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Approval and authorisation

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| Accepted on behalf of Transport for NSW by: | Erika Garbayo  
Project Development Manager |
| Signed: | |
| Dated: | 18/8/2020 |

Document status

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Executive summary

The proposal
Transport for NSW is proposing to connect the Princes Highway with the existing South Batemans Bay Link Road at Glenella Road, Batemans Bay (the proposal), which would improve safety and access. Key features of the proposal include:

- A new roundabout on the Princes Highway, including:
  - Two southbound lanes through the roundabout
  - A single northbound right turn lane through the roundabout to Glenella Road
  - A northbound bypass lane on the Princes Highway
  - A single lane entry and exit to and from Glenella Road.
- Upgrade of Glenella Road as a two-lane road (one lane in each direction between the new roundabout on the Princes Highway and Heron Road)
- A new T-intersection at the junction of the existing The Ridge Road and Glenella Road
- Utility protection or relocation for telecommunication, electrical and water infrastructure
- Earthworks including cuttings, embankments and retaining walls
- Lighting, signage and supporting infrastructure
- Establishment and use of temporary ancillary facilities during construction, including site offices, plant laydown areas, access tracks, stockpile sites, water quality controls and vehicle turning bays
- Drainage and stormwater management infrastructure along the road corridor
- Site rehabilitation and landscaping work.

Construction of the proposal is planned to be completed by 2023.

Display of the review of environmental factors
Transport for NSW prepared a review of environmental factors (REF) for the South Batemans Bay Link Road. The REF was placed on public display to seek feedback on the proposal from the community, government agencies and other stakeholders. The REF was publicly displayed for 28 days from Monday 27 April 2020 to Sunday 24 May 2020.

The REF was publicly displayed at Service NSW Batemans Bay, Service NSW Moruya, and published electronically on the Transport for NSW website and made available for download.

Transport for NSW carried out several activities to give the community a chance to learn more about the project and give their feedback. This included a media release, a project update which was distributed to over 11,300 households and businesses, an online Q&A session and social media campaign, static displays, print and digital advertising, and a project webpage update to include an online feedback form and videos from the Transport for NSW project manager.

Summary of issues and responses
Public display of the REF and the supporting consultation resulted in a total of 58 submissions, of which 57 were from the general community and one was from a government agency. Some submissions raised multiple issues relating to more than one element of the
Each issue within the submission has been considered and responded to in the relevant sections below.

The majority of issues raised in submissions by the community related to the traffic and transport considerations for the proposal, this included consideration of active transport for cyclists and pedestrians, potential traffic congestion, and future traffic demands. One agency submission, from the NSW Environmental Protection Authority (EPA), related primarily to the impacts to water quality and watercourses during construction and operation of the proposal.

This submissions report considers all submissions received during display of the REF. The key issues raised and responses to those issues are summarised below.

**Traffic and transport**

Submissions relating to traffic and transport impacts accounted for 51 per cent of the total submissions received, and included issues relating to future traffic demands, impacts on local roads, the need for cycling connectivity and potential safety impacts, particularly:

- **Issue:** The proposal should meet future traffic demands along Glenella Road and the Princes Highway.
  
  **Response:** As part of the REF, detailed traffic modelling has been carried out which examined forecast traffic demands and road network performance within the study area for future years 2026 and 2036. The modelling identified that the South Batemans Bay Link Road project would result in reduced queuing and delay across the network, when compared to the scenario without any upgrade. The traffic modelling identifies that the proposal will have sufficient capacity to meet forecast traffic demands at the roundabout and along Glenella Road, up to 2036 and during peak holiday periods. The proposal will also assist in managing demands on the Princes Highway in the northbound direction by providing an alternative link to the east and reducing northbound traffic volumes.

- **Issue:** The proposal should consider cycling lanes as part of the proposal.
  
  **Response:** The proposal has been developed with consideration of the importance of the connection of Glenella Road to the Princes Highway for cyclists. The provision for cyclists was considered early in the concept design development process with respect to how the proposal ties in with the wider road network and the Eurobodalla Pathway Strategy. The current design along Glenella Road includes a two-metre-wide outside shoulder in each direction along Glenella Road. The shoulder width aligns with the first stage of the completed South Batemans Bay Link Road which would improve the amenity and safety of commuter cyclists that might use this road. Further investigation will be done regarding safe provision for cycling on the roundabout and Princes Highway during detailed design development.

- **Issue:** Consideration of pedestrian access as part of the design of the proposal.
  
  **Response:** No shared pathways exist within the construction boundary. A shared path link is currently not within the scope of the project as the proposal is not directly connected to any existing pedestrian networks or destinations. Once complete, the proposal would reduce traffic volumes along Beach Road, which would contribute towards improved amenity for pedestrians and cyclists using the shared path along Beach Road for travel or recreation.

**Elements of the proposal design**

Submissions relating to the proposed design accounted for 17 per cent of the submissions received, particularly with regard to the following:

- **Issue:** The road pavement chosen for the proposal may result in increased noise impacts during the operation of the proposal.
Response: As described in Section 3.3 of the REF, a preliminary pavement design for Glenella Road has been prepared by Transport for NSW, which allows for a flexible pavement comprising unbound gravel pavement layers. The use of a primer seal along Glenella Road is proposed, with a sprayed layer of bituminous 14 mm chip seal applied once the primer seal has cured. During the REF assessment, it has been determined the selection of pavement types would not increase the noise level during the operation of the proposal. As such the selection of pavement type will not be determined to manage noise attenuation. The preferred pavement is consistent with and provides continuity to the stage 1 works completed between George Bass Drive and Heron Road.

- Issue: Lighting considerations for the proposal.
  Response: The REF considered the potential for proposed lighting at the roundabout and intersections. Lighting will be required at the roundabout. The detailed design stage of the proposal would confirm how far the lighting would extend on the approaches to the roundabout and if lighting is also required at the intersection of Glenella Road and The Ridge Road. Transport for NSW would continue consultation with Eurobodalla Shire Council during detailed design development to confirm lighting needs across the proposal.

Needs and options considered

Needs and options considered for the proposal accounted for 20 per cent of the submissions received particularly with regard to the following:

- Issue: The proposed location of the roundabout may not be suitable to achieve project objectives, improve connectivity and reduce congestion in the CBD.
  Response: Transport for NSW carried out an options assessment process to identify a range of options to connect the existing Glenella Road (Stage 1 of the South Batemans Bay Link Road completed in 2019 by Eurobodalla Shire Council) to the Princes Highway. Through this process, the roundabout was selected as the preferred option. The roundabout would be located 150 metres north of the existing intersection of Princes Highway and Glenella Road and would maximise visibility and sight lines from the Princes Highway. The preferred option for the proposal would reduce the amount of surplus cut that would be generated during the construction of the proposal when compared to other options assessed. The proposal utilises the natural topography of the area, which minimises visual impacts and the amount of vegetation clearance required. The location of the roundabout would enable all traffic movements to and from the proposal, while maintaining efficient northbound and southbound travel on the Princes Highway.

- Issue: The proposal should be four lanes wide to reduce traffic congestion along Glenella Road and the Princes Highway.
  Response: As part of the REF, detailed traffic modelling has been carried out which examined forecast traffic demands and road network performance within the study area for future years 2026 and 2036. By 2036, modelling indicates that Glenella Road would carry up to 2500 vehicles per day. Glenella Road was modelled as a two-lane road and indicated that the proposal provides sufficient capacity with one lane in each direction up to 2036, with spare capacity for traffic volume increases beyond then. The Princes Highway is currently two lanes in the southbound direction between Cranbrook Road and Glenella Road and one lane in the northbound direction over the same section. The proposal would maintain this lane configuration, with an additional northbound bypass lane at the new Princes Highway / Glenella Road roundabout. The traffic modelling results indicate that performance on the Princes Highway is acceptable up to 2036 with
the current lane configuration, and that the proposal does not increase congestion or delay on the Princes Highway above the Do Minimum case.

- **Issue:** Potential traffic congestion due to not providing an additional northbound lane through to Batemans Bay Bridge.
  
  **Response:** The primary objective of the proposal is to provide a safe and efficient connection between the Princes Highway and Glenella Road (South Batemans Bay Link Road). Upgrades along the Princes Highway are not within the South Batemans Bay Link Road project scope of works. The Princes Highway Upgrade Program is currently investigating Princes Highway improvements between Jervis Bay Road and Moruya to create more mobile and better connected regional centres for locals, visitors and freight. The Princes Highway Upgrade Program will investigate further upgrade requirements along the Princes Highway through Batemans Bay, such as additional safety and capacity upgrades. Traffic modelling for the South Batemans Bay Link Road proposal indicates that the proposal will assist in managing demands on the Princes Highway in the northbound direction by providing an alternative link to the east and reducing northbound traffic volumes.

**Biodiversity**

Biodiversity submissions accounted for seven per cent of submissions received and were primarily related to the preservation of habitat and efforts to reduce vegetation clearing with regard to the following:

- **Issue:** Reduction of fauna habitat removal should be incorporated into the design of the proposal.
  
