DUPLICATION OF TOURLE STREET AND CORMORANT ROAD, KOORAGANG

Submissions report

DECEMBER 2014

Roads and Maritime Services: 14.580
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Executive summary

Roads and Maritime Services is proposing to duplicate a 3.8 kilometre section of Tourle Street and Cormorant Road at Kooragang (the proposal). The proposal is needed to address existing traffic congestion and aims to cater for predicted increases in traffic movements along this corridor.

Key features of the proposal include:

- Construction of a new two lane reinforced concrete bridge immediately to the west of the existing bridge over the Hunter River
- Construction of new southern and northern bridge approaches
- Widening of Tourle Street and Cormorant Road to four lanes (two lanes in each direction) from about 350 metres north of the Industrial Drive intersection to about 200 metres west of the Egret Street intersection.

Roads and Maritime prepared a review of environmental factors (REF) to assess the environmental impacts of the proposal. The REF was publicly displayed between 8 September 2014 and 5 October 2014 at five locations in Newcastle and Port Stephens. The REF was also placed on the Roads and Maritime website.

A total of eight submissions were received in response to the public display of the REF comprising five government agencies, two from private companies and one from a community group.

The main issues raised by the respondents were:

- Proposal design
- Ongoing consultation
- Construction management.

In response, additional mitigation measures were developed to manage the following issues:

- Consultation with stakeholders and adjacent landholders
- Cumulative impacts from planned nearby developments
- Design considerations for intersections and off-road cyclist facilities
- Management of construction and operational water quality impacts.

Should the proposal proceed, these management measures would be incorporated into the detailed design and applied during the construction and operation of the proposal.

In summary, the proposal as described in the REF, including refinements as documented in this submissions report, meets the proposal objectives, while minimising environmental impacts and appropriately considering community issues.
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Appendices

Appendix A  Stakeholder consultation materials
    Appendix A1  List of stakeholders
    Appendix A2  Example letter to stakeholder
    Appendix A3  Community update – September 2014
1 Introduction and background

1.1 Purpose

This submissions report relates to the review of environmental factors (REF) prepared for the duplication of Tourle Street and Cormorant Road at Kooragang, and should be read in conjunction with that document.

The REF was placed on public display and submissions relating to the proposal and the REF were received by Roads and Maritime Services. This submissions report summarises the issues raised and provides responses to each issue (Section 2) and identifies new or revised environmental management measures (Section 3).

1.2 The proposal

In September 2014 Roads and Maritime invited stakeholders and the community to comment on the proposed upgrade and widening of Tourle Street and Cormorant Road at Kooragang (the proposal).

The key features of the proposal include:

- Duplicating 3.8 kilometres of the road between Industrial Drive, Mayfield West and Egret Street, Kooragang to provide two lanes in each direction
- A new two lane bridge on the western side of the existing bridge
- 2.5 metre shoulders along Cormorant Road to cater for on-road cyclists
- Minimising impact on the Long Pond by mainly widening the road on the southern side of the existing Cormorant Road
- Maintaining access to existing businesses along the corridor
- Catering for future industrial development on Kooragang Island next to the existing road.

A detailed description of the proposal is provided in Section 3 of the REF.

An overview of the proposal is provided in Figure 1.1.
TOURLE STREET AND CORMORANT ROAD DUPLICATION REVIEW OF ENVIRONMENTAL FACTORS
ROADS AND MARITIME SERVICES

Figure 1.1 Location plan
1.3 REF display

Roads and Maritime prepared the REF to assess the environmental impacts of the proposal. The REF was publicly displayed between Monday 8 September 2014 and Sunday 5 October 2014 at five locations, as detailed in Table 1.1. The REF was placed on the Roads and Maritime website and made available for download. The display locations and website link were advertised in the:

- Port Stephens Examiner (11 September 2014)
- Newcastle Herald (13 September 2014)
- Newcastle Post (17 September 2014).

In addition, an invitation to comment and a copy of the Community Update was sent directly to several identified stakeholders (Appendix A).

Table 1.1 Display locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
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<tbody>
<tr>
<td>Roads and Maritime Services Regional Office, Newcastle</td>
<td>59 Darby Street, Newcastle NSW 2300</td>
</tr>
<tr>
<td>Nelson Bay Motor Registry</td>
<td>30 Yacaaba Street, Nelson Bay NSW 2315</td>
</tr>
<tr>
<td>Port Stephens Council</td>
<td>116 Adelaide Street, Raymond Terrace NSW 2324</td>
</tr>
<tr>
<td>Newcastle City Council</td>
<td>282 King Street, Newcastle NSW 2300</td>
</tr>
<tr>
<td>Stockton Library</td>
<td>19 King Street, Stockton NSW 2295</td>
</tr>
</tbody>
</table>
2 Response to issues

Roads and Maritime received eight submissions, accepted until 16 October 2014. Table 2.1 lists the respondents and each respondent’s allocated submission number. The table also indicates where the issues from each submission have been addressed in Section 3 of this report.

Table 2.1 Respondents

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Submission No.</th>
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<tr>
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<td>NSW Office of Water</td>
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2.1 Overview of issues raised

A total of eight submissions were received in response to the display of the REF comprising five government agencies, two from private companies and one from a community group.

Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted and collated, and responses have been provided. Where similar issues have been raised in different submissions, only one response has been provided. The issues raised and Roads and Maritime’s response to these issues forms the basis of this section of the report.

No submissions objected the proposal, one submission supported the proposal or specific elements of the proposal, and seven submissions did not offer a position at all on the proposal.

The main issues raised included:

- Proposal design
- Operational management
- Impact assessment
- Consultation
- Construction management.
2.2 Proposal design

Issues included concerns about the design of intersections on Cormorant Road and suggested improvements for cyclists and pedestrians. Support was also received for specific elements of the proposal and for the overall proposal. These issues are discussed further in the following sections.

2.2.1 Support for the proposal

Submission number(s): 2, 6

Issue summary

- General support for the proposal
- Particular support for elements of the proposal that will improve safety and riding conditions for cyclists
- Support towards the design of the new bridge being similar to the current bridge
- Traffic improvements to the route are important for the development of Newcastle and areas to the north.

Response

Roads and Maritime acknowledges support for the proposal.

2.2.2 Lane and intersection arrangements

Submission number(s): 1, 4

Issue summary

- U-turn provisions should be provided at the T-intersections along Cormorant Road
- The design should ensure that the weave manoeuvre required to enter the right turn bay at the Cormorant Road and Pacific National Access Road can be safely performed by heavy vehicles, alternatively a four-way intersection controlled by traffic signals should be considered for this intersection
- Acceleration and deceleration lanes should be provided on Windmill Road, NCIG Wharf Access Road and Delta Road intersections for safety reasons
- Section 6.5 of the REF does not address impacts caused by changes to existing intersections, in particular access for Port of Newcastle (PON) and PON tenants at Delta Road
- The plans included with the REF do not show a left-out acceleration lane from Delta Road onto Cormorant Road. The Community Update states that the left turn in and out access is to be maintained. The concept design plan does not include the acceleration lane. PON requires that an acceleration lane be included in the design to maintain existing conditions at the intersection.

Response

During detailed design, a traffic safety review and refinement of the intersection layouts will be undertaken along with a road safety audit on the proposal.

Intersection turning counts at each intersection on Cormorant Road being modified by the proposal were carried out as part of the Traffic Study provided as Appendix J of the REF. These intersection counts indicate the movements in and out of the side roads are subject to relatively low traffic
volumes under their current arrangements. The concept design provided in the REF maintains these arrangements in terms of traffic movements allowed at each intersection. While the provision of additional acceleration and deceleration lanes at the intersections on Cormorant Road are not considered warranted under current and expected traffic volumes, the intersection layouts will be considered further during the detailed design process. Roads and Maritime will consult with the key users of each intersection during detailed design, including PON, Port Waratah Coal Services (PCWS), Newcastle Coal Infrastructure Group (NCIG) and Newcastle City Council (NCC).

A deceleration lane is not considered warranted to turn left into the NCIG Access Road. A locally widened three metre shoulder is proposed along with an additional through travel lane to allow this movement to be made clear of through traffic.

Provision of an acceleration lane for the left turn out of the NCIG intersection would reduce the time and space available for any vehicles crossing into the right turn lane at the Pacific National Access Road intersection. The weave manoeuvre required for vehicles to enter the right turn lane into the Pacific National Access Road is required under current conditions. Rearrangement of this intersection is not possible given the location of a site security gate/office within NCIG about 30 metres east from the existing NCIG access. Provision of a four-way, signal controlled intersection at this intersection is proposed as part of the PWCS Terminal 4 (T4) Project, which is currently under consideration by the NSW Department of Planning and Environment. As part of the T4 Project, the NCIG Access Road would be closed and a new access would be created by the 4-way intersection. This is outside the scope of the proposal and would be undertaken as part of the T4 Project, if approved. It is also noted that the existing u-turn facility within the Pacific National Access Road will be maintained by the proposal.

It is noted that a left-out acceleration lane at the Delta EMD Access Road was not committed to in the November 2013 Community Update, which stated that left-in and left-out accesses at this intersection would be maintained. Further investigation has determined that the existing left-out acceleration lane at this intersection does not meet the relevant standard in length for a heavy vehicle to reach a sufficient speed to merge safely with through traffic. Extension of this lane would conflict with a proposed gantry housing structure that would be constructed as part of the T4 Project. A high-angle left-turn out lane is considered to be safer than a reduced left-out acceleration lane. The proposals additional through traffic lane will provide more opportunity to enter from the intersection than the current situation. Roads and Maritime will consult with PON regarding the design of this intersection during the detailed design period.

2.2.3 Cyclist and pedestrian provisions

Submission number(s): 1

Issue summary

- Consideration should be given to providing an off-road shared path along the eastern side of Tourle Street and the southern side of Cormorant Road linking with the off-road path across the existing Tourle Street Bridge

- Consideration should be given to providing physical separation between vehicles and cyclists on the new bridge, including a suitable barrier system to ensure cyclists are protected from falling over the bridge in the event of a fall.

Response

The proposal would improve on-road safety for cyclists through the widening of the available shoulder from one metre to 2.5 – three metres and provision of a two metre verge. It is noted the Tourle Street and Cormorant Road route is generally used by ‘sporting cyclists’ who would use on-
road cyclist provisions. The proposal does not link to any cyclepaths at either end. Cycling clubs that use Kooraagang Island for racing did not raise any issues with the proposed provision for cyclists during consultation. The cycling clubs were generally supportive of the proposal and have provided submissions of support for the proposal during the development phase.

It is noted that the proposal generally has a two metre verge running along the eastern side of Tourle Street which provides sufficient space for development of an off-road footpath by Newcastle City Council.

Physical separation distance between vehicles and cyclists across the proposed new bridge was not considered warranted, as the new bridge will feature a three metre shoulder which exceeds relevant guidelines for on-road cyclist safety in an 80 km/h speed zone. The new bridge would utilise Roads and Maritime standard 1.3 m high barriers which have been specifically designed for cyclist safety.

Further consideration will be given to provisions for cyclists during the detailed design phase and Roads and Maritime will consult with Newcastle City Council regarding provisions for cyclists as part of the proposal.

2.2.4 Proposed developments

Submission number(s): 5

Issue summary

- Consideration should be given to potential conflicts with the nearby T4 Project
- The proposal design must be compatible with the T4 Project design
- Interactions with the Hunter River South Arm Capital Dredging Project approval (DA-134-3-2003i) have not been considered.

Response

Roads and Maritime has consulted with the proponent of the T4 Project throughout development of the concept design and made allowances for a number of features of that project. The alignment of Cormorant Road and intersections have been designed to fit with components of the T4 Project such as gantries and conveyors. Roads and Maritime will continue to consult with the proponent of the T4 Project throughout the detailed design process and further development stages of the proposal.

The former Newcastle Port Corporation (now PON) received approval for ‘DA-134-3-2003i – Extension of Shipping Channels within the Port of Newcastle, including the Dredging, Excavation, Treatment and Disposal of Sediments from the South Arm of the Hunter River’ on 9 August 2005. An application to modify this approval (MOD 8) was approved on 18 March 2013. MOD 8 provides for the relocation of a swing basin (to allow coal ships to turn) to approximately 600 metres to the east of the existing Tourle Street Bridge.

Roads and Maritime submitted an objection to MOD 8 during public exhibition of a Statement of Environmental Effects for the modification between June and July 2011. Following this submission, meetings were held between Roads and Maritime and Newcastle Port Corporation and additional information was provided to Roads and Maritime.

At this time, Roads and Maritime determined the proposed swing basin would not jeopardise either the future duplication of Cormorant Road or the provision of access to land on the southern side of Cormorant Road. Roads and Maritime issued a letter dated 16 September 2011 which removed its
objection to the swing basin, provided that the following matters were addressed and included as conditions in the approval:

- the swing basin is constructed using sheet pile walls and tie backs
- a Construction Traffic Management Plan is prepared by a suitably qualified professional and submitted to the Department of Planning and Environment and Roads and Maritime for acceptance prior to the commencement of on-site works.

It is noted DA 134-3-2003i requires PON to undertake structural integrity assessments of the existing or new Tourle Street Bridge prior to undertaking dredging or excavation works within 100 metres. PON must also seek approval for strategies and programs it is required to develop that relate to traffic management and transport of waste materials.

2.2.5 Land access requirements

Submission number(s): 2

Issue description

- PON is seeking to lease vacant land that adjoins the proposal. Consultation between Roads and Maritime and PON should be arranged to discuss access requirements. Any activities on PON land require approval from PON and must adhere to PON access protocols
- It is vital that access for port tenants within Kooragang and Walsh Point is maintained during the proposal.

Response

The proposal will improve access and traffic serviceability for areas to the north of Newcastle, including Kooragang Island and Walsh Point. Measures to maintain access to businesses and landholders potentially affected by construction of the proposal are detailed in Section 3.3.8 of the REF.

Roads and Maritime will continue to consult with PON regarding further development of the proposal and recognises the requirement for approval to undertake any activities on PON land.

2.3 Operational management

2.3.1 Land ownership and approvals

Submission number(s): 2, 3, 7

Issue summary

- PON is responsible for vessel scheduling such as barges used in construction. Consultation and licensing may be required to facilitate access to the channel and to disturb the bed of the port
- A permit to harm marine vegetation will be required to remove mangroves along the southern side of Cormorant Road
- Roads and Maritime will need to comply with the permit to provide biodiversity offsets in accordance with the ‘Policy and guidelines for fish habitat conservation and management’
- Newcastle Port Corporation is no longer an entity and is now part of the Port Authority NSW which is responsible for pilotage services and the Harbour Master. Any references in the REF
to Newcastle Port Corporation should be amended to reflect the current operator or responsibility.

Response

Roads and Maritime will continue to consult with PON regarding further development of the proposal and recognises the potential requirement for licensing of channel access and disturbance of the bed of the port. It is also noted that PON is now the operator of the port and this will be reflected in all future documentation relating to the proposal.

Section 4.3.5 of the REF identifies that approval is required under the *Fisheries Management Act 1994* for the disturbance of mangroves and marine vegetation.

2.4 Consultation

2.4.1 Stakeholder and community consultation

Submission number(s): 2, 5

Issue summary

- Section 5 of the REF fails to discuss the design workshop, where PON first detailed its requirements for the acceleration lane from Delta Road onto Cormorant Road
- Ongoing consultations between Roads and Maritime and the owners/operators of adjacent lands must continue to ensure land use conflicts are avoided
- All enquires with regard to future consultation in the development of construction environmental management plans, traffic management plans and any other matters relating to the adjoining land owner should be directed to PON.

Response

Section 5 of the REF details the formal correspondence and submissions received from government stakeholders in response to letters of notification and the Community Update released in November 2013.

Roads and Maritime recognises PON attended a Safety In Design workshop in March 2014. Although records of this meeting do not identify provision of an acceleration lane at the Delta EMD Access Road intersection as being a design consideration, it was considered during the development of the proposal. This issue is discussed further in Section 2.2.2.

Roads and Maritime will continue to consult with government and community stakeholders throughout the further development stages of the proposal. This consultation will include the owners and operators of adjacent lands and PON.
2.5 Construction management

2.5.1 Management of contamination

Submission number(s): 2, 8

Issue summary

- PON requests that Roads and Maritime ensure no contamination migrates onto PON land as a result of the construction or operation of the proposal
- PON is not listed as a stakeholder in Section 5 of the REF
- PON will require access to all contamination data available at the commencement of construction and may require additional sampling to be undertaken so that a baseline condition can be established
- The Maritime Division of Roads and Maritime requests that a number of safety navigation measures are implemented in accordance with their standard requirements, for activities in the Hunter River.

Response

Roads and Maritime identified disturbance of contaminated material as a potential impact from construction of the proposal and commissioned a Stage 1 Preliminary Site Investigation as part of the REF. This study identified two registered contaminated sites as occurring in the vicinity of the proposal and the potential for construction activities to result in disturbance of contaminated material. Roads and Maritime notes it is not the proponent responsible for managing the contaminated sites identified in the vicinity of the proposal.

Roads and Maritime will implement the measures outlined in Section 6.4.3 of the REF during construction to ensure that any existing ground or river bed contaminants encountered are not mobilised to adjacent areas as a result of construction activities.

In addition to the measures outlined in the REF, Roads and Maritime has developed the following management measures to prevent the migration or disturbance of contamination during the construction period:

- Prior to bridge and embankment works, construction of a cut-off wall on the southern bank of the Hunter River adjacent to the Tourle Street Bridge, to supplement the existing slag seawall. This would consist of an impermeable grout injected cut-off wall embedded within the clay layer, parallel to the river bank in the same location as the existing seawall to prevent the contaminants in the upper aquifer from migrating to the river.
- The lower aquifer will be monitored prior to and during piling works in the southern approach to ensure that cross contamination between the upper and lower aquifer is not occurring as a result of the works.

Roads and Maritime would provide any contamination data it holds that is relevant to the proposal to PON upon request.

Roads and Maritime recognises PON is a key stakeholder for the proposal.

Roads and Maritime will comply with any requirements of its Maritime Division for activities undertaken in the Hunter River during construction.
2.6 Impact assessment

2.6.1 Impacts on the environment

Submission number(s): 2, 3, 5

Issue summary

• During exhibition of the T4 Project, PWCS received a public submission identifying palm trees in the vicinity of the Pacific National and Cormorant Roads which are suggested to be of heritage significance

• PWCS is aware of river sediments with elevated levels of contaminants immediately east of the existing Tourle Street Bridge

• The recent replacement of the Tourle Street Bridge had a compensation requirement to rehabilitate an area impacted by construction works which was not carried out. Reconstructing this area as saltmarsh after the works have been completed would be suitable to offset for impacts from the development

• The Department of Primary Industries (DPI) does not consider the Long Pond as Key Fish Habitat due to its isolation from the Hunter River, the poor quality of the habitat and the proliferation of the pest species *Gambusia affini*

• DPI is not convinced Horny Pondweed reported from the site is a native species due to its limited distribution near major ports in Australia and its proliferation throughout the Northern Hemisphere. Any reclamation works in Long Pond do not require further approvals from DPI.

Response

A non-Aboriginal heritage assessment was undertaken for the REF and did not identify the palm trees in the vicinity of the Pacific National Access Road as a registered heritage site. Roads and Maritime will consult with PWCS regarding potential for impacts to these potential heritage items during the detailed design process, although it is noted that this this site is outside the proposed disturbance area.

The area to the east of the existing Tourle Street Bridge was identified as a registered contaminated site as part of a Stage 1 Preliminary Site Investigation undertaken for the REF. Section 6.4.3 of the REF and Section 3 of this report outline measures that would be implemented during construction of the proposal to ensure potential disturbance of contamination is minimised.

A meeting was held between Roads and Maritime and DPI on 29 November 2014 to discuss the biodiversity compensation requirement for the previous Tourle Street Bridge replacement project. It was agreed at this meeting that the impacts generated by the proposal and the former Tourle Street Bridge replacement project associated with this requirement are relatively small in terms of a stand-alone biodiversity offset package and that these impacts would be included in future biodiversity offset packages for other Roads and Maritime Hunter Region projects.

Roads and Maritime recognises the comments received from DPI regarding Long Pond and will manage impacts to Long Pond in accordance with the measures described in the REF.
2.6.2 Statutory and planning framework

Submission number(s): 2

Issue summary
• Part 20 of the Major Development State Environmental Planning Policy (SEPP) was repealed on 31 May 2014 and replaced by the Three Ports SEPP. Subsequently, the discussion in Section 4.1.2, Table 4.1 and Figure 4.1 in the REF are incorrect
• The Three Ports SEPP contains a Schedule of Heritage Items which was not examined as part of the discussion in Section 6.10.1 of the REF.
• Kooragang Island is no longer vested in the Regional Land Management Corporation (Section 4.3.5 of the REF) and now forms part of the land leased to the PON under the 98 year Port Lease.

Response
It is acknowledged Part 20 of State Environmental Planning Policy (Major Development) 2005 was repealed on 31 May 2014 and replaced by State Environmental Planning Policy (Three Ports) 2013 (the Three Ports SEPP). A review of the Three Ports SEPP has been undertaken during preparation of this submissions report and this determined that the proposal is consistent with the Three Ports SEPP. It is noted that the proposal is located on land zoned ‘SP1 Special Activities’ under this SEPP and that road developments are permissible without consent in this zone.

No heritage items listed in the Three Ports SEPP are located near the proposal, or would be impacted by it.

It is noted PON now controls land that was previously vested in the Regional Land Management Corporation.

2.6.3 Operational water quality impacts

Submission number(s): 2

Issue summary
• Section 6.2 of the REF does not address potential water quality issues during operation of the proposal
• Is there work to be done on operational mitigation measures to control runoff, litter and hazardous material spills and the potential effects on PON land?
• There is mention of converting the 20,000 litre tank post construction. Are there any other measures?

Response
Operational water quality impacts are discussed on pages 81–82 of the REF, which describes 'increase in sediment and nutrient-laden runoff being transported to waterway receptors' as a potential operational impact. Measures to manage operational water quality impacts are outlined in Section 6.2.4 of the REF. These measures include direction of run-off from the bridge to containment tanks and sediment basins to mitigate potential water quality impacts in areas near the Hunter River during operation.

Measures to further mitigate operational water quality impacts would be developed during detailed design, these may include use of litter traps on stormwater or culvert discharge points. These
measures have been added to the revised safeguards and management measures for the proposal provided in Section 3.2 below.

2.6.4 Potential traffic impacts

Submission number(s): 2

Issue summary

- Section 6.5.2 of the REF needs to address potential impacts to Port users from traffic delays during construction of the proposal.
- The assessment of impacts in the REF is largely restricted to the impacts caused by the introduction of construction traffic. There is little assessment on the impacts caused by reduced speed limits and increased travel times during construction.
- Construction traffic impacts have the potential to impact on PON tenant operations.
- What measures are to be employed to reduce traffic impacts besides notification and establishment of a 24 hour phone hotline?

Response

Section 6.5.2 of the REF discusses possible impacts to traffic travelling on Tourle Street and Cormorant Road during construction of the proposal. As outlined in that section, construction traffic impacts are not avoidable and all feasible measures to mitigate construction traffic impacts have been incorporated in the proposal design.

Alternatives considered to reduce construction impacts are outlined in Section 2.5 of the REF, although these are limited in scope as no alternative routes are available to divert traffic onto during the construction phase. Alternative timeframes, such as delaying or staging construction are not considered suitable, due to current traffic congestion issues.

Measures to mitigate construction traffic impacts are described in Section 6.5.3 of the REF, these include development of a construction traffic management plan that would include procedures for traffic control, traffic warning and advisory signage, consultation with adjacent land users and the community, specifications for traffic management measures and a vehicle movement plan. Speed restrictions and lane closures are required to ensure the safety of construction workers during the construction period, and to allow for construction to proceed.

A vehicle movement plan would also be developed to control construction traffic generated by the proposal, so impacts to other road users are mitigated as far as possible.

It is noted that in operation, the proposal would improve travel efficiency and reduce traffic congestion, providing improved travel times to and from Kooragang Island and the Port of Newcastle.

2.6.5 Noise impacts

Submission number(s): 2

Issue summary

- Has it been assumed that the proposal will not alter operational noise?
- If the proposal facilitates more efficient flows of traffic, it will attract more traffic and therefore alter existing noise levels.
Response

A detailed noise and vibration impact assessment (NVIA) was prepared to assess the potential impacts from construction and operation of the proposal. This assessment was provided as Appendix K of the REF and operational noise impacts are discussed in Section 6.6.3 of the REF. Due to the separation distance between the proposal and the nearest sensitive receiver, there is no operational noise criteria for the proposal.

Following the construction period, the proposal will not in itself increase traffic volume or change the traffic mix on the existing road and route.

Predicted traffic volume increases have been considered in the design of the proposal and it is noted these are predicted to occur at the same rate, with or without the proposal (i.e. build or no-build).

2.6.6 Air quality

Submission number(s): 2

Issue summary

- Air studies should describe what levels of pollution are attributable to Cormorant Road. This should be set in the context of the surrounding areas and land uses.

Response

Consideration of the pollution attributable to vehicles travelling on Cormorant Road is provided in Section 6.8.1 of the REF.

A quantitative assessment of the emissions associated with vehicular use of Tourle Street and Cormorant Road was not calculated for the REF, as no sensitive receivers were identified within 600 metres of the proposed works and potential for air quality impacts was determined to be low.

The proposal would improve the efficiency of Tourle Street and Cormorant Road to address existing traffic congestion. While the proposal itself is not expected to increase travel, general traffic growth in the corridor could impact on local air quality through vehicle emissions. Given the route is adjacent to coal ship loading, steel manufacturing and other industrial operations which are likely to be the dominant source of particulates in the local area, the proposal is not expected to result in any long-term air quality impacts.

2.6.7 Land use and socio-economic

Submission number(s): 2

Issue summary

- The trade figures used in the REF are from 2011
- The T4 Project being planned by PWCS is being developed in stages and this is not reflected in the REF
- Section 6.12 of the REF does not discuss other developments planned or currently being constructed on Kooragang Island, such as NCIG’s Rail Flyover Project and Orica's Ammonium Nitrate Expansion projects
- Proposed developments on Kooragang Island should be added to the projects identified in Section 6.14 of the REF.
**Response**

The REF states the T4 Project would be ‘constructed in stages over a 10 year period’. As described in Section 2.2.2, Roads and Maritime has consulted with the proponent of the T4 Project throughout the development of the concept design for the proposal and will continue to do so during future design and development stages of both projects.

The expansion of Orica's Kooragang Island Ammonium Nitrate Plant was approved in 2009 and is understood by Roads and Maritime to be on track to be generally completed before construction of the proposal starts. It is understood that an approval to undertake minor modifications and additions to this plant are currently under consideration by the NSW Department of Planning and Environment, although this is not expected to generate significant construction impacts and conflict with the proposal.

The NCIG Rail Flyover Project (MP 06_0009 MOD 2) was approved on 13 May 2013 and was expected to take 18 months to construct. Minor overlap of the construction period for the two projects may occur, although this is not expected to result in any cumulative impacts due to separation distances and construction traffic accessing the Rail Flyover Project site from points outside the proposal area.

Roads and Maritime has consulted with NCIG throughout development of the concept design for the proposal and was required to approve the construction traffic management for the Rail Flyover Project. Roads and Maritime will continue to liaise with NCIG throughout the detailed design process and further development of the proposal.

2.6.8 Cumulative impacts

**Submission number(s): 2**

**Issue summary**

- The discussion of potential impacts caused by the T4 Project does not address potential clashes if the Roads and Maritime proposal and T4 Project are constructed concurrently
- The management of impacts at Delta Road will be critical.

**Response**

The T4 Project is yet to be approved and therefore cannot be assumed to proceed.

Roads and Maritime will continue to negotiate with the proponent of the T4 Project during the detailed design phase and further development stages of the proposal, to ensure potential cumulative impacts are avoided or mitigated.
3 Environmental management

The REF for the duplication of Tourle Street and Cormorant Road at Kooragang identified the framework for environmental management, including management and mitigation measures that would be adopted to avoid or reduce environmental impacts (Section 7 of the REF).

After consideration of the issues raised in the public submissions and changes to the proposal, the management and mitigation measures have been revised to include:

- Clarification of ongoing consultation with key stakeholders that would be undertaken throughout the ongoing development of the proposal (as outlined in Sections 2.2.2, 2.2.3, 2.2.5 and 2.4.1 of this report)
- Further consideration of certain elements of the proposal during detailed design, such as intersection arrangements and provisions for cyclists (as outlined in Section 2.2.3 of this report)
- Additional measures to prevent contamination from being disturbed by construction activities (as outlined in Section 2.5 of this report).

Should the proposal proceed, environmental management will be guided by the framework and measures outlined below.

3.1 Environmental management plans (or system)

A number of safeguards and management measures have been identified in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these management measures would be incorporated into the detailed design and applied during the construction and operation of the proposal.

A Project Environmental Management Plan (PEMP) and a Contractors Environmental Management Plan (CEMP) will be prepared to describe safeguards and management measures identified. These plans will provide a framework for establishing how these measures will be implemented and who would be responsible for their implementation.

The plans will be prepared prior to construction of the proposal and must be reviewed and certified by environment staff, Hunter Region, prior to the commencement of any on-site works. The CEMP will be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The CEMP and PEMP would be developed in accordance with the specifications set out in the QA Specification G36 – Environmental Protection (Management System), QA Specification 38 – Soil and Water Management (Soil and Water Plan) and QA Specification G40 – Clearing and Grubbing.

3.2 Summary of safeguards and management measures

Environmental safeguards outlined in this document would be incorporated into the detailed design phase of the proposal and during construction and operation of the proposal, should it proceed. These safeguards would minimise any potential adverse impacts arising from the proposed works on the surrounding environment. The safeguards and management measures are summarised in Table 3.1. Changes and additions made to those previously outlined in the REF are recorded in blue and bold.
<table>
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| 1   | General | All environmental safeguards must be incorporated within the following documents:  
Project Environmental Management Plan  
Detail design stage  
Contract specifications for the proposal  
Contractor’s Environmental Management Plan. | Roads and Maritime Project Manager | Pre-construction |
| 2   | General | A risk assessment has been/must be carried out for the proposal in accordance with the Roads and Maritime Services Audit Pack and OSD risk assessment procedures to determine an audit and inspection program for the works. The recommendations of the risk assessment are to be implemented  
A review of the risk assessment must be undertaken after the initial audit or inspection to evaluate if the level of risk chosen for the proposal is appropriate  
Any works resulting from the proposal and as covered by the REF may be subject to environmental audit(s) and/or inspection(s) at any time during their duration. | Roads and Maritime Project Manager | Pre-construction |
| 3   | General | The environmental contract specification Q35 Environmental Protection (Management Plan) must be forwarded to the Roads and Maritime Senior Environmental Officer for review at least 10 working days prior to the tender stage  
A contractual hold point must be maintained until the CEMP is reviewed by the Roads and Maritime Senior Environmental Officer. | Roads and Maritime Project Manager | Pre-construction |
<p>| 4   | General | The Roads and Maritime construction contractor must notify the Roads and Maritime Environmental Officer, Sydney Region, at least five days prior to work commencing. | Roads and Maritime Project Manager | Pre-construction |
| 5   | General | All businesses and residences likely to be affected by the proposed works must be notified at least five working days prior to the commencement of the proposed activities. | Roads and Maritime Project Manager | Pre-construction |
| 6   | General | Environmental awareness training must be provided, by the contractor, to all field personnel and subcontractors. | Construction contractor | Pre-construction and construction |</p>
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<tr>
<td>7</td>
<td>General</td>
<td>• Prior to commencing the geotechnical investigations, the geotechnical contractor would review this REF and any other relevant documents in consultation with Roads and Maritime and prepare a Geotechnical Investigations Management Plan to ensure any potential impacts that may occur during the investigations are managed using appropriate environmental safeguards. The Geotechnical Investigations Management Plan would be subject to review and approval by Roads and Maritime.</td>
<td>Geotechnical contractor and Roads and Maritime</td>
<td>Pre-geotechnical investigations</td>
</tr>
<tr>
<td>8</td>
<td>General</td>
<td>• Roads and Maritime will continue to consult with government and community stakeholders throughout the further development stages of the proposal. This consultation will include the owners and operators of adjacent lands and Port of Newcastle.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>9</td>
<td>General</td>
<td>• Roads and Maritime will continue to negotiate with the proponent (Port Waratah Coal Services) of the T4 Project during the detailed design phase and further development stages of the proposal, to ensure potential cumulative impacts are avoided or mitigated.</td>
<td>Roads and Maritime</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>10</td>
<td>General</td>
<td>• Further consideration will be given to intersection arrangements during the detailed design process.</td>
<td>Roads and Maritime</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>11</td>
<td>General</td>
<td>• Further consideration will be given to provisions for cyclists during the detailed design phase and Roads and Maritime will consult with Newcastle City Council regarding provisions for cyclists as part of the proposal.</td>
<td>Roads and Maritime</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>12</td>
<td>General</td>
<td>• Any works undertaken on Port of Newcastle Lands must adhere to Port of Newcastle access protocols.</td>
<td>Construction Contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13</td>
<td>General</td>
<td>• Any activities undertaken in the Hunter River will comply with the navigation and safety requirements specified by Roads and Maritime’s Boating Operations Branch.</td>
<td>Construction Contractor</td>
<td>Construction</td>
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| 8a  | Biodiversity Management Plan | • A biodiversity management plan would be prepared as part of the proposal’s CEMP. This would include the following protocols:  
   ‣ A permit would be sought from DPI to allow for the clearing mangrove trees  
   ‣ All trees to be removed would be marked and an inventory of trees and hollows (if observed) would be prepared prior to clearing  
   ‣ Pre-clearance surveys would be undertaken by appropriately qualified ecologist, particularly for the Green and Golden Bell Frog (GGBF) and *Zannichellia palustris*  
   ‣ Exclusion zones would be established around retained areas of threatened and environmental sensitive vegetation such as Coastal Saltmarsh and Freshwater Wetlands  
   ‣ Prior to clearing, each tree to be removed would be checked for bird nests, arboreal mammals, and microbats  
   ‣ As far as practicable, animals found to be occupying trees would be allowed to leave before clearing  
   • Equipment storage and stockpiling of resources would be restricted to designated areas on cleared land, where practicable. | Construction contractor | Pre-construction |
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| 8b  | Green and Golden Bell Frog (GGBF) Management Plan | The GGBF management plan included in Appendix G would be included in the biodiversity management plan. A summary of the key strategies employed in the GGBF management plan are provided below:  
- Environment induction training for all construction staff on GGBF  
- Site hygiene management to prevent the spread of Chytrid Fungus  
- Installation of a temporary frog exclusion fence adjacent to Long Pond to exclude GGBF from the construction site  
- As far as practicable, construction activities would be completed in daylight hours  
- Marking of GGBF habitat beyond frog exclusion fencing as environmentally sensitive areas  
- Where possible clearing works within Long Pond are to be undertaken outside GGBF’s seasons of greatest activity, i.e. September to April  
- Undertake pre-clearing surveys for GGBF on the morning (24 hours) before clearing works commence  
- GGBF tadpole surveys to be undertaken prior to de-watering of any water bodies to relocate any GGBF tadpoles to adjoining wetlands  
- Undertake pre-start checks for GGBF during construction works by qualified personnel  
- Follow GGBF relocation procedures if GGBF is located during construction works outlined in the GGBF Management plan  
- Installation of a permanent frog exclusion fence adjacent to Long Pond to exclude GGBF from the road surface during operation  
- Eastern Gambusia control measures, with physical control measures been the preferred option. This would occur via seine netting (preferably in winter/spring) as outlined in Attachment B (Guidelines for Eastern Gambusia Removal) of the GGBFMP  
- Compensatory GGBF habitat creation. | Construction contractor | Pre-construction |
| 8c  | Weeds                         | A weed management plan would be developed to manage weeds during the construction phase of the proposal. It would include (but not necessarily be limited to):  
- Hygiene protocols  
- Induction materials  
- Chemical and physical control methods. | Construction contractor | Construction   |
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<td>8d</td>
<td>Biodiversity site induction</td>
<td>• Ensure all workers are provided an environmental induction prior to starting work on site. This would include information on the ecological values of the study area, protection measures to be implemented to protect biodiversity, and penalties for breaches.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<td>8e</td>
<td>Vegetation and habitat loss</td>
<td>• Vegetation clearance would be minimised as far as possible during construction works.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td>8f</td>
<td>Interrupted fish passage</td>
<td>• If the interruption of fish passage within the Hunter River or any other waterway is unavoidable, a permit from the DPI would be required.</td>
<td>Construction contractor</td>
<td>Construction</td>
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</table>
| 8g  | Aquatic disturbance           | • Minimise the clearing of freshwater wetlands, coastal saltmarsh and mangroves to that which is absolutely necessary for the safe construction and operation of the proposal  
  • Incorporate existing drainage channels into design of proposal drainage channels where practicable  
  • Install high visibility signs at freshwater wetland and coastal saltmarsh sites occurring outside the disturbance areas, to inform workers of no go areas and that these areas are environmentally sensitive. This is particularly important during spring and summer when migratory shorebirds and waders use such habitats  
  • Additional aquatic ecology assessments of the study area would be undertaken if Z. palustris is recorded during the construction phase of the proposal. | Construction contractor or detailed design contractor | Pre-construction and construction |
| 8h  | Marine disturbance            | • Design and construct waterway crossings in accordance with the DPI’s fish passage requirements (Fairfull and Witheridge 2003)  
  • Use silt curtains and booms while undertaking piling works  
  • Where possible pylons would replicate (occur adjacent to) that on existing bridge to ensure existing movement corridors through the bridge area are maintained post construction  
  • Minimise construction area within the south arm of the Hunter River to ensure free water movement through the construction site. | Construction contractor or detailed design contractor | Pre-construction and construction |

**Water quality and hydrology**

| 9a  | Water quality and hydrology  | • Develop a soil and water management plan (SWMP) as part of the CEMP to manage potential surface water impacts during construction. This SWMP would include:  
  ‣ The piling technique provided in Subsection A4 of Appendix A of the Surface Water Assessment (refer to Appendix H), which involves driving oversized pile casings into the lower clay layer to minimise release of sediment to the river. The casing would then be filled with a bentonite grout mix or low strength grout prior to driving piles through the oversized casing to the full required depth | Construction contractor | Pre-construction  |
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<td></td>
<td>The procedure for containing sediment from earthwork activities adjacent to Long Pond provided in Figure 6.1a-g, Appendix A in the Surface Water Assessment (refer to Appendix H). This method involves the placement of a still boom within the pond, isolating the earthworks area from the remainder of the pond. Igneous rock would be placed to the pond water level before geofabric and imported fill layers would be placed on top.</td>
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<td>The procedure provided in Section A6, Appendix A of the Surface Water Assessment (refer to Appendix H) would be followed for reconstruction of Long Pond’s banks.</td>
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<td>Provision of rip-rap would be undertaken for stabilisation of bridge abutments.</td>
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<td>A spoil handling plan to ensure proper dewatering, transport and/or disposal of any excavated spoil in accordance with relevant regulations.</td>
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<td>Best practice procedures for dredging to minimise the potential for release of sediment to the surrounding environment. This would include a containment and disposal strategy for sediment removed from the river channel.</td>
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<td>A procedure for testing the quality of any sediment removed from the Hunter River. This would include measures to be followed if the material is suspected of being contaminated or ASS.</td>
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<td>A Spill Prevention and Control Plan. This would include design, maintenance and effectiveness considerations.</td>
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<td>Procedures for capturing and managing water during construction. This would include procedures for treating construction water, such as settlement or possible off-site disposal at a suitably licenced waste facility.</td>
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<td>Procedures for strengthening the banks of the Hunter River, Long Pond or drainage channels, if required. Techniques for bank strengthening are provided in the ‘Blue Book’ guidelines (Landcom 2004).</td>
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<td>Fuel and chemicals would only be stored in bunded areas within the site compound.</td>
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<td>A chemical inventory would be maintained during construction and all storages labelled.</td>
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<td>Mechanisms such as vehicle shakers, tyre cleaning procedures or similar would be established at construction site exits to remove excess mud from truck tyres/underbodies.</td>
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<td>Vehicles would be inspected prior to leaving site for dust or other potential materials that may cause off-site pollution.</td>
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<td>The existing sediment pond located adjacent to the northern approach and the existing 20,000 litre underground tank on the southern approach would be monitored for fines during construction and flocculated prior to controlled release to the Hunter River.</td>
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| 9b  | Operational drainage | - Sediment traps would be used to capture run-off from construction areas and compounds  
- Energy dissipation structures would be installed in accordance with relevant guidelines to ensure discharge from any drainage structures used during construction does not cause scour or erosion  
- Marine vegetation, riparian vegetation or wetland areas not to be impacted would be clearly marked with highly visible temporary fencing as ‘No Go’ areas during construction  
- A turbidity monitoring programme would be initiated as described in Section 2.4.1.4 of the surface water assessment (refer to Appendix H).  
- Prior to construction, the 20,000 litre tank on the southern bridge approach and the proposed refurbished sediment basin on the northern approach would be assessed and renovated if needed to ensure that adequate spill capture volume is available in these storages. These basins would be fitted with stop valves or equivalent, to ensure that spills can be contained. To be assessed during detailed design  
- The existing culvert located at CHS222 (approximately 300 m west of Egret Street) would be reviewed for operational adequacy. This would include assessment of the catchment draining to this location.  | Construction contractor or detailed design contractor | Pre-construction |
| 9c  | Construction and dredging within the Hunter River | - Install floating surface booms around construction areas in the Hunter River to capture floating debris. This debris would be collected regularly and disposed of in a suitable facility. The booms would be equipped with absorbent pads to contain oil sheens  
- Utilise silt curtains and/or sheet piling within the Hunter River to contain sediment during dredging  
- Complete work gradually to avoid liberation of large sediment plumes  
- Where practical, schedule dredging work to coincide with the most favourable climatic conditions for minimising impacts on sediment and water quality i.e. during low fluvial flow and neap tides when water currents are weakest  
- Bridge abutments would be stabilised with appropriate scour protection to prevent bank erosion. | Construction contractor | Construction |
| 9d  | Piling within the Hunter River | - Maintain natural vegetation cover in adjacent shoreline areas where possible  
- Utilise vibratory extraction for removal of sheet piles to minimise the release of sediment into surrounding environments. | Construction contractor | Construction |
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<td>9e</td>
<td>Detailed design considerations</td>
<td>- Measures to further mitigate operational water quality impacts would be developed during detailed design, these may include use of litter traps on stormwater or culvert discharge points.</td>
<td>Roads and Maritime</td>
<td>Pre-construction</td>
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### Geology and soils

| 10a | Work method statements          | - Environmental Work Method Statements (EWMS) would be prepared for high risk activities and incorporated into the CEMP, including:  
  - Clearing and grubbing  
  - Earthworks  
  - Drainage works  
  - Bridge construction works  
  - Retaining walls  
  - Rock cutting. | Construction contractor | Pre-construction and construction |
|-----|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|
| 10b | Work method statements          | - EWMS’s must include the following:  
  - Description of the works/activities including machinery  
  - Outline of the sequence of the work/activities, including interfaces with other construction activities  
  - Identification of any environmentally and/or socially sensitive areas, sites or places  
  - Identification of potential environmental risks/impacts due to proposed work activities  
  - Mitigation measures to reduce the identified environmental risk, including assigned responsibilities to site personnel  
  - Process for assessing the performance of the implemented mitigation measures. | Construction contractor | Pre-construction and construction |
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| 10c | Acid Sulfate Soil Management Plan (ASSMP) | - Preparation of an Acid Sulfate Soil Management Plan (ASSMP) to address the potential for acidity to be generated from ASS and PASS disturbed during the construction phase. The ASSMP would provide strategies to:  
  ▶ Limit the disturbance of soil  
  ▶ Minimise the activities that result in the lowering of the groundwater table or dewatering of ponds  
  ▶ Reduce the time soil is exposed to air  
  ▶ Test and process any suspected ASS materials  
  ▶ Neutralise the production of acid for any excavated soils via the application of lime  
  • Further assessment of ASS including field screening tests and collection of soil samples for laboratory testing would be undertaken prior to construction to identify areas potentially affected by ASS. | Construction contractor | Pre-construction and construction |
| 10d | Mud tracking | - Control measures are to be implemented at egress points to minimise dirt and mud tracking onto public roads  
  - Any material transported onto pavement surfaces would be swept and removed at the end of each working day and prior to rainfall. | Construction contractor | Construction |
| 10e | Stockpile management | - All stockpiles would be designed, established, operated and decommissioned in accordance with Roads and Maritime Stockpile Management Procedures (RTA 2011a). Stockpile sites would be located:  
  ▶ At least 10 m from the nearest waterway  
  ▶ In an area of low ecological significance  
  ▶ On relatively level ground. | Construction contractor | Construction |
<p>| 10f | Topsoil management | - Topsoil would be stockpiled separately for possible reuse for the landscaping and rehabilitation works within the identified compound and stockpile sites. | Construction contractor | Construction |
| 10h | Soil conservationist | - Requirements for engagement of a soil conservationist from the Roads and Maritime Erosion, Sedimentation and Soil Conservation Consultancy Services Register would be confirmed prior to construction. | Roads and Maritime | Construction |</p>
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<tr>
<td>11a</td>
<td>Contamination impacts to soil, groundwater and sediment during construction works</td>
<td>- An environmental investigation would be undertaken at the northern and southern approaches to the new Tourle Street Bridge to assess potential for contaminants to be encountered and provide an in situ waste classification of the material that would be disturbed.</td>
<td>Construction contractor</td>
<td>Pre-construction</td>
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</table>
| 11b | Contamination impacts to soil, groundwater and sediment during construction works | - A contamination management sub-plan would be prepared and appended to the CEMP. This plan would be prepared to satisfy the requirements of Roads and Maritime Services (2013) Guideline for the management of contamination and would include:  
  - Procedures for waste classification and disposal  
  - A waste soil and sediment treatment plan  
  - Assessment of imported fill (for organic, inorganic, asbestos contamination and weeds)  
  - Minimisation of skin exposure to potentially contaminated soils. | Construction contractor | Pre-construction |
<p>| 11c | Contamination impacts to soil, groundwater and sediment during construction works | - Vapour risks associated with hazardous vapours as a result of the documented benzene groundwater contamination would be managed through comparison of the existing groundwater results with the CRC Care technical paper no. 10 (Friebel, E. and Nadebaum, P. 2011) which provides criteria for intrusive workers in a shallow trench less than one m. Management of vapour issues would be documented in the contamination management sub-plan. | Construction contractor | Pre-construction |
| 11d | Contamination impacts to soil, groundwater and sediment during construction works | - Available investigation results would be used to determine the need for specific remediation, management and/or disposal requirements for soils/sediments being disturbed during construction works and would be incorporated in to the contamination management sub-plan and implemented by the principal contractor. | Construction contractor | Pre-construction |</p>
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| 11e | Accidents and spills of hazardous materials | - The handling and use of dangerous goods would be undertaken in accordance with the *Work Health and Safety Act 2012* and the ‘Storage and Handling of Dangerous Goods Code of Practice’ (WorkCover NSW 2005)
- All hazardous substance transport would be undertaken in accordance with relevant legislation and codes, including the *Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998* and the Australian Code for the Transport of Dangerous Goods by Road and Rail (National Transport Commission 2008)
- As part of the site specific CEMP, a Risk and Hazard Management Plan, including an Emergency Response Plan, would be prepared. It would include:
  - Details of the hazards and risks associated with construction and operations/maintenance activities
  - Risk management measures
  - Procedures to comply with all legislative and industry standard requirements
  - Contingency plans, as required
  - Site-specific Work Health and Safety (WHS) plans and safe work method statements
- All risk and hazard controls would be regularly inspected and maintained
- Any liquid waste would be treated in accordance with the waste management procedures developed for the proposal. | Construction contractor | Construction |
<p>| 11f | Construction of cut-off wall | - An impermeable cut-off wall would be constructed on the southern bank of the Hunter River adjacent to the Tourle Street Bridge, to supplement the existing slag seawall prior to bridge and piling works. This would consist of an impermeable grout injected cut-off wall embedded within the clay layer, parallel to the river bank in the approximate location of the existing seawall to prevent the contaminants in the upper aquifer from migrating to the river. | Construction contractor | Prior to piling work on the southern bank of the Hunter River |
| 11g | Groundwater monitoring | - The lower aquifer will be monitored prior to and during piling works in the southern approach to ensure that cross contamination between the upper and lower aquifer is not occurring as a result of the works | Construction contractor | Prior to piling work on the southern bank of the Hunter River |</p>
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| 12a | Traffic management | • A construction traffic management plan (CTMP) would be prepared as part of the pre-construction planning. The plan would detail how the traffic associated with the construction would be managed in accordance with the Roads and Maritime Traffic Control at Work Sites (RTA 2010), as well as relevant Australian Standards including AS1742 and the work site manual Roads and Maritime Specification G10. The TMP would be submitted in stages to reflect the progress of work and would outline:  
  ▶ Traffic control provided to manage and regulate traffic movements during construction, including minimising traffic switching  
  ▶ Maintain the continuous, safe and efficient movement of traffic for both the public and construction workers  
  ▶ Identification of haulage routes and ensuring impacts to local routes are minimised  
  ▶ Determine temporary speed restrictions to ensure a safe driving environment around work zones  
  ▶ Provision of appropriate warning and advisory signposting  
  ▶ Include requirements and methods to consult and inform local community of impacts on local road network and traffic  
  ▶ Consider other developments that may also be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic  
  • The CTMP would also be used to develop site-specific traffic management measures once the construction methods and haulage routes are finalised. These measures would be developed as part of the site-specific traffic management plans to indicate how traffic would be controlled and managed during each stage of the construction. | Construction contractor | Pre-construction |
| 12b | Traffic management | • A vehicle movement plan (VMP) would be prepared as part of the CTMP. The VMP would assess construction related heavy vehicle movements per shift in to and out of the construction site/s. The VMP would identify elements of the construction such as:  
  ▶ Limiting the number of points where new alignments cross the existing road network  
  ▶ Limiting the need to occupy areas of the existing road  
  ▶ Identifying haulage routes for construction traffic  
  ▶ Undertaking road condition surveys of local roads prior to construction. | Construction contractor | Pre-construction |
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<tr>
<td>12c</td>
<td>Community consultation</td>
<td>Disruption to property access would be notified to the relevant property owner in advance of the disruption in accordance with the relevant community consultation processes outlined in the CTMP and CEMP.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td></td>
<td>Noise and vibration</td>
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<tr>
<td>13a</td>
<td>Construction noise and vibration</td>
<td>A construction noise and vibration management plan (CNVMP) should be formulated to provide a framework for addressing noise levels associated with construction works. Specifically any out of hours works undertaken near sensitive receivers.</td>
<td>Construction contractor</td>
<td>Pre-construction</td>
</tr>
<tr>
<td>13b</td>
<td>Construction noise</td>
<td>Construction plant source noise levels would be confirmed prior to the commencement of works to verify construction noise impacts and confirm the requirement for noise management and mitigation measures.</td>
<td>Construction contractor</td>
<td>Pre-construction</td>
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</table>
| 13c | Construction noise                         | The construction program would be scheduled where feasible to:  
  - Maximise the offset distance between construction plant and adjacent receivers  
  - Orientate construction and auxiliary equipment away from sensitive receivers  
  - Minimise reversing alarm noise emissions from mobile plant and vehicles and where practicable, site entry and exit points would be managed to limit the need for reversing  
  - Minimise concurrent operation of dominant noise generating equipment such as: bulldozer, rock breaker, mobile crane and asphalt paver construction plant. Where dominant noise generating plant are not in concurrent operation reductions to received noise impacts of up to 6 dB(A) are anticipated. | Construction contractor | Pre-construction |
<p>| 13d | Construction noise                         | Standard construction working hours would be restricted between 7 am and 6 pm (Monday to Friday), and between 8 am and 1 pm Saturdays, with no works on Sundays or public holidays, unless site specific conditions expressly require works outside these times and subject to approvals. | Construction contractor | Construction |
| 13e | Construction noise and vibration           | Construction works would adopt Best Management Practice (BMP) and Best Available Technology Economically Achievable (BATEA) practices as addressed in the ICNG. BMP includes factors discussed within this report and encouragement of a project objective to reduce noise emissions. | Construction contractor | Construction |
| 13f | Construction noise                         | Impact piling where required for bridge construction would be limited to standard construction hours.                                                                                                                                                           | Construction contractor | Construction |</p>
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<tr>
<td>13g</td>
<td>Construction noise</td>
<td>Adjacent residents would be notified of potential night time construction works at least two weeks prior to the commencement of construction works.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13h</td>
<td>Construction noise and vibration</td>
<td>A one page summary of required construction noise and vibration management practices would be provided to construction staff and contractors and be discussed during site inductions. The summary would include, as a minimum, the permitted hours of construction work, work site locations, locations of sensitive receivers and site ingress/egress.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13i</td>
<td>Construction noise and vibration</td>
<td>A complaints management procedure would be established and implemented in the environmental management plan for the proposal. This would include the implementation of a phone hotline and a procedure for recording and responding to any issues relating to noise that may arise during fieldwork associated with the proposal.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13j</td>
<td>Construction noise and vibration</td>
<td>Noise impacts would be minimised in accordance with Practice Note 7 in the RTA's Environmental Noise Management Manual and RTA's Environmental fact sheet No. 2-Noise management and Night Works.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13k</td>
<td>Construction noise</td>
<td>Noise monitoring would be considered if complaints are received regarding excessive noise and this would be assessed against relevant guidelines.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13l</td>
<td>Construction noise</td>
<td>Machinery and equipment would be well maintained to assist with minimising noise levels.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td>13m</td>
<td>Construction noise</td>
<td>Idling equipment would be turned off where appropriate.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td>13n</td>
<td>Construction noise</td>
<td>Plant and equipment would be selected to minimise noise emissions. Equipment would be fitted with appropriate noise control equipment and be in good working order.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13o</td>
<td>Construction noise</td>
<td>Impact piling where required for bridge construction to be limited to standard construction hours.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13p</td>
<td>Construction noise</td>
<td>The contractor would review their CNVMP in response to complaints and amend where practical throughout the construction phase. This would include consideration of respite periods.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>13q</td>
<td>Excessive noise</td>
<td>Where excessive off-site noise and vibration impacts occur, additional mitigation measures would be identified and implemented, including changes to construction methodology.</td>
<td>Construction contractor</td>
<td>Construction</td>
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</table>
| 14a | Tourle Street Widening                | The following elements of the proposal design would be refined during the detailed design phase for the widening of Tourle Street:  
  - Embankments would be required on both the east and west side of the road in certain areas. It is important this battering is carefully integrated into adjoining landforms  
  - Verges would be planted with a low maintenance turf, low native grasses or groundcovers in order to maintain clear zones. Barrier rails would be considered if infrangible objects lie within disturbance areas  
  - Median treatment would be further developed. Currently there are a few sections of median along Tourle Street. Some portions of this are turfed and others are concrete. New sections of median would be constructed in accordance with the Roads and Maritime Landscape Guidelines. | Detailed design contractor | Detailed design |
| 14b | Tourle Street Bridge duplication      | Measures to minimise visual impacts from the new bridge would be a key consideration during the detailed design process. | Detailed design contractor | Detailed design |
| 14c | Cormorant Road Widening               | The following elements of the proposal design would be refined during the detailed design phase for the widening of Cormorant Road:  
  - Embankments would be required on both sides of Cormorant Road. It is important this battering is carefully integrated into adjoining landforms  
  - Verge treatment to be further developed and where feasible, verges would be planted with a low maintenance turf, low native grasses or groundcovers in order to maintain clear zones. Barrier rails would be considered if infrangible objects lie within the clearance zone  
  - Median treatment would be further developed as follows:  
    - The new median along Cormorant Road (western end) is seven m wide at the Tourle Street Bridge approach and narrows down to about 1.6 m as Cormorant Road turns to the east. A concrete barrier is proposed where the median is 1.6 m wide  
    - Median treatment to be further developed. The new median is to be about 1.6 m wide with a concrete barrier  
    - New sections of median would be constructed in accordance with the Roads and Maritime Landscape Guidelines (RTA 2008). | Detailed design contractor | Detailed design |
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<tr>
<td>14d</td>
<td>Cyclist provisions</td>
<td>• Consideration could be given to providing a shared off road path on the southern side of Cormorant Road in the area occupied by the overhead power lines when/if they are placed underground in the future.</td>
<td>Roads and Maritime Safety and Traffic Manager</td>
<td>Future cycleway planning</td>
</tr>
<tr>
<td>14e</td>
<td>Overall visual impact mitigation</td>
<td>The following mitigation measures would be considered during the detailed design phase:</td>
<td>Detailed design contractor</td>
<td>Detailed design</td>
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<td>• In certain zones the landscape character of the proposal is predominantly industrial. Thus celebrating industrial views by leaving them open rather than attempting to screen them with earth mounds and planting would be considered.</td>
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<td>• Efforts would be made to reduce clearing of vegetation in order to maintain the views of mangrove vegetation from the southern banks of the Hunter River.</td>
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<td></td>
<td>• Further refine the details of the Tourle Street Bridge to match the existing bridge including: substructure, traffic barriers and superstructure.</td>
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<td></td>
<td>• The installation of barrier treatment types along Tourle Street and Cormorant Road would be consistent along the corridor to maintain the landscape character of the area.</td>
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<td>• Determination of the most appropriate place to relocate the high voltage power lines.</td>
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<td>14f</td>
<td>Landscaping (design)</td>
<td>The following landscaping issues would be considered during the detailed design process:</td>
<td>Detailed design contractor</td>
<td>Detailed design</td>
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<td>• Any new planting works would be designed to satisfy the relevant road safety guidelines. This would include maintaining the required clear zone to non-frangible vegetation except where a safety barrier is present.</td>
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<td></td>
<td>• A comprehensive planting and revegetation plan would be developed during the detailed design phase.</td>
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<td>• Advanced plants would be used in the areas closest to the road and near the bridge due to higher visibility and exposure of the vegetation in this location.</td>
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<td></td>
<td>• Planting is not necessarily to be used to screen and buffer industrial environments but rather to replace what has been removed during the construction of the proposal.</td>
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</table>
The following mitigation measures would be implemented during the detailed design and construction phases to minimise the impact of the proposal on the landscape and the landscape character of the existing site:

- Efforts would be made to reduce extent of clearing of vegetation and minimise the construction area to conserve remnant vegetation. Particular attention would be given to protect the Long Pond wetlands and mangroves within the Hunter River to assist the conservation of the landscape character.
- Planting within the road corridor would be consistent with the locally native species (including *Acacia decora*, *Casuarina glauca*, *Eucalyptus punctata*, *Eucalyptus robusta*, *Hardenbergia violacea*, *Leptospermum laevigatum*, *Lomandra longifolia*, *Melaleuca armillaris*, *Melaleuca quinquenervia*, *Melaleuca styphelioides*) used. The purpose of this planting is reinstatement of previous ecological communities rather than screening.
- Where fill is required it would match original soil profiles and be free of contaminated soils and acid sulfate soils in order to allow the establishment of these locally native species.
- Batters along the proposal would be carefully integrated into adjoining landforms.

### Air quality

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<tr>
<td>15a</td>
<td>Air quality</td>
<td>An air quality management plan (AQMP) would be prepared as part of the CEMP. The plan would include but not be limited to the following:</td>
<td>Construction contractor</td>
<td>Pre-construction</td>
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<td>• A procedure for monitoring dust on site and weather conditions</td>
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<td>• Identification of dust generating activities and associated mitigation measures</td>
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<td></td>
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<td>• Limits on the area that can be opened up or distributed at any one time</td>
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<td>• Compliance with <em>Roads and Maritime Stockpile Site Management Guidelines</em> (2011a)</td>
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<td></td>
<td>• Progressive stabilisation plans.</td>
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<td>15b</td>
<td>Dust</td>
<td>Measures such as covering loads and water spraying unsealed access roads and open areas during conditions conducive to dust generation would be used to minimise or prevent air pollution and dust.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>15c</td>
<td>Dust</td>
<td>Vehicles transporting waste or other materials that may produce odours or dust are to be covered during transportation.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td>15d</td>
<td>Exhaust emissions</td>
<td>Construction equipment (including all internal combustion engines) would be properly maintained to ensure exhaust emissions are minimised where practicable and comply with the <em>Protection of Environment Operations Act 1997</em> (PoEO Act).</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td>15e</td>
<td>Exhaust emissions</td>
<td>● Machinery would not be kept idling when not in use.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
<tr>
<td>15f</td>
<td>Improving energy efficiency and sustainability</td>
<td>● Machinery onsite would be running efficiently to ensure optimal performance, minimise down time and improve fuel efficiency.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<tr>
<td>15g</td>
<td>Construction dust impacts</td>
<td>● Stabilisation would be undertaken within the proposal as each section of work is completed or in areas that are inactive for more than two weeks.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<td><strong>Aboriginal heritage</strong></td>
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<td>16</td>
<td>Possible disturbance to unknown Aboriginal heritage items</td>
<td>● In the event of an unexpected find of an Aboriginal heritage item (or suspected item), work would cease in the affected area and Roads and Maritime Senior Regional Environmental Officer and the Roads and Maritime Senior Environmental Specialist (Aboriginal heritage), would be contacted for advice on how to proceed. The <em>Roads and Maritime Unexpected Archaeological Finds Procedure</em> (RTA 2011b) would be implemented.</td>
<td>Construction contractor</td>
<td>Construction</td>
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<td><strong>Historic heritage</strong></td>
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<td>17</td>
<td>Unexpected uncovering of a heritage site</td>
<td>● If any items suspected of having heritage significance are uncovered during the works, all works must cease in the vicinity of the find and the Roads and Maritime Services Senior Regional Environmental Officer contacted immediately.</td>
<td>Construction contractor</td>
<td>Construction</td>
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| 18a | Waste management             | • A resource and waste management plan (RWMP) would be developed as a component of the CEMP, following the Waste Classification Guidelines (DECCW 2009), NEMP (NEPC 2013) and NSW EPA Sampling Guidelines (EPA 1995). This would include:  
  • Relevant requirements specified in this REF  
  • Application of the waste hierarchy (avoid, minimize, reuse/recycle, dispose) during construction and implement through the CEMP  
  • A waste classification procedure  
  • Procedures for managing waste and recycling  
  • Where disposal is required, procedures to classify, handle, store and dispose of waste in accordance with relevant guidelines  
  • Requirements for re-use of materials on-site, including:  
    ▶ Earthworks material as fill embankments  
    ▶ Sub-grade layers and other materials for batter extensions  
    ▶ Top-soil for landscaping  
    ▶ Cleared vegetation for mulching to be used in landscaping  
    ▶ Crushed concrete to be used as road base or drainage  
  • Procedures for maintaining and rehabilitating construction areas. | Construction contractor | Pre-construction and construction |
| 18b | Waste tracking               | • Types of waste collected, amounts, date/time and details of disposal shall be recorded in a waste register. | Construction contractor | Construction |
| 18c | Personnel inductions         | All personnel are to be informed of the resources management hierarchy principles during site induction.  
Resource management hierarchy principles are to be followed:  
• Avoid unnecessary resource consumption as a priority  
• Avoidance is followed by resource recovery (including reuse of materials, reprocessing, recycling and energy recovery)  
• Disposal is undertaken as a last resort (in accordance with the Waste Avoidance & Resource Recovery Act 2001). | Construction contractor | Construction |
<p>| 18d | Site maintenance             | • Workspaces would be maintained, kept free of rubbish and cleaned up at the end of each working day. | Construction contractor | Construction |</p>
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| 18e | Waste disposal and storage | • Solid and liquid wastes, as well as fuels, lubricants and chemical containers would be disposed of in accordance with OEH requirements  
• Material identified for recycling shall be stockpiled in an adequately bunded area (in accordance with the Roads and Maritime Stockpile Site Management Guidelines, (RTA 2011a)). | Construction contractor | Construction |
| 18f | Procurement | • Procurement would endeavour to use materials and products with a recycled content and low carbon footprint where it is cost and performance effective to do so. | Construction contractor | Pre-construction and construction |
| 18g | Waste management | • All wastes would be managed in accordance with the Protection of the Environment Operations Act 1997. | Construction contractor | Construction |
| 18h | Contamination | • Waste identified as being contaminated would be managed in accordance with the Contaminated Land Management Act 1997 and any other relevant legislation. Hazardous waste arising from construction of the proposal would also be removed and disposed of in accordance with relevant guidelines, including the OEH ‘Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes’ (DEC 1999). | Construction contractor | Construction |
| 18i | Waste management | • A dedicated concrete washout facility would be provided during construction so that runoff from the washing of concrete machinery and equipment could be collected and disposed of at an appropriate waste facility. | Construction contractor | Construction |

**Land use and socio-economic**

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<tr>
<td>19a</td>
<td>Impacts on businesses and the community during construction</td>
<td>• At least two weeks prior to commencement of construction, businesses on Kooragang Island and potentially affected residents located at Mayfield West, would be notified of the nature and likely duration of the proposal, and provided with details of a 24 hr phone hotline that would be established for the proposal.</td>
<td>Construction contractor</td>
<td>Pre-construction and construction</td>
</tr>
<tr>
<td>19b</td>
<td>Community consultation</td>
<td>• Ongoing community consultation would be undertaken in accordance with the Roads and Maritime’s Community Engagement and Communications: A resource manual for staff (2012).</td>
<td>Roads and Maritime Construction contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>
| 19c | Complaints procedure | • A complaint handling procedure and register would be included in the CEMP  
• Complaints received are to be recorded and attended to promptly in accordance with the Roads and Maritime’s Community Engagement and Communications: A resource manual for staff (2012). | Construction contractor | Construction |
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<tr>
<td>19d</td>
<td>Amenity</td>
<td>• Early and ongoing consultation and communication would be undertaken with residents and local communities closest to construction works about construction activities, including timing, duration and likely impacts in particular where works are proposed outside of standard daytime construction hours.</td>
<td>Roads and Maritime</td>
<td>Construction</td>
</tr>
<tr>
<td>19e</td>
<td>Disruption to property access</td>
<td>• Access to properties in the proposal area would be maintained during construction. If temporary changes to property access are required, alternative access arrangements would be determined in consultation with the affected property’s owners or tenants.</td>
<td>Construction contractor</td>
<td>Construction</td>
</tr>
</tbody>
</table>

### Greenhouse gas and climate change

<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards</th>
<th>Responsibility</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>20a</td>
<td>Climate change and greenhouse gas</td>
<td>• Detailed designs for the proposal would take into consideration the potential effect of climate change on the proposal, including sea level rise, drainage requirements and the potential for increased flood frequency.</td>
<td>Detailed design contractor</td>
<td>Detail design</td>
</tr>
</tbody>
</table>
| 20b | GHG emissions from fuel consumption        | • Waste would be disposed of at local landfills rather than further afield wherever possible to avoid unnecessary transport emissions  
• Local suppliers for construction materials would be used wherever possible to avoid unnecessary transport emissions  
• Local staff would be utilised wherever possible to avoid unnecessary transport emissions  
• Fuel-efficient equipment would be selected wherever possible  
• Biofuels (biodiesel, ethanol, or blends such as E10 or B80) would be considered wherever possible and available  
• Plant and equipment would be regularly maintained to ensure maximum fuel efficiencies  
• Energy-efficient work practices would be promoted on site, such as turning machinery off when not in use  
• Energy-efficient lighting would be utilised (where available) during night works (if required)  
• Monitoring, recording and reporting energy consumption would be undertaken to identify and address energy wastage. | Construction contractor | Construction  |
3.3 Licensing and approvals

The following licenses, permits, notifications and/or approvals are needed to construct/operate the proposal.

Table 3.2 Summary of site specific environmental safeguards

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A permit to harm Marine Vegetation would be required prior to clearing any mangroves or saltmarsh under Part 7 division 4 of the FM Act (refer to Section 4.3.5 of the REF).</td>
<td>Prior to the commencement of construction.</td>
</tr>
<tr>
<td>As part of the proposal, reclamation works would need to be undertaken as defined within Part 7, Division 3 of the FM Act. In accordance with Section 199 of the FM Act, Roads and Maritime, as a public authority, would be required to notify the relevant Minister of the proposal prior to undertaking the any proposed dredging or reclamation works.</td>
<td>Prior to the commencement of construction.</td>
</tr>
<tr>
<td>In accordance with Section 138 of the Roads Act 1993, the consent of Roads and Maritime’s regional traffic management officer would be required for traffic management during construction of the proposal within the existing road corridor.</td>
<td>Prior to the commencement of construction.</td>
</tr>
<tr>
<td>Should water for road works and associated ancillary works need to be drawn and used from any waterway, a licence under Section 10, or a permit under Section 18F of the Water Act 1912 would be required from NOW.</td>
<td>Prior to the commencement of construction.</td>
</tr>
<tr>
<td>An EPL would be sought from the NSW EPA as the proposal meets the definition of a scheduled activity under the PoEO Act.</td>
<td>Prior to the commencement of construction.</td>
</tr>
<tr>
<td>Roads and Maritime would make an assessment as to whether the proposal is referred under the EPBC Act due to impacts that align with thresholds listed in the EPBC Act Policy Statement 3.19 (Department of the Environment Water Heritage and the Arts 2009) (refer to Section 6.1 of the REF).</td>
<td>Prior to the commencement of construction.</td>
</tr>
<tr>
<td>Consultation would be undertaken with Port of Newcastle to determine licensing requirements under Clause 67 of the Management of Waters and Waterside Land Regulations for NSW for activities within the Hunter River.</td>
<td>Prior to the commencement of construction</td>
</tr>
</tbody>
</table>
4 References


National Environment Protection Council (NEPC) 2013, *(Assessment of Site Contamination) Measure 2013 (No.1)*.

Roads and Maritime Services *Duplication of Tourle Street and Cormorant Road, Kooragang Review of Environmental Factors*, September 2014.


Roads and Traffic Authority (RTA) 2008, *Landscape guideline: Landscape design and maintenance guidelines to improve the quality, safety and cost effectiveness of road corridor planting and seeding*.

Roads and Traffic Authority (RTA) 2010, *Traffic Control at Work Sites*.


Appendix A

Stakeholder consultation materials
Appendix A1

List of stakeholders
List of stakeholders

- BHP Billiton
- Correct Planning and Consultation for Mayfield Group
- NSW Department of Primary Industries (Port Stephens Fisheries Institute)
- Hunter Local Land Services
- Hunter District Cycling Club
- Hunter Valley Masters Cycling Club
- Kooragang Open Cycling Club
- Kooragang Wetlands Rehabilitation Project
- Newcastle City Council
- Newcastle Coal Infrastructure Group
- NSW Office of Water
- Port of Newcastle
- NSW Office of Environment and Heritage – Environment Protection Authority
- NSW Office of Environment and Heritage – National Parks and Wildlife Service
- Port Waratah Coal Services
- Regional Development Australia, Hunter
- NSW Roads and Maritime Services (Maritime Division)
- Stockton Community Action Group
Appendix A2

Example letter to stakeholder
Dear Sir/Madam

Invitation to comment - Review of Environmental Factors, Duplication of Tourle Street and Cormorant Road Kooragang

Roads and Maritime Services (Roads and Maritime) propose to duplicate a 3.8 kilometre section of Tourle Street and Cormorant Road at Kooragang, NSW (the proposal). The proposal is needed to address existing traffic congestion and aims to cater for predicted increases in traffic movements along this corridor.

Parsons Brinckerhoff has been engaged by Roads and Maritime to prepare an environmental assessment for the proposal. A review of environmental factors has been carried out to identify potential impacts of the proposal and mitigation measures to be implemented. The report is now on display for community comment. Enclosed is copy of the community update which provides further information.

The review of environmental factors will be on display for community comment from 8 September 2014 to 5 October 2014. Your organisation is invited to comment on the proposal and to advise of any interests or concerns, so they can be considered in finalising the review of environmental factors and the design.

Should you wish to discuss the proposal or require further information, please contact Steven Crick, Principal Environmental Scientist on 02 4929 8300.

Yours faithfully

Steven Crick
Principal Environmental Scientist
Appendix A3

Community update – September 2014
Duplication of Tourle Street and Cormorant Road, Kooragang

Roads and Maritime Services is planning an upgrade of Tourle Street and Cormorant Road at Kooragang to improve traffic flow and cater for future traffic growth. This community update includes information on the concept design and review of environmental factors.

A review of environmental factors has been carried out to identify potential impacts of the proposal and mitigation measures to be implemented.

Stakeholders and the community are invited to comment on the review of environmental factors by **5 October 2014**. Roads and Maritime will consider feedback before finalising the review of environmental factors and the design.

**Background**

Kooragang Island is home to a major industrial and employment centre in NSW and is part of the world’s largest coal export port.

Tourle Street and Cormorant Road form the main corridor connecting Kooragang Island to Newcastle and the southern section of the Port of Newcastle. The road is also the main transport corridor connecting Newcastle with Newcastle Airport and Port Stephens. About 33,000 vehicles use the corridor each day, including more than 3000 heavy vehicles.

Roads and Maritime is planning an upgrade of the corridor to improve traffic flow and cater for the forecast increase in traffic movements due to future urban development in Port Stephens, the expansion of Newcastle Airport and growth of industrial development on Kooragang Island.

Tourle Street Bridge was replaced in 2009 to improve heavy vehicle loading capacity. The bridge was built as the first stage of providing four continuous travel lanes between Industrial Drive at Mayfield West and Fern Bay. Duplication will ensure the corridor has sufficient capacity to accommodate current and projected traffic volumes.

The NSW and Australian governments have committed funding to plan and construct the upgrade.
Review of environmental factors
Roads and Maritime has carried out a review of environmental factors to assess the potential environmental impacts of the proposal and identify activities to manage and mitigate these impacts.

The review of environmental factors was carried out in consultation with a range of key stakeholders, technical specialists and considered feedback received from the community.

The investigations found the proposal is unlikely to have a significant impact on the environment with the implementation of a range of environmental mitigation and management measures.

Key considerations for assessment
The following key areas of potential impact have been assessed by the environmental investigations. The review of environmental factors describes these potential impacts and mitigation measures to minimise them.

Biodiversity
A detailed biodiversity impact assessment has identified the presence of the threatened species Green and Golden Bell Frog. A management plan has been developed to minimise potential impacts on this species from the proposal’s construction and operation. Some removal of native vegetation and fauna habitat is required, however the upgrade has been designed to minimise these impacts. Overall, the proposal has been assessed as unlikely to result in a significant impact on existing habitat values or the Green and Golden Bell Frog.

Contaminated land
There is known contaminated land in the proposed work area as a result of past industrial activities on both the southern bank of the south arm of the Hunter River and Kooragang Island. Additional investigations to identify contaminated land in the project area will be carried out during detailed design. Contamination is considered likely to occur within the river bed sediments based on the known historical surrounding land uses and analysis. Bridge construction methods have been identified to minimise disturbance to contaminated land.

Water quality and hydrology
A surface water assessment has been prepared for potential water quality and hydrology impacts. Potential short term impacts of soil disturbance during construction would be mitigated through the implementation of a soil and water management plan. The potential impacts of the additional bridge and road widening on drainage and flooding have been assessed as minor.

Noise and vibration
Noise and vibration from the proposed work have been assessed as low impact to nearby residents. Safeguards and management measures would be implemented to address potential noise and vibration impacts as a result of the proposal’s construction and operation.

Most of the proposed work will be carried out in standard hours between 7am and 6pm Monday to Friday and 8am to 1pm Saturday. Some work may need to be carried outside of standard hours and include night work to minimise traffic disruptions and ensure the safety of workers. Night work would be limited to activities of minimal noise impact wherever possible.

Proposed construction
There would be no closure of Tourle Street, the existing bridge or Cormorant Road for motorists during the proposed construction work. A minimum of one lane of traffic in each direction would be maintained during peak periods. A reduced speed limit would be implemented for traffic through the construction zone. Lane widths may be reduced to accommodate construction and barriers required for worker safety. Short term lane closures would be required but would be restricted to off peak hours.
The proposal

Key features of the proposed upgrade include:

• Duplicating 3.8 kilometres of the road between Industrial Drive, Mayfield West and Egret Street, Kooragang to provide two lanes in each direction
• A new two lane bridge on the western side of the existing bridge
• 2.5 metre shoulders along Cormorant Road to cater for on-road cyclists
• Minimising impact on the Long Pond by mainly widening the road on the southern side of the existing Cormorant Road
• Maintaining access to existing businesses along the corridor
• Catering for future industrial development on Kooragang Island next to the existing road.

Benefits

Key benefits of the proposed upgrade would include:

• Catering for forecast traffic growth as a result of future development within the Port of Newcastle
• Improving access to/from Newcastle Airport and Port Stephens to cater for forecast increases in commercial, industrial and domestic traffic
• Improving traffic flow and travel times for motorists
• Improving road safety for through and local traffic as well as catering for cyclists.

The Long Pond on the northern side of Cormorant Road, Kooragang
Involving the community and stakeholders

Roads and Maritime is working with the community and stakeholders during the planning process to identify issues and minimise potential impacts of the proposed upgrade and construction activities.

The preferred option for the upgrade was displayed for community comment in November 2013. The feedback received has been considered in preparing the review of environmental factors and the concept design.

Stakeholders and the community are invited to comment on the review of environmental factors by 5 October 2014.

Roads and Maritime will consider the feedback received when finalising the review of environmental factors and design.

Next steps

Consultation on the proposed upgrade

Finalise concept design of the preferred option

Environmental assessment

Approval to proceed

Detailed design

Construction

Visit a display

You may view the review of environmental factors until 5 October 2014 at the following locations, Monday to Friday from 9am to 4pm:

- Roads and Maritime Services Regional Office
  59 Darby Street, Newcastle
- Nelson Bay Motor Registry
  30 Yacaaba Street, Nelson Bay
- Port Stephens Council
  116 Adelaide Street, Raymond Terrace
- Newcastle City Council
  282 King Street, Newcastle

Copies of the community update are also available at the Stockton Library in King Street, Stockton. The Library is open Tuesday and Thursday from 9.30am to 5pm and Wednesday and Saturday from 9.30am to 12pm.

Comments on the review of environmental factors are invited by 5 October 2014.

Information is also available on the website at rms.nsw.gov.au

Please send us your feedback by:

Phoning: Matthew Mate, Project Manager on (02) 4924 0646 (during business hours)

Emailing: Matthew.Mate@rms.nsw.gov.au

Writing to: Matthew Mate, Project Manager
Roads and Maritime Services
Locked Bag 2030
Newcastle NSW 2300

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