 2009).</p>	Yes.	Yes.	Yes.	NVMP.						
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. To ensure that criteria are satisfied at the most affected residence or other sensitive receiver, blasting trials shall be undertaken prior to the commencement of the project blasting program, with results from the trials used to determine site specific blast design to satisfy the criteria specified in Table 1.</p> <p>Table 1 - Airblast overpressure criteria</p> <table border="1" data-bbox="340 900 1279 999"> <thead> <tr> <th>Airblast overpressure (dB (Lin Peak))</th> <th>Allowable exceedence</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 exceedence	115	5% of total number of blasts over a 12 month period	120	0%	NA.	Yes.	Yes.	NVMP. Blast Management Plan.
Airblast overpressure (dB (Lin Peak))	Allowable exceedence										
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. To ensure that criteria are satisfied at the most affected residence or other sensitive receiver, blasting trials shall be undertaken prior to the commencement of the project blasting program, with results from the trials used to determine site specific blast design to satisfy the criteria specified in Table 2.</p> <p>Table 2 - Peak particle velocity criteria</p> <table border="1" data-bbox="340 1193 1279 1313"> <thead> <tr> <th>Peak particle velocity (mms-1)</th> <th>Allowable exceedence</th> </tr> </thead> <tbody> <tr> <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> </tbody> </table>	Peak particle velocity (mms-1)	Allowable exceedence	5	5% of total number of blasts over a 12 month period	10	0%	Yes.	Yes.	Yes.	NVMP. Blast Management Plan.
Peak particle velocity (mms-1)	Allowable exceedence										
5	5% of total number of blasts over a 12 month period										
10	0%										

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
C11	<p>The blasting criteria identified in condition C9 and/ or C10 do not apply where the Proponent has a written agreement with the relevant landowner to exceed the criteria identified in condition C9 and/ or C10 and the Director General has approved the terms of the written agreement. In obtaining the Director General approval for any such agreement, the Proponent shall submit to the Director General:</p> <ul style="list-style-type: none"> a) details of the proposed blasting program and justification for the proposed increase to blasting criteria including alternatives considered (where relevant); 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; c) details of the blast management, mitigation and monitoring procedures to be implemented; and d) details of consultation undertaken and agreement reached with the relevant landowners (including a copy of the agreement in relation to increased blasting limits). <p>The following exclusions apply to the application of this condition:</p> <ul style="list-style-type: none"> a) any agreements reached may be terminated by the landowner at any time should concerns about the increased blasting limits be unresolved; 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 c) the provisions under condition C11 (to increase applicable blast criteria in agreement with the relevant landowners) do not apply where the property is a heritage property. 	No.	Yes.	Yes.	NVMP. Blast Management Plan.
C12	<p>Unless otherwise agreed to by the Director General, within six months of commencing construction, the Proponent shall in consultation with OEH 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> <ul style="list-style-type: none"> 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 Nambucca Heads Rest Area, based on additional noise monitoring undertaken at this location; 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 (EPA, 1999) and the Industrial Noise Policy (EPA, 2000) in relation to the Nambucca Heads Rest Area, based on the operational noise performance of the project predicted under (a) above; and c) where necessary, investigate additional feasible and reasonable noise mitigation measures to 	No. Early works on a small area without required information to complete this report.	Yes.	Yes.	

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	achieve the criteria outlined in the Environmental Criteria for Road Traffic Noise (EPA, 1999) and the Industrial Noise Policy (EPA,2000) in relation to the Nambucca Heads Rest Area including the applicability of noise walls in the vicinity of River Road in Macksville.				
C13	This approval does not allow the Proponent to destroy, modify or otherwise physically affect human remains.	Yes.	Yes.	Yes.	
C14	The Proponent shall not destroy, modify or otherwise physically affect the Aboriginal cultural sites identified in Table 15-3 of the Environmental Assessment (including AHIMS site numbers 21-6-36, 21-6-0287, 21-6-0016, 21-6-0163, 21-6-0039, 21-6-0090, 21-6-0102, 21-6-0141, 21-6-0164, 21-6-0064, and 21-6-0044), Boggy Creek spiritual area, Buchanan Conflict Site at Cow Creek (21-6-00286), burial site, Cabbage tree palm resource site, Aboriginal mirrah (21- 3-0034), Rosewood Scarred Tree or potential archaeological deposits (PAD) 31.	Yes. PADs within the corridor have been salvaged, including at Kalang. Issue will be addressed in Early Works EMP/ Heritage MP.	Yes.	Yes.	Heritage MP. Constraints mapping. Induction.
C15	The Proponent shall not destroy, modify or otherwise physically affect the following historic sites: the ferry/ punt crossing at Boulton Hill; old municipal tip; Valla Gold Mine; former stock route; tramway and quarry, Martells Road; the native swamp conservation area; and vegetation group remnant forest' conservation area.	NA.	Yes.	Yes.	Heritage MP. Constraints mapping. Induction.
C16	The measures to protect any Aboriginal or historic heritage sites near or adjacent to the project during construction shall be detailed in the Heritage Management Plan required under condition B31(e).	Yes	Yes.	Yes.	Heritage MP. Constraints mapping. Induction.
C17	Soil and water management measures consistent with Managing Urban Stormwater - Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004) and Managing Urban Stormwater Soils And Construction Vols 2A and 2D Main Road Construction (DECC 2008) shall be employed during the construction of the project for erosion and sediment control.	Yes.	Yes.	Yes.	SWMP/ PESCP's.
C18	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.	Unlikely considering small scale of works.	Yes.	Yes.	SWMP/ WQMP.
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 any such property or structure, the Proponent shall arrange and fund repair of the damage to a standard comparable to the in existence prior to the damage.	Yes.	Yes.	Yes.	

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
C20	The Proponent shall ensure that access to all properties is maintained during construction unless agreed with the property owner in advance and that any access physically affected by the Project is reinstated to at least an equivalent standard, in consultation with the landowner.	Yes.	Yes.	Yes.	
C21	C21. The Proponent shall in consultation with relevant landowners construct, the project in a manner that minimises intrusion and disruption to agricultural operations/activities in surrounding properties (e.g. stock access, access to farm dams etc).	Yes.	Yes.	Yes.	
C22	Where the project traverses Nambucca, Newry and Little Newry State Forests, the Proponent shall in consultation with DPI (Forestry) ensure that construction activities do not unduly disrupt existing forestry activities, access for fire fighting and recreation activities during construction.	NA.	Yes.	Yes.	
C23	Road dilapidation reports shall be prepared for all local roads likely to be used by construction traffic prior to use by construction heavy vehicles. A copy of the relevant report shall be provided to the relevant Council. Any damage resulting from the construction of the project, aside from that resulting from normal wear and tear, shall be repaired at the cost of the Proponent. The roads likely to be used by heavy construction vehicles should be identified in the Traffic Management Plan required under condition B31(a).	Yes.	Yes.	Yes.	
C24	The Proponent shall not cause, permit or allow any 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.	Yes.	Yes.	Yes.	Waste Management Plan.
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.	Yes.	Yes.	Yes.	Waste Management Plan.
C26	The Proponent shall ensure that all liquid and/or non-liquid waste generated on the site is assessed and classified in accordance with Waste Classification Guidelines (DECC, 2008), or any future guideline that may supersede that document and where removed from the site is only directed to a waste management facility lawfully permitted to accept the materials.	Yes.	Yes.	Yes.	Waste Management Plan.
C27	Unless otherwise approved by the Director General in accordance with this condition, the sites for ancillary facilities associated with the construction of the project shall: 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) be above the 20 ARI flood level unless a contingency plan to manage flooding is prepared and implemented; g) not unreasonably affect the land use of adjacent properties;	Yes.	Yes.	Yes.	Ancillary sites will be addressed in CEMP's and where additional sites requiring DoPI approval, these will be forwarded.

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>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</p> <p>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> <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>				
D1	<p>Prior to the commencement of operation, the Proponent shall incorporate the project into its existing environmental management systems.</p>	NA as early works.	Yes.	Yes.	
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 C12 and prepare an Operational Noise Report to document this monitoring. The Report shall include, but not necessarily be limited to:</p> <p>a) noise monitoring to assess compliance with the operational noise levels predicted in the review of operational noise mitigation measures required under condition C12 and documents specified under condition A1 of this approval;</p> <p>b) a review of the operational noise levels in terms of criteria and noise goals established in the Environmental Criteria for Road Traffic Noise (EPA, 1999);</p> <p>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;</p> <p>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;</p> <p>e) any required recalibrations of the noise model taking into consideration factors such as actual traffic numbers and proportions;</p> <p>f) an assessment of the performance and effectiveness of applied noise mitigation measures together with a review and if necessary, reassessment of all feasible and reasonable mitigation measures; and</p> <p>g) identification of any additional feasible and reasonable measures to those identified in the review of noise mitigation measures required by condition C12, that would be implemented with the objective of meeting the criteria outlined in the Environmental Criteria for Road Traffic Noise (EPA, 1999), when these measures would be implemented and how their effectiveness would be</p>	NA.	Yes.	Yes.	

Warrell Creek to Urunga - Staging Report

Condition Number	Condition	Condition addressed under Stage 1 Early works Kalang if adopted	Condition addressed under Stage 1 Construction	Condition addressed under Stage 2 Construction	Evidence of Compliance/ cross reference to relevant document.
	<p>measured and reported to the Director General and the OEH.</p> <p>The Proponent shall provide the Director General and the OEH with a copy of the Operational Noise Report within 60 days of completing the operational noise monitoring referred to a) above and no later than 12 months after the date of the commencement of operation, or as otherwise agreed by the Director General.</p>				