  **Response:** During construction, the proposal would require clearing of about 21.79 hectares of native woody vegetation and exotic grasslands, and 1.34 hectares of exotic vegetation for the construction boundary and the establishment of ancillary sites. The detailed design stage of the proposal would aim to further reduce vegetation removal. A biodiversity offset strategy would be prepared prior to works commencing which would offset the residual impacts to threatened fauna habitat and threatened flora species. In addition to offsets, fauna protection measures will include replacement or reinstatement of habitat in accordance with Transport for NSW biodiversity guidelines, including the use of woody debris, and nest boxes.

**Changes to the proposal**

In response to the submissions raised and following further design development since the display of the REF, changes to the proposal have occurred, which include:

- Inclusion of a designated left turn lane from Glenella Road to the Princes Highway at the roundabout
- Inclusion of a left in left out arrangement to access to Round Hill, together with a portion of the road to be sealed, to improve the safety and accessibility to the Lookout
- Extension of the northbound merge lane along the Princes Highway to allow greater visibility of the merge lane termination point, which would improve sight lines and allow for more time for safe merging of traffic.

The extension of the northbound merge lane would result in an additional 0.26 hectares of native vegetation removal along the Princes Highway. The design refinements are not likely to significantly impact threatened species, populations, ecological communities or migratory species, within the meaning of the *Environmental Protection and Biodiversity Act 1999.* The
additional vegetation clearance is consistent with the existing vegetation clearance specified in the REF and impacts to the environment would be managed through implementation of the safeguards listed in Section 5.2. Where possible, the total extent of native vegetation to be cleared would be further reduced through refinement of the footprint during detailed design and construction planning. A biodiversity offset strategy would be developed during the detailed design stage of the proposal and be prepared in accordance with the Guideline for Biodiversity Offsets (Roads and Maritime, 2016).

Changes to the proposal and the associated potential environmental impacts have been described in Chapter 4 of this Submissions Report.

**Environmental Safeguards**

The REF proposed several environmental safeguards and no further changes are recommended to avoid or minimise potential impacts associated with the design changes discussed above. However, following consideration of the matters raised in the public submissions and consultation with the EPA, environmental safeguard (WQ07) has been revised in relation to operation water quality and the water quality objective impact assessment.

An updated consolidated set of environmental safeguards is provided in Table 5-1 of this report.

**Next Steps**

Transport for NSW, as the determining authority, will consider the information in the REF and this submissions report and make a decision whether or not to proceed with the proposal.

Transport for NSW will inform the community and stakeholders of this decision and will continue to consult with the community and stakeholders prior to and during the construction phase.
## Contents

1 Introduction and background
   1.1 The proposal ...................................................... 1
   1.2 REF display and consultation .................................. 4
   1.3 Purpose of the report ........................................... 6

2 Response to issues .................................................................. 7
   2.1 Respondents .................................................................. 7
   2.2 Overview of issues raised ........................................... 9
   2.3 Elements of the proposal design .................................... 9
      2.3.1 Project delivery and timing .................................. 9
      2.3.2 Lighting .............................................................. 10
      2.3.3 Design features .................................................. 10
      2.3.4 Parking and access ............................................. 11
      2.3.5 Road naming ..................................................... 12
      2.3.6 Road pavement .................................................. 12
   2.4 Needs and options considered ...................................... 12
      2.4.1 Alternatives and options considered ....................... 12
   2.5 Traffic and transport ................................................ 16
      2.5.1 Active transport ................................................ 16
      2.5.2 Intersection operation impacts ............................... 18
      2.5.3 Network operation impacts .................................. 20
      2.5.4 Construction safety ............................................ 22
   2.6 Biodiversity ............................................................. 22
      2.6.1 Removal of threatened species habitat ................. 22
   2.7 Noise and vibration .................................................. 24
      2.7.1 Operation impacts ............................................. 24
   2.8 Landscape character and visual impact ......................... 25
      2.8.1 Landscape character .......................................... 25
   2.9 Aboriginal heritage .................................................. 26
      2.9.1 Cultural heritage ............................................... 26
   2.10 Consultation ................................................................ 27
      2.10.1 Government and agency and stakeholder consultation and ongoing consultation ........................................... 27
      2.10.2 Community involvement ..................................... 27
   2.11 Water quality and erosion ........................................... 28
      2.11.1 Operation impacts ............................................. 28

3 Response to government agency issues ................................. 29
   3.1 Environmental Protection Authority (EPA) ..................... 29
      3.1.1 Water quality and erosion .................................... 29

4 Design changes .................................................................... 31
   4.1 Designated left turn lane from Glenella Road to the Princes Highway at the roundabout .................. 31
      4.1.1 Description ....................................................... 31
      4.1.2 Potential impacts ............................................... 31
      4.1.3 Revised safeguards and management measures .......... 31
   4.2 Left in Left out to Round Hill Lookout from the Princes Highway ........................................ 31
      4.2.1 Description ....................................................... 31
4.2.2 Potential impacts ..............................................31
4.2.3 Revised safeguards and management measures ....31
4.3 Northbound merge lane extension ..................................33
4.3.1 Description .................................................33
4.3.2 Biodiversity impacts ......................................35
4.3.3 Aboriginal Heritage Considerations ......................38
4.3.4 Revised safeguards and management measures .....38

5 Environmental management ...........................................39
5.1 Environmental management plans (or system) ........39
5.2 Summary of safeguards and management measures ...39
5.3 Licensing and approvals ......................................68

6 References ......................................................................69

Figures

Figure 1-1: Location of the proposal ........................................2
Figure 1-2: Key features of the proposal ..................................3
Figure 4-1: Left in turn lane ..................................................32
Figure 4-2: Northbound merge extension .........................34

Tables

Table 1-1 Display locations ..................................................4
Table 1-2 Consultation activities carried out during the REF display period .... 4
Table 2-1: Respondents .....................................................7
Table 3-1: Summary of government agency issues ................29
Table 4-1: Additional native vegetation removal .................35
Table 4-2: Summary of impact to vegetation and the associated implications for offsetting ........................................37
Table 4-3: Preliminary ecosystem credit summary ...............37
Table 4-4: Preliminary species credit summary ....................38
Table 5-1 Summary of environmental safeguards and management measures 40
Table 5-2: Summary of licensing and approval required ............68
## Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appendix A</td>
<td>Plant community type identification</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Preliminary biodiversity offset calculation</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Aboriginal heritage consistency assessment</td>
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1 Introduction and background

1.1 The proposal

Transport for NSW is proposing to connect the Princes Highway with the existing South Batemans Bay Link Road at Glenella Road (the proposal). The proposal is located south of Batemans Bay in the Eurobodalla local government area (LGA) as shown in Figure 1-1. Most of the proposal area is located in existing local and state road reserves, managed by Eurobodalla Shire Council and Transport for NSW, respectively. Part of the proposal is located within Mogo State Forest, managed by the Forestry Corporation of NSW.

The proposal would include a new roundabout at the intersection of the Princes Highway and Glenella Road and a new two-lane road (one lane in each direction) between the roundabout and Heron Road. The proposal would generally follow the current alignment of Glenella Road, between Heron Road and the Princes Highway, to complete the South Batemans Bay Link Road project.

The key features of the proposal as shown in Figure 1-2 include:

- A new roundabout on the Princes Highway, including:
  - Two southbound lanes through the roundabout
  - A single northbound right turn lane through the roundabout/to Glenella Road
  - A northbound bypass lane on the Princes Highway
  - A single lane entry and exit to and from Glenella Road.
- Upgrade of Glenella Road as a two-lane road (one lane in each direction) between the new roundabout on the Princes Highway and Heron Road
- A new T-intersection at the junction of the existing The Ridge Road and Glenella Road
- Utility protection or relocation for telecommunication, electrical and water infrastructure
- Earthworks including cuttings, embankments and retaining walls
- Lighting, signage and supporting infrastructure
- Establishment and use of temporary ancillary facilities during construction, including site offices, plant laydown areas, access tracks, stockpile sites, water quality controls and vehicle turning bays
- Drainage and stormwater management infrastructure along the road corridor
- Site rehabilitation and landscaping work.

The proposal would provide a safe and efficient alternative access to the southern coastal villages that would help ease current and future congestion in the Batemans Bay CBD, particularly along Beach Road. The proposal would also allow for land use development and increase freight access and productivity in the Batemans Bay central business district (CBD), southern coastal villages and proposed Surf Beach employment lands.

A more detailed description of the proposal, including a discussion of the need of the proposal and its objectives can be found in Chapters 1, 2 and 3 of the South Batemans Bay Link Road review of environmental factors (REF) prepared by Transport for NSW in April 2020. The REF can be found on the project website: https://www.rms.nsw.gov.au/projects/south-batemans-bay-link-road/
Figure 1-1: Location of the proposal
1.2 REF display and consultation

Transport for NSW prepared a REF to assess the potential environmental impacts of the proposal. The REF was publicly displayed for 28 days between 27 April and 24 May 2020 at two locations, as detailed in Table 1-1.

The REF was publicly displayed at Service NSW Batemans Bay and Service NSW Moruya. It was also published on the Transport for NSW project website and made available for download.

The display locations and website link were advertised in the Bay Post, Koori Mail, Canberra Times and on the NSW Roads Facebook page. During this time, Transport for NSW invited the public to provide feedback on the proposal via email, post, phone or on an online feedback form on the project webpage. Communities located near the proposal were notified of the display of the REF and provided information.

Table 1-1 Display locations

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<tr>
<td>Service NSW, Moruya</td>
<td>12/22 Ford Street, Moruya</td>
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As a result of the Covid-19 pandemic and restrictions on public gatherings and social distancing requirements, face to face consultation activities such as drop in sessions and community information sessions could not be used.

The display used several consultation activities to give the community a chance to learn more about the project and provide their feedback. Additional digital engagement methods including an online Q&A via Facebook Live, digital advertising and use of social media were also used in the absence of face to face activities. Table 1-2 provides a summary of the consultation activities and their community reach.

Table 1-2 Consultation activities carried out during the REF display period

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<td>Media release</td>
<td>A media release was issued by Transport for NSW on Tuesday 28 April 2020, titled ‘Have your say on the environmental assessment and concept design for the South Batemans Bay Link Road project’</td>
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| Project update          | A six page project update was produced which showed the key features of the concept design, summary of the key assessment areas of the REF, artists impressions of the proposal, as well as where to find more information and how to provide feedback.  
                          | The project update was distributed to over 11,300 households and businesses in Batemans Bay, Catalina, Batehaven, Sunshine Bay, Denhams Beach, Surf Beach, Lilli Pilli and Malua Bay. |
| Newspaper advertisement | Half page colour newspaper advertisements were placed in local papers during the consultation period to raise awareness of the consultation and online Q&A session  
                          | Publications included:                                                                                                                   |
                          |   • The Batemans Bay Post – Wednesday 6 May 2020                                                                                           |
                          |   • The Koori Mail – Wednesday 6 May 2020.                                                                                                 |
| Digital newspaper advertisement | Digital newspaper advertising was used to further reach the community to raise awareness of the project webpage and online feedback form.  
Publications included:  
- The Batemans Bay Post – Wednesday 29 April to Friday 22 May  
- The Canberra Times – Wednesday 29 April to Friday 22 May. |
| Email notification | A stakeholder email was sent from Transport for NSW via Campaign Monitor on Tuesday 28 April 2020 to 187 registered stakeholders. This email announcement that the REF and concept design was on display and included details about the online Q&A session and how to provide feedback.  
Direct emails were also sent to several government agencies on Friday, 1 May 2020. |
| Project webpage | The project webpage was updated on Monday 27 April 2020 with project information included the REF and concept design, details of how to make a submission and information about display locations and the online Q&A session.  
Video content was also produced for the project webpage including three project manager videos on the project overview, concept design and REF.  
Frequently asked questions were also prepared and made available on the project webpage. |
| Online feedback form | An online feedback form was created and was accessible via the project webpage. This allowed the community to easily provide feedback on the REF and concept design and was advertised on the project update, newspaper and digital advertising and via social media.  
A total of 43 responses were received via the online feedback form. |
| Static displays | Display posters showing the concept design and key features as well as providing details on how to provide feedback and the online Q&A session were displayed at the Village Shopping Centre Batemans Bay at a number of locations.  
Other display locations were not used as only essential services were open during the display period due to Covid-19. |
| Online Q&A session | A 30 minute live online Q&A session with the project manager was held via Facebook Live. The session was advertised on the media release, project update, advertising and display material.  
The event was attended by around 15 people with eight comments received.  
The recorded session was made available on the project webpage. |
Social media (NSW Roads Facebook page) | Three geo-targeted Facebook posts were used during the display period.
---|---
| Post 1 – Project manager video post, had over 26,000 views, 45 shares and 37 comments
| Post 2 – Online Q&A session event post reached over 37,500 people and had 253 responses. The event itself however was attended by around 15 people with eight comments received
| Post 3 - Have your say post with graphic impression, had four comments and two shares.

Variable message signs | Variable message signs (VMS) were used at locations on the Princes Highway and along Beach Road to advertise the display period.

1.3 Purpose of the report

This submissions report relates to the REF prepared for the South Batemans Bay Link Road 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 Transport for NSW. This submissions report is structured as follows:

- Chapter 2 summarises the issues raised by the community and provides responses to each issue
- Chapter 3 summarises the issues raised by government agencies and provides responses to each issue
- Chapter 4 describes the changes to the proposal since the display of the REF and associated environmental assessment
- Chapter 5 provides a summary of all environmental management measures for the proposal including new or revised measures.
2 Response to issues

2.1 Respondents

During the consultation period (27 April to 24 May 2020), a total of 58 submissions were received in response to the display of the REF. This included submissions from one government agency and 57 submissions from the community. Table 2-1 itemises the submissions and allocates each a new unique submissions number. Multiple submissions from one respondent have been consolidated to a single submission number. The table also indicates where the issues from each submission have been addressed in Sections 2.3 to 2.11 and Section 3 of this report.

Table 2-1: Respondents

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2.2 Overview of issues raised

A total of 58 submissions were received in response to the display of the REF. Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted and collated, and corresponding responses to the issues have been provided. Where similar issues have been raised in different submissions, only one response has been provided. The issues raised and Transport for NSW’s response to these issues forms the basis of this chapter. Of these 58 submissions, 43 per cent were in support of the proposal, 10 per cent objected to elements of the proposal, 3 per cent rejected the proposal entirely and the remaining 43 per cent of submissions provided responses to specific elements of the proposal or queried for further information. Response to issues raised by the NSW EPA is provided in Chapter 3.

Comments raised in the submissions have been categorised under the following:

- Elements of the proposal design
- Needs and options considered
- Traffic and transport
- Biodiversity
- Noise and vibration
- Landscape character and visual impact
- Aboriginal heritage
- Consultation
- Water quality and erosion.

2.3 Elements of the proposal design

2.3.1 Project delivery and timing

Submission number(s)

42.

Issue description

One respondent questioned the next steps in the proposed delivery of the project.

Response

Pending approval of the REF, Transport for NSW would commence the detailed design for the proposal. Early works could commence during this phase, and include:

- Site survey, geotechnical and other investigations
- Relocation and protection of existing utilities
- Preparation of environmental management plans
- Installation of fencing and sediment and erosion controls
- Removal and clean-up of hazardous material where required
- Minor earthworks to establish temporary construction access tracks, level areas for ancillary sites and water quality control basins where required
- Minor vegetation clearing and grubbing works
- Establishment of site compound and ancillary facilities
- Establishment of site access points along the proposal alignment.

Transport for NSW would prepare tender documents in accordance with the Transport for NSW tender process and procurement for construction of the proposal, which is planned to be completed in 2023. Transport for NSW would continue to consult the community during development of the proposal.

The proposed construction methodology is provided in Section 3.3.1 of the REF.

2.3.2 Lighting

Submission number(s)
26, 58.

Issue description
One respondent has queried what lighting has been considered in the design.

One respondent raised the matter of implementing motion sensitive street lighting for improved environmental benefits.

Response
Section 3.2.3 of the REF notes the potential inclusion of lighting on the roundabout intersection of the Princes Highway and Glenella Road, on Glenella Road on the approach to the roundabout and at the intersection of Glenella Road and The Ridge Road. During detailed design development, the amount of lighting required and if lighting is also required on the intersection of Glenella Road and The Ridge Road would be determined. Transport for NSW would continue consultation with Eurobodalla Shire Council during the detailed design stage to confirm lighting needs across the proposal.

The use of smart lighting would be investigated during detailed design to potentially reduce energy consumption, minimise light spill and reduce impacts to surrounding habitat. Direct impacts of light spill from the potential road lighting at the intersection between Glenella Road and The Ridge Road are likely to be minimal. Temporary lighting impacts from vehicle movement along the Princes Highway or Glenella Road are unlikely to change significantly as a result of the proposal.

2.3.3 Design features

Submission number(s)
10.

Issue description
One respondent expressed concern about road gradients of the Princes Highway and the ability for southbound heavy vehicles to accelerate out of the roundabout.

Response
The proposal has been designed to satisfy relevant Australian Standards and guidelines with respect to maximum length of grades. The existing southbound merge lane along the Princes Highway is located about 350 metres south of the roundabout and would remain unchanged. The design criteria for the Princes Highway identifies the maximum vertical grade to be between 5 to 7 per cent (rolling terrain). Vehicles exiting the roundabout southbound on the Princes Highway would reach uphill grades greater than 6 per cent about 130 metres south of the roundabout.

The posted speed for the Princes Highway is 70 km/h, the proposed design has about 90 metres to 100 metres of road where the grade is less than 6 per cent on approach to the roundabout, which would have minimal impact on heavy vehicles acceleration. Vehicles exiting the roundabout in a northbound direction on the Princes Highway would be on a downhill gradient.
2.3.4 Parking and access

Submission number(s)
4.

Issue description
One respondent queried whether the proposal would include a loading zone at the town centre to accommodate for loading in the town centre.

Response
The inclusion of a loading zone within the town centre is out of scope for this proposal as well as outside the construction boundary. The proposal would allow for land use development and increased freight access and productivity in the Batemans Bay CBD, southern coastal villages and proposed Surf Beach employment lands by providing an additional access to these southern locations, beyond the town centre. The proposal supports heavy vehicle movements to and from destinations such as the Eurobodalla Waste Management facility at Surf Beach and the Cranbrook Road industrial area south of the Batemans Bay CBD.

Submission number(s)
11, 57.

Issue description
Two respondents suggested adding an access for tourists to the Round Hill Lookout.

Response
Upgrade of the access road to the Round Hill Lookout is not included in the scope for this proposal. This site is managed by Forestry Corporation NSW. However, the proposal would improve safety at the intersection between the Princes Highway and the access road, by sealing a portion of the road at the intersection. The proposed upgrade to Round Hill Lookout is detailed further in Section 4 – Design Changes (refer to Figure 4-1). The intersection is proposed to be relocated south, and converted to a left in left out arrangement for safety reasons. Drivers wanting to access the Round Hill Lookout from the south would be required to continue to the roundabout and safely U-turn to access via a left turn. Drivers wanting to exit the access road and travel north, would be required to continue south and safely use the next available intersection to about turn and continue north.

The proposed design does not preclude any future upgrade of the access to the lookout.

Submission number(s)
23.

Issue description
One respondent questioned how safe access to driveways along Glenella Road would be maintained once the proposal is in operation.

Response
Glenella Road was recently upgraded by Council and is the first component of the South Batemans Bay Link Road as shown in Figure 1-1. It intersects with George Bass Drive at the eastern end and Heron Road at the western end. No changes are proposed in the completed portion of Glenella Road and driveway access to private properties along Glenella Road would remain as they currently are.
2.3.5 Road naming

Submission number(s)
12.

Issue description
One respondent has suggested The Ridge Road should be re-named to Old Malua Bay Road.

Response
In 2017, Council gazetted the renaming of the northern extent of The Ridge Road to Glenella Road as part of the completed section of the South Batemans Bay Link Road. This would create less confusion among road users if multiple road names were used along the South Batemans Bay Link Road, which will form the main connecting road in this location.

The naming of the existing The Ridge Road was established by Council prior to the commencement of the proposal. Transport for NSW does not intend to change road names as part of this project.

2.3.6 Road pavement

Submission number(s)
7.

Issue description
One respondent questioned whether the road pavement chosen for the proposal would result in an increase to noise impacts during the operation of the proposal.

Response
As described in Section 3.3 of the REF, a preliminary pavement design for Glenella Road has been prepared by Transport for NSW, which allows for a flexible pavement comprising unbound gravel pavement layers. The use of a primer seal along Glenella Road is proposed, with a sprayed layer of bituminous 14 mm chip seal applied once the primer seal has cured.

During the REF assessment, it was determined that the selection of these pavement types would not significantly increase the noise level during the operation of the proposal. As such the pavement types have not been selected to manage noise attenuation. The preferred pavement is consistent with and provides continuity to the stage 1 works completed between George Bass Drive and Heron Road.

2.4 Needs and options considered

2.4.1 Alternatives and options considered

Submission number(s)
41, 46, 47.

Issue description
Two respondents raised concern that the proposed location of the roundabout may not be the most suitable option to achieve project objectives, improve connectivity between industrial areas and reduce congestion in the Batemans Bay CBD.
One respondent expressed concern the proposal does not use the existing signalised intersection at Cranbrook Road, and why the proposal has not been designed to be in parallel with the existing power line easements.

One respondent suggested that the roundabout should be centred in the middle of the Princes Highway to keep traffic flowing.

**Response**

Traffic modelling has been carried out, which has demonstrated that the proposal and alignment selected would improve access in the surrounding area by providing a new connection between the Princes Highway and the southern coastal villages of Batemans Bay. This provides opportunity for traffic to avoid the CBD during peak periods during congested periods. The modelling confirms that project objectives would be achieved in relation to reducing delay and congestion experienced across the road network and within the CBD.

As summarised in Section 2 of the REF, Transport for NSW carried out an options assessment process to identify a range of alternatives to connect the existing Glenella Road (Stage 1 of the South Batemans Bay Link Road completed in 2019) to the Princes Highway. The 2019 options assessment considered road safety, traffic efficiency, environment, property, constructability and cost for four alternatives for the proposal. The location of Glenella Road and roundabout was adopted from early development work completed in 2015, which identified that following the existing alignment of Glenella Road achieved the best outcome in relation to environmental impacts and constructability by being responsive to site topography. The design of the batters and roundabout intersection was flattened to increase sight distance on approach to the intersection and improve safety for vehicles travelling along the Princes Highway and Glenella Road. The roundabout option and proposed location best met the main project objective: to provide a safe and efficient connection between the Princes Highway and the South Batemans Bay Link Road.

The surrounding area poses several constraints in developing suitable alternative options, which includes the power easement adjacent to the Princes Highway and crosses over Glenella Road. As part of investigations, a utility conflict assessment was carried out and identified that within the easement there exists the Optus underground fibre optic cable and the Essential Energy high voltage overhead power lines. As such the existing easement is not available for use as a road corridor as it is used by utility service providers to maintain the power transmission lines and other underground infrastructure.

The proposal is located within an area of steep terrain and dense vegetation within the Mogo State Forest. Of the options considered in 2019, the preferred option required a smaller construction and operational footprint, which resulted in less area required for vegetation removal and less impacts to potential habitat for threatened species identified during the REF assessment. Options considered during this process also included a centred roundabout on the Princes Highway, the selected roundabout design, with northbound bypass lane, was found to provide improved traffic flow on the Princes Highway.

The preferred option also had a reduced volume of surplus cut generated during the construction of the proposal compared to other options.

**Submission number(s)**

2, 36, 51.

**Issue description**

Three respondents questioned why the two northbound lanes along the Princes Highway are not continued through to Batemans Bay Bridge, noting that the Princes Highway would merge from two lanes back to one lane, and that would create potential traffic congestion along the Princes Highway.
Response

The primary objective of the proposal is to provide a safe and efficient connection between the Princes Highway and Glenella Road (South Batemans Bay Link Road). The NSW government committed $30 million in funding in January 2019 for Transport for NSW to finalise planning and construct the proposal, which would improve travel time by alleviating congestion within the Batemans Bay CBD and the necessary infrastructure to support the region’s growth.

Traffic modelling as part of the South Batemans Bay Link Road proposal indicates that the proposal will assist in managing demands on the Princes Highway in the northbound direction by providing an alternative link to the east and reducing northbound traffic volumes.

Upgrades along the Princes Highway to the north of the South Batemans Bay Link Road project are not included within the scope of works. The Australian Government’s Princes Highway Corridor Strategy identifies the need for wider network upgrades along the Princes Highway across NSW, Victoria and South Australia. The NSW Government has committed $960 million under the Transport for NSW Princes Highway Upgrade Program to improve the Princes Highway between Jervis Bay Road and Moruya, creating more mobile and better connected regional centres for locals, visitors and freight. The Princes Highway Upgrade Program will investigate further upgrade requirements along the Princes Highway through Batemans Bay, such as additional safety and capacity upgrades.

Submission number(s)

18, 36.

Issue description

Two respondents asked if an additional southbound slip lane has been considered on the Princes Highway at the roundabout intersection.

Response

The main objective of the proposal is to provide a safe and efficient connection between the Princes Highway and Glenella Road (South Batemans Bay Link Road). Traffic modelling results indicate that the proposed design of the roundabout on the Princes Highway has sufficient capacity to meet forecast demands up to 2036, and minimal delay will be experienced by users. The modelling also considered the roundabout performance under 2036 holiday peak period traffic demands.

Submission number(s)

38.

Issue description

One respondent questioned how an improved connection to the Princes Highway from Glenella Road improved traffic congestion in the Batemans Bay CBD.

Response

The proposal would allow for safe entry and egress from Glenella Road and provide an alternative access to the southern coastal suburbs, and opportunity to avoid the CBD during peak periods during congested periods.

The new link is expected to reduce traffic volumes on Beach Road and Country Club Drive. The most significant decrease in traffic volumes is over Joes Creek (north of Country Club Drive). The proposal also reduces traffic volumes within residential streets used as short cuts, such as South Street and Bavarde Avenue. These reductions are achieved by the proposal as it provides an alternative route between Princes Highway and Beach Road.
Submission number(s)
38.

Issue description
One respondent suggested the speed limit along Beach Road be increased to 60 km/h.

Response
Speed zones are determined using recommendations from Australian standards guidelines such as Roads and Maritime Services NSW Speed Zone Guidelines (RTA, 2011b). During the operation of the proposal, the existing posted speed limit on Beach Road of 50 km/h within the Batemans Bay CBD and 60 km/h for the remainder would be unchanged. The 50 km/h speed limit provides a safe environment for the traffic, pedestrian and cycle movements in this location.

Submission number(s)
47.

Issue description
One respondent suggested the proposal should be four lanes wide as the current design would create congestion along Glenella Road and the Princes Highway.

Response
Detailed traffic modelling (Appendix H of the REF) has been carried out for the proposal under forecast traffic demands for future years 2026 and 2036, and examined the performance of the road network and key intersections within the traffic and transport study area. Section 6.5.3 of the REF provides a detailed summary of the traffic impacts during the operation of the proposal (typical weekday and holiday peaks) extending out to the 2036 forecast year.

Glenella Road was modelled as a two-lane road. The modelling results indicated that:

- By 2036, the proposal would carry a bi-directional volume of up to 235 vehicles in peak hours, and a daily volume of up to 2400 vehicles
- The maximum volume/capacity (v/c) ratio of Glenella Road in 2036 with the proposal is 0.14, which occurs during the holiday peak period and indicates that only 14 per cent of the maximum capacity of the road is being utilised
- This v/c ratio corresponds to level of service A, which indicates that traffic is essentially free-flowing and drivers are virtually unaffected by the presence of other vehicles in the traffic stream.

The results indicate that the proposal provides sufficient capacity with one lane in each direction up to 2036, with spare capacity in the event that traffic increases beyond forecast projections.

Traffic modelling for the Princes Highway also indicated that performance is acceptable up to 2036 with a volume/capacity ratio corresponding to level of service B on typical weekdays and level of service C during holiday periods. This indicates that there is no significant congestion or delay for vehicles on the Princes Highway associated with Glenella Road, and that the proposed design would meet travel demand in the area.
2.5 Traffic and transport

2.5.1 Active transport

Submission number(s)

8.

Issue description

One respondent asked if the shoulder of the Princes Highway between the Old Sawmill site and Glenella Road could be extended.

Response

The existing road alignment along the Princes Highway does not include a shoulder in its current alignment and includes about 350 metres of unsealed shoulder adjacent to the Princes Highway between the Old Sawmill site and Glenella Road. Within the extent of works, the Princes Highway would include a paved 2.5-metre-wide shoulder in the northbound direction and two-metre-wide shoulder in the southbound direction. The detailed design stage of the proposal would confirm the final alignment of the shoulder on Princes Highway between the Old Sawmill site and Glenella Road.

Design criteria adopted for the proposal is further detailed in Section 3.2.1 of the REF.

Submission number(s)

17, 21, 33, 34, 43, 48, 49, 53, 55, 58.

Issue description

Ten respondents have asked whether cycle lanes would be included as part of the proposal to allow for the safe passage for cyclists.

Response

The proposal has been developed with consideration of the importance of the connection of Glenella Road to the Princes Highway for cyclists. The provision of cyclists has been considered early in the concept design development process with respect to how the proposal ties in with the wider road network and the Eurobodalla Pathway Strategy.

The current design along Glenella Road includes a two-metre-wide outside shoulder in each direction along Glenella Road. The shoulder width aligns with the first stage of the completed South Batemans Bay Link which would improve the amenity and safety of cyclists that might use this road.

Further opportunities to improve provision for cyclists will be investigated in the next stage of the project, this would include investigations at the roundabout and along the Princes Highway within the extent of works. Existing mountain bike trails and recreational pathways in the surrounding area would not be impacted by the proposal.

Submission number(s)

16.

Issue description

One respondent asked whether consideration for pedestrian access has been considered as part of the proposal.
Response

The Eurobodalla Shire Council Pathway Strategy includes a principle for pedestrian and cycle friendly streets, recognising that not all walking or cycling trips will be made on paths that provide separation from motor vehicles.

The strategy acknowledges that pathways in the LGA are used for both transport and recreation by residents and visitors. No shared pathways exist within the construction boundary. A shared path link is currently not within the scope of the project as the proposal is not directly connected to an existing pedestrian network or destination. Fencing and signage would be required to stop pedestrians, cyclists and trail users from entering the construction area during construction. Existing recreational pathways in the surrounding area would not be impacted by the proposal once complete.

Once complete, the proposal would reduce traffic volumes along Beach Road, which would contribute towards improved amenity for pedestrians and cyclists within the CBD and for pedestrians and cyclists using the shared path along Beach Road for travel or recreation.

Submission number(s)
48, 56.

Issue description

One respondent has noted the potential for increased recreational cyclists utilising the existing forest tracks and trails, and whether any consideration has been made for a shared pathway to allow safe passage for recreational cyclists.

Two respondents queried the potential for safe access for cyclists around the junction (roundabout) between the Princes Highway and Glenella Road.

Response

Shared pathways (with separation from traffic) are currently not proposed within the design. Given the feedback received, further investigation into providing safe access for cyclists around the roundabout and on the Princes Highway will be investigated during detailed design. Two metre shoulders would be available on the new section of Glenella Road to align with the first stage of the completed South Batemans Bay Link.

Existing mountain bike trails within the construction boundary and surrounding area would be retained.

Submission number(s)
29.

Issue description

One respondent has asked if the proposal would allow for safer access for recreational cyclists to the Round Hill Lookout.

Response

Upgrade of the access road for recreational cyclists to the Round Hill Lookout is not included in the scope for this proposal. However, the proposal seals a portion of the road at the intersection between the Princes Highway and the access road (Figure 4-1) and includes a left in left out arrangement to improve the safety and accessibility to the Round Hill Lookout.
2.5.2 Intersection operation impacts

Submission number(s)
53.

Issue description
One respondent asked if a short designated left turn lane could be included at the roundabout, at the Princes Highway and Glenella Road intersection, for vehicles turning left out of Glenella Road.

Response
The provision of a short designated left turn lane from Glenella Road to the Princes Highway at the roundabout has now been investigated and included into the concept design. It was identified to improve safety for commuters on the Glenella Road exit to the roundabout. The roundabout was confirmed to operate with minimal delay (LoS A) under forecast 2036 peak hour holiday demands, with and without the additional left turn lane to the roundabout. Further detail is provided in Section 4.1.

Submission number(s)
53.

Issue description
One respondent has asked if any traffic control measures would be put in place to allow vehicles to turn north from Glenella Road during high southbound traffic flows.

Response
The intersection modelling results indicate that there would be sufficient gaps in the southbound traffic flow for vehicles to turn right out of Glenella Road. The highest southbound volume would be in the holiday peak, with 787 vehicles on the southbound through movement in 2036. The modelling indicates that the average delay that would be experienced by a vehicle turning right from Glenella Road during this period was 11.7 seconds, corresponding to level of service A. Level of service A indicates satisfactory performance as such, no additional control measures are required on this approach.

Submission number(s)
39.

Issue description
One respondent suggested adding a second northbound bypass lane adjacent to the proposed roundabout.

Response
The current roundabout design includes a single northbound lane that bypasses the Princes Highway / Glenella Road roundabout, and a single northbound approach lane into the roundabout. The modelling indicates that all northbound vehicles would use the bypass lane and only right-turning traffic would use the roundabout.

The average delay to northbound traffic would be less than eight seconds for both the typical weekday and holiday peak periods, which corresponds to level of service A. Additionally, the single northbound lane has a maximum volume/capacity ratio of 0.384 which indicates that only 38.4 per cent of the capacity of the single-lane bypass is being utilised by 2036. As both the average delay and volume/capacity ratio are low, the provision of an additional through lane from the south is not required to meet performance targets.
The performance of the roundabout was similar across both typical weekday peaks and the holiday peak for 2036.

**Submission number(s)**
25, 47.

**Issue description**
Two respondents asked how the proposed design would meet future traffic demands along Glenella Road and the Princes Highway.

One respondent expressed the view that Glenella Road should have access from the north and south via an additional roundabout or traffic lights.

**Response**
The traffic modelling results for Glenella Road in 2036 indicated that:

- It would carry a bi-directional volume of up to 235 vehicles in peak hours, and a daily volume of up to 2400 vehicles
- The maximum volume/capacity (v/c) ratio of Glenella Road with the proposal is 0.12, which occurs during holiday peak periods and indicates that only 12 per cent of the maximum capacity of the road is being utilised
- This v/c ratio corresponds to level of service A, which indicates that traffic is essentially free-flowing and drivers are virtually unaffected by the presence of other vehicles in the traffic stream.

The results indicate that the proposal design is sufficient to meet future weekday and holiday demands on Glenella Road up to 2036, with spare capacity for future volumes beyond then.

The traffic modelling results for the Princes Highway in 2036 indicated that:

- Traffic volumes on the Princes Highway, south of Glenella Road, were not expected to increase by more than four per cent with the proposal compared to the without proposal scenario for the same year. North of Glenella Road, forecast traffic volumes on the Princes Highway is forecast to decrease in comparison to the 'without proposal' scenario
- The volume/capacity (v/c) ratio of the Princes Highway corresponds to level of service B in the typical weekday and level of service C during holiday periods:
  - At level of service B, traffic flow is stable and drivers have reasonable freedom to select their desired speed and manoeuvre within the traffic stream
  - At level of service C, traffic flow is stable but drivers are restricted to some extent in their freedom to select their desired speed and manoeuvre within the traffic stream.
- Level of service on the Princes Highway is comparable in the “with” and “without” proposal scenarios.

The results indicate that capacity on the Princes Highway is sufficient to meet future weekday and holiday traffic demands up to 2036.

The Princes Highway provides north-south connectivity to Glenella Road at the western end. The proposed intersection design is a roundabout with northbound bypass lane and two southbound through lanes. George Bass Drive provides north-south connectivity to Glenella Road at the eastern end. This intersection was recently upgraded to a two-lane roundabout by Eurobodalla Shire Council in conjunction with construction of the first stage of the South Batemans Bay Link Road (Glenella Road).

Further detail of the Traffic and Transport Assessment is included in Appendix H of the REF.
2.5.3 Network operation impacts

Submission number(s)
44, 47, 53.

Issue description
One respondent raised concern on the proposed reduction of the Princes Highway speed limit, from 90km/h to 70km/h.

Two respondents asked how the proposed speed limits would ensure driver safety along Glenella Road and the Princes Highway.

Response
A review of the current Princes Highway alignment indicates a 70 km/h speed limit would be more appropriate, than the current speed limit of 90km/h, to meet the standards and guidelines detailed in Roads and Maritime Services NSW Speed Zone Guidelines (RTA, 2011b). The posted speed limit on Princes Highway is intended to be reduced from 90 km/h to 70 km/h as vehicles approach the new roundabout. This is an extension of the existing 70 km/h speed limit in place on the Princes Highway at Cranbrook Road and would improve the safety of the road network.

The proposed speed limit along the new section of Glenella Road would be 60 km/h due to the surrounding topography and alignment of the upgrade. This speed limit would improve road safety and reduce the severity of injuries from crashes, for this reason a higher speed limit is not recommended for the Glenella Road alignment.

Submission number(s)
15, 20, 30, 37, 53

Issue description
Four respondents have expressed concern regarding traffic safety along The Ridge Road, between the Glenella Road and Tallgums Way intersections, and what assessment has been carried out.

Two respondents have asked whether The Ridge Road would be upgraded as part of the proposal.

Response
The Traffic and Transport Assessment in Appendix H of the REF, considers the impacts of the proposal on the surrounding road network including The Ridge Road between the Glenella Road and Tallgums Way intersections. The Ridge Road is a 5.5 kilometre dirt road that does not provide any residential access. At its northern extent, it intersects with Glenella Road which leads to the Princes Highway. Glenella Road is currently closed between Heron Road and The Ridge Road, so no access to the east is possible.

The Ridge Road already connects to the Princes Highway, so the proposal is unlikely to increase the volume on The Ridge Road coming from the Princes Highway. From Glenella Road (east), The Ridge Road provides a very indirect route to no major destinations, therefore opening Glenella Road between Heron Road and The Ridge Road would not increase the volume on The Ridge Road from this direction.

The traffic modelling indicates that there is no increase in traffic volume on The Ridge Road as a result of the proposal. The impact of the proposal on traffic volumes on The Ridge Road and at the intersection of The Ridge Road / Tallgums Way is negligible.

Eurobodalla Shire Council is committed to monitoring the performance of the local road network, including The Ridge Road. The proposal does not include upgrade to The Ridge Road beyond the intersection with Glenella Road.

South Batemans Bay Link Road Submissions Report
Submission number(s)

53.

Issue description

One respondent has expressed concern for high traffic volumes during holiday periods and whether additional traffic controls and monitoring has been considered during holiday periods.

Response

The maximum volume/capacity ratio on Glenella Road by 2036 is 0.14, which occurs during the holiday period. This indicates that only 14 per cent of the maximum capacity of the road is being used. Performance of the road is level of service A, where traffic is virtually unaffected by the presence of other vehicles in the traffic stream.

On the Princes Highway, south of Glenella Road, the maximum volume/capacity ratio by 2036 is 0.49, which occurs during the holiday period. This indicates that only 49 per cent of the capacity of the road is being used. This corresponds to level of service C, where the traffic flow is generally stable, but drivers are restricted to some extent in their freedom to select their desired speed and manoeuvre within the traffic stream.

The performance of the Princes Highway / Glenella Road roundabout indicates that in 2036 the maximum average delay experienced by vehicles at the hold line is 12.2 seconds, and that the intersection operates with over 60 per cent spare capacity during both typical weekday and holiday peak scenarios.

The results show that the proposal continues operating within performance targets (level of service C) up to 2036, and during the holiday periods, with spare capacity on both Glenella Road and the Princes Highway, and acceptable intersection performance of the Princes Highway / Glenella Road roundabout. As such, no additional traffic controls or additional monitoring beyond standard procedures would be required within the proposal boundary during holiday periods.

Submission number(s)

2, 47.

Issue description

One respondent has asked whether the merging of traffic within the town limits as part of the Batemans Bay Bridge Project would cause any traffic congestion.

One respondent suggested longer merging lanes would be required to allow for vehicles to gain speed when exiting the roundabout.

Response

Traffic modelling for the South Batemans Bay Link Road proposal indicates that the proposal will assist in managing demands on the Princes Highway in the northbound direction by providing an alternative link to the east and reducing northbound traffic volumes along the Princes Highway.

Vehicles exiting the roundabout in the northbound direction will have right of way and are not required to merge. Vehicles on the northbound bypass lane would be required to merge (left to right) into the northbound traffic exiting the roundabout. Opportunity to merge commences about 250 metres north of the roundabout, with the merge length allowing for at least four seconds of travel time at 80km/h with grade corrections, providing suitable conditions for the 70km/h speed environment.

The existing southbound merge on the Princes Highway, located about 230 metres to the south of the roundabout would remain unchanged. Forecast 2036 peak hour traffic demands in the southbound direction indicate there will be sufficient gaps along the Princes Highway to facilitate entry into the continuous lane with the available merge length.
2.5.4 Construction safety

Submission number(s)
9.

Issue description
One respondent asked how Transport for NSW will ensure the safety of vehicles along Beach Road and George Bass Drive during construction, when there is likely to be more construction traffic on the road network.

Response
Impacts of additional traffic volumes associated with construction were investigated in Section 5.5 of Appendix I to the REF. The main haulage route for construction traffic is the Princes Highway, with an expected construction traffic volume of 30 vehicles per hour. It is also expected that less than 10 vehicles per hour would use Beach Road. The construction traffic impacts on traffic volumes on the Princes Highway and Beach Road is expected to be low, with less than a 5 per cent increase during construction.

During the construction of the proposal, the speed limit on the Princes Highway through the work zone would typically be either 60 km/h or 80 km/h, however specific construction activities may result in the speed limit being reduced to 40 km/h. A Traffic Management Plan (TMP) would be prepared and implemented in accordance with the Transport for NSW Traffic Control at Work Sites Manual (Transport for NSW 2018) and QA Specification G10 Traffic Management (2019). The TMP would include:

- Confirmation of haulage routes
- Site specific traffic control measures (including signage and speed limits) to manage and regulate traffic movement
- Requirements and methods to consult and inform the local community and other stakeholders of impacts on the local road network and active transport options
- Identification of access to construction sites including entry and exit locations
- A response plan for any construction traffic incident
- Measures to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic
- Monitoring, review and amendment mechanisms.

The REF reviewed the construction traffic impacts on the Princes Highway and local roads including Beach Road and George Bass Drive, and did not indicate a need for work zone speed limits to be introduced on any roads in the study area other than the Princes Highway. Should such speed limits be found to be warranted through the TMP, they would be implemented as required during the construction process.

2.6 Biodiversity

2.6.1 Removal of threatened species habitat

Submission number(s)
14. 40, 55.

Issue description
Three respondents raised the issue of habitat removal. The respondents have asked whether a reduction in habitat removal has been considered in the design of the proposal.

Response

A comprehensive biodiversity assessment was carried out for the proposal which is summarised in Section 6.1 of the REF and detailed further in Appendix C of the REF. The assessment identifies the level of impact to flora and fauna identified in the biodiversity study area associated with the proposal and required construction area.

During the preliminary design phase of the proposal, the construction boundary was refined to reduce required areas of clearing and avoid impacts to vegetation in sheltered gullies in the Hanging Rock Creek catchment, where areas are known to be of particular importance as habitat for sooty owl and yellow-bellied glider. Where possible, the total extent of native vegetation to be cleared would be further reduced through refinement of the footprint during detailed design and construction planning.

A biodiversity offset strategy would be prepared prior to works commencing, which would offset the residual impacts to threatened fauna habitat and threatened flora species. In addition to offsets, fauna protection measures will include replacement or reinstatement of habitat in accordance with Roads and Maritime biodiversity guidelines, including the use of woody debris, and nest boxes.

A full discussion of offsets is provided in section 6.1.4 of the REF, and a preliminary biodiversity offset calculation is provided in Appendix B.

Submission number(s)

14, 40.

Issue description

Two respondents asked if the recent bushfires have been considered in the REF.

Response

A comprehensive biodiversity assessment was carried out to determine the level of impact the 2019-20 bushfires have had to flora and fauna identified in the biodiversity study area. All habitat assessments were completed on the basis of the pre-fire assessment, as the biodiversity study area has the potential to recover post-fire. The fire impacts on the habitat within and surrounding the construction boundary was also taken into consideration when assessing the importance of habitat removal and was supported through post fire ecological surveys.

The bushfires have resulted in the landscape character of the study area being depleted from the loss of grasses, shrubs and trees. It is unlikely that all fauna species identified in the REF will persist in the construction boundary until regeneration occurs due to the absence of unburnt patches or areas burnt at low or moderate intensity. The proposal is therefore unlikely to result in fragmentation and isolation such that populations of large gliders in the broader landscape are placed at risk. A post bushfire impact assessment was carried out as part of the biodiversity impact assessment and landscape character and visual impact assessment. These assessments (depending on rainfall levels) have determined that, vegetation regrowth over a three to five-year timeframe will be significant with nearly all of the grass and shrub vegetation expected to naturally re-generate and that the area would return to pre-fire condition in 10 to 15 years’ time. This regeneration process has been considered in the biodiversity impact assessment in the REF.

Submission number(s)

58.

Issue description

One respondent asked if the use of a tunnel underpass has been considered to allow for fauna to safety cross the road.
Response

The biodiversity impact assessment carried out during the REF assessment identified the increased road widths, embankments and sealed road surfaces may have the potential to reduce fauna dispersal ability particularly with less mobile fauna present in the Hanging Rock Creek Catchment. However, no habitat corridors were identified that would result in a substantial increase in habitat fragmentation such that habitat connectivity would be significantly affected for any fauna species as a result of the proposal.

During the preliminary design and REF assessment, the construction boundary was refined to avoid impact on sheltered gullies where yellow-bellied gliders were detected during the targeted surveys to minimise potential impact on glider trees. Due to areas degraded by recent logging within the biodiversity study area and the events of the 2019 – 2020 bushfires, yellow-bellied gliders are unlikely to persist in the construction boundary until regeneration of vegetation occurs. A post fire survey for yellow bellied gliders would be carried out in the next stage of the project and a connectivity strategy will be prepared if yellow-bellied glider individuals have been determined persist in the Hanging Rock Creek catchment.

As part of the design development the use of culverts and drainage pipes were considered for suitability as fauna crossings. Due to steep topography they were not considered suitable for fauna connectivity and not be deemed as suitable crossing infrastructure. Due to this constraint, underground fauna crossings would be unviable along the alignment.

2.7 Noise and vibration

2.7.1 Operation impacts

Submission number(s)

23, 28.

Issue description

One respondent asked how consultation with noise affected property owners would be carried out to determine at property treatments.

One respondent queried how noise impacts to sensitive receivers would be managed during the construction and operation of the proposal.

Response

A detailed noise and vibration assessment was carried out for the proposal which is summarised in Section 6.6 of the REF and detailed further in Appendix I of the REF. In November 2019, Transport for NSW carried out unattended noise monitoring to characterise the existing noise environment. Using the data gathered from the monitoring, noise impacts on sensitive receivers from construction activities during and outside recommended standard construction hours were assessed for both construction and operation of the proposal.

During the construction of the proposal, construction hours for the proposal would be in accordance with the Interim Construction Noise Guideline (DECC 2009b) (ICNG) which defines the standard construction working hours as follows:

- Monday to Friday: 7 am to 6 pm
- Saturday: 8 am to 1 pm
- Sundays and public holidays: no work.
It is anticipated, however, that some works may need to be carried out outside of standard construction hours, such as where works would interrupt the operation of the Princes Highway, utility adjustments or other work required to be completed out of hours.

Noise modelling of the proposed design estimates construction noise would be noticeable and sometimes clearly audible through different construction phases. During standard hours, some residents located on Albatross Road would potentially experience moderately intrusive levels of noise during the construction of retaining walls and batter stabilisation. During non-standard hours (hours outside standard construction hours), clearly audible to moderately intrusive construction noise may be experienced by some residents located along Albatross Road, Gannet Place, Heron Road and Vista Avenue.

Operational traffic noise levels ten years following completion of the proposal, are predicted to exceed the criteria at three residential locations and one non-residential location. These include:

- Two of the residential receivers located in close proximity to Stage 1 of the South Batemans Bay Link Road and one residential receiver on Heron Road, which are predicted to exceed the noise criteria by 1 dBA for the year 2033.
- A non-residential receiver is predicted to be impacted at levels exceeding the criteria by up to 10 dBA, with predicted noise levels after opening of the proposal of up to 6 dBA higher than the corresponding ‘no build’ predicted levels.

Transport for NSW is proposing a range of noise mitigation measures to limit the impact of noise to nearby sensitive receivers which includes the development of a Noise Management Plan (NMP) during the construction of the proposal which would identify:

- All potential significant noise and vibration generating activities associated with the activity
- Feasible and reasonable mitigation measures to be implemented during construction
- A notification and noise complaint handling procedure.

At property treatments will be further investigated during the detailed design stage and will be agreed upon and implemented in consultation with property owners once the operational noise mitigation requirements are reviewed. The residential receivers eligible for at property acoustic treatments would be contacted by Transport for NSW in accordance with Transport for NSW’s Noise Mitigation Guidelines.

A full discussion of construction and operational noise impacts and proposed mitigations is given in Section 6.6 of the REF.

2.8 Landscape character and visual impact

2.8.1 Landscape character

Submission number(s)

3.

Issue description

One submission requested Transport for NSW to consider the use of endemic low level landscaping to reduce the extensive use of concrete at the roundabout approaches and the centre of the roundabout.

Response

The visual impacts of the proposal were considered as part of the REF assessment (refer to Section 6.9 of the REF)
The roundabout location is a higher speed environment. Transport for NSW has identified in the concept design that safety is a key priority with respect to visibility and sight lines as road users are approaching and exiting the roundabout. Transport for NSW will prepare a revegetation plan to detail the work required to maintain the integrity of the existing environment and visual areas impacted by the proposal, the plan will include:

- Location and identification of existing vegetation and proposed landscaped areas, including species to be used
- Built elements including retaining walls and batters
- Fixtures such as lighting and signs
- A procedure for monitoring and maintaining landscaped or rehabilitated areas.

The landscaping and visual elements of the proposal would be developed during the detailed design stage of the project. Transport for NSW would consider these elements against the safety and maintenance requirements for the proposal. The selection of hard works colours and materiality used in the design will be carefully considered during the detailed design stage. The materiality will reflect existing character to help the proposal and associated works blend in with the surrounding environment. Colours of any proposed hardscape/built elements will be chosen with the intention to reduce visual contrast where possible. Transport for NSW will not consider the use of any vegetation at approaches or the roundabout where it has the potential to attract wildlife and increase the risk of road strikes.

2.9 Aboriginal heritage

2.9.1 Cultural heritage

Submission number(s)
32.

Issue description
One submission suggested Transport for NSW should revitalise the Round Hill Lookout to include cultural heritage acknowledgement and education about Walbunj-a Budawang Lookout.

Response
The Round Hill Lookout is owned and maintained by the Forestry Corporation of NSW and is not located within the construction boundary for the proposal. Throughout construction, access to the lookout for Forestry Corporation of NSW would be maintained, however no public access would be permitted during construction. The proposed design for the proposal would not have any impact on the potential recreational uses of the surrounding environment, including the Round Hill lookout post construction.

Transport for NSW acknowledges that the Round Hill lookout has cultural heritage values that are important to the Walbunja-Budawang Aboriginal people. During the detailed design phase of the project, Transport for NSW will consult with the Forestry Corporation of NSW and Registered Aboriginal Parties for the South Batemans Bay Link Road including Native Title Claimants for the South Coast to discuss any potential opportunities or capacity for the lookout to include Aboriginal cultural heritage acknowledgment and education in accordance with Transport for NSW's urban design principles.
2.10 Consultation

2.10.1 Government and agency and stakeholder consultation and ongoing consultation

Submission number(s)
6, 54.

Issue description
Two respondents requested ongoing consultation during the detailed design process for the proposal.

Response
Transport for NSW has prepared a Community Stakeholder and Engagement Plan (CSEP) for the development phase of the proposal. A revised CSEP would be developed for the construction phase. Transport for NSW would continue to address concerns raised by the community and government agencies during the development of the detailed design and construction of the proposal. Transport for NSW would maintain regular communication, information and interface with key government agencies and stakeholder groups. Key objectives of the CSEP are to:

- Identify the key stakeholders and methods for communicating and engaging with them
- Keep the local community and other key stakeholders regularly informed of project progress
- Provide clear information about what Transport for NSW are seeking feedback on, when and why
- Ensure community and stakeholder feedback is continuously fed into communication and engagement
- Be transparent in all communication for the proposal
- Encourage participation from communities and other stakeholders
- Listen to feedback, investigate suggestions and report back
- Ensure that project information is distributed in an effective and timely manner.

2.10.2 Community involvement

Submission number(s)
13.

Issue description
One respondent asked what opportunities have been provided to date for the community to consult with Transport for NSW.

Response
As detailed in Section 5.2 of the REF, during the preparation of the proposal Transport for NSW consulted with the community and government agencies in accordance with the Roads and Maritime Community Involvement Practice Notes and Resources Manual: A resource manual for staff (RTA, 2010) from which a CSEP was prepared. The preferred option report was publicly displayed between 25 October to 22 November 2019, consultation activities during the display period included:

- Media release
- Community update
- Static displays
Establishment of a project webpage to include the Preferred Option Report, other project information and details of the community drop-in sessions and feedback options

Three community drop in sessions held in November 2019, one was cancelled due to inclement weather

Social media and newspaper advertisements

Stakeholder email to registered stakeholders.

The community feedback received during consultation of the preferred option for the proposal has allowed Transport for NSW to refine the proposal to further improve the concept design and reduce environmental impact as described in the REF.

Transport for NSW prepared a REF to assess the potential environmental impacts of the proposed works. As described in Section 1.2 of this report, the REF was placed on public display at two locations at Service NSW Batemans Bay and Service NSW Moruya. It was also published on the Transport for NSW project website and made available for download. Transport for NSW invited the public to provide feedback on the proposal via email, post, phone or on an online feedback form on the project webpage.

Transport will continue to consult with the community and relevant stakeholders during detailed design and construction of the proposal in accordance with the CSEP.

2.11 Water quality and erosion

2.11.1 Operation impacts

Submission number(s)

55.

Issue description

One respondent expressed concern about the potential for waste to pollute watercourses and suggested Transport for NSW investigate the use of rubbish traps to be installed in stormwater drains to prevent waste materials entering sensitive water environments.

Response

It is not expected there would be a significant increase in the amount of waste generated for this project such that installation of rubbish traps would be required. Considerations to improve drainage along the proposal to reduce impacts to watercourses would be further investigated during detailed design development. The mitigation measures detailed in Section 6.3.4 of the REF states that the need for and options for use of bio-filtration swales would be investigated during detailed design to provide improvements to drainage once construction of the proposal is completed, this also includes investigation for adequate and suitable scour protection measures. The bio-filtration swales would normally use grass and other dense vegetation to filter sediment and other materials out of water running through the proposal. The bio-filtration swales would provide capacity for improved spill containment during operation.
3  Response to government agency issues

In addition to the 57 submissions addressed in Section 2 of this report, Transport for NSW received one agency response. The Environmental Protection Agency (EPA) submission was received in response to the public display of the REF. The submission has been examined to gain an understanding of the issue raised by the EPA is summarised in Table 3-1 and described further in Section 3.1 below.

Table 3-1: Summary of government agency issues

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Submission No.</th>
<th>Issues raised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Protection Authority (EPA)</td>
<td>45</td>
<td>Water quality and erosion:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Impacts to water quality during construction of the proposal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Impacts to watercourses during operation of the proposal.</td>
</tr>
</tbody>
</table>

3.1  Environmental Protection Authority (EPA)

3.1.1  Water quality and erosion

Issue description

The NSW EPA expressed concern that potential impacts to water quality of receiving waterways were not adequately assessed. The EPA has requested Transport for NSW to carry out further assessment to mitigate impacts.

Response

Transport for NSW carried out a water quality assessment and an Erosion and Sedimentation Management Report (ESMR) during preparation of the proposal, as detailed in Section 6.3 of theREF. These assessments included identification of the surrounding catchments and the potential erosion and sedimentation hazard for each, determination of site constraints and identification of potential erosion and sediment measures that may be required. Transport for NSW acknowledges the topographical site constraints of the proposal and will continue to improve on potential erosion and sediment control methods including exploring alternatives to the use of sediment basins. Furthermore, Transport for NSW will continue to work with a Certified Professional in Erosion and Sediment Control (CPESC) to review the ESMR and erosion and sediment control measures throughout detailed design development.

Transport for NSW will carry out further work to identify the projects receiving waters and their respective environmental values. Transport for NSW will work in consultation with the EPA to develop a Water Quality objective assessment for any impacts during construction on receiving waterways during the detailed design phase of the project. The assessment will consider the NSW Water Quality Objectives, the ANZECC Guidelines and comply with all relevant requirements of Section 45 of the Protection of the Environment Operations Act 1997 (POEO Act).

Environmental management measure WQ07, which relates to the water quality objective impact assessment to minimise impacts on receiving waterways, has been revised to ensure the projects receiving waterways and their respective environmental values are considered:
WQ07 – An assessment of impacts during construction on Hanging Rock Creek and the Batemans Marine Park that considers the NSW Water Quality Objectives and the ANZECC Guidelines will be completed during detailed design. A Water Quality Objective impact assessment for all affected waterways must be completed prior to construction. The assessment must identify the projects' receiving waters and their respective environmental values in accordance with the NSW Water Quality Objectives and the ANZECC Guidelines.
4 Design changes

4.1 Designated left turn lane from Glenella Road to the Princes Highway at the roundabout

4.1.1 Description

The following change has been made to the Glenella Road approach to the roundabout and is shown in Figure 4-1, overleaf:

- Inclusion of a short designated left turn lane from Glenella Road to the Princes Highway at the roundabout.

4.1.2 Potential impacts

The design changes to the roundabout approach are refinements rather than substantive new elements to the proposal. There is no change to the identified construction boundary associated with the changes. The design changes do not introduce any new or changed impacts to those identified and assessed in the REF.

4.1.3 Revised safeguards and management measures

No additional or revised safeguards and management measures are proposed for the design change to the left in turn lane.

4.2 Left in Left out to Round Hill Lookout from the Princes Highway

4.2.1 Description

The following change has been made to the Princes Highway on the southbound lane from the proposed roundabout and is shown in Figure 4-1 below:

- Inclusion of a left in left out arrangement on the Princes Highway to improve the accessibility and safety of access to the Round Hill Lookout with a portion of the lookout access road to be sealed.

4.2.2 Potential impacts

The design changes to the left turn lane are refinements rather than substantive new elements to the proposal. There is no change to the identified construction boundary associated with the changes. The design changes do not introduce any new or changed impacts to those identified and assessed in the REF.

4.2.3 Revised safeguards and management measures

No additional or revised safeguards and management measures are proposed for the design change to the left in turn lane.
Design refinements
SOUTH BATEMANS BAY LINK ROAD PROJECT

LEGEND
- Submissions report construction boundary
- REF construction boundary
- Watercourse (LPI)
- Cadastre / road corridor (TfNSW)
- Cutting
- Embankment
- Proposed road design

FIGURE 4-1
1:1,500 Scale at A4

LEFT IN LEFT OUT TO ROUND HILL LOOKOUT FROM THE PRINCES HIGHWAY.

DESIGNATED LEFT TURN LANE FROM GLENELLA ROAD TO THE PRINCES HIGHWAY AT THE ROUNDABOUT.

To Round Hill Lookout

Conversion of left-hand roundabout to left-in left-out at the Princes Highway.

Proposed new design for Glinella Road Roundabout.
4.3 Northbound merge lane extension

4.3.1 Description

The following change has been made to the design for the northbound merge lane along the Princes Highway north of the proposed roundabout and is shown in Figure 4-2 below:

- Extension of the northbound merge lane along the Princes Highway to allow greater visibility of the merge lane termination point to approaching traffic to increase and improve sight lines which would allow for safer merging of traffic.
Northbound merge extension
SOUTH BATEMANS BAY LINK ROAD PROJECT

Legend
- Submissions report construction boundary
- REF construction boundary
- Watercourse (LPI)
- Access track centreline
- Cadastre / road corridor (TfNSW)
- Cutting
- Embankment
- Proposed road design
- Ancillary site

Vegetation Zone, PCT, Condition (Umwelt)
- 1, 1206, High
- 2, 1220, High
- 5, 1220, Degraded forest
- 11, 0, Bare ground
- 12, 0, Exotic
4.3.2 Biodiversity impacts

The design changes to extend the northbound merge lane extends outside of the construction boundary shown in Figure 4-1. The construction boundary has been extended to include the additional footprint required for the extension of the northbound merge.

The majority of the construction boundary is located within the biodiversity study area. A portion of the construction boundary extends beyond the biodiversity study area by about 20 meters and covers an area of 335 square meters. Additional assessment was carried out to confirm the Plant Community Type (PCT) and vegetation condition present. Appendix A details the process to identify the PCT. The assessment concluded that PCT 1206 - Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion, is likely to extend north of the construction as shown in Figure 4-2.

Due the proposed works, it has been identified that flora and fauna identified during the biodiversity assessment may further be impacted as a result of vegetation removal. Table 4-1 below describes the additional vegetation removal required as a result of the design refinement for each PCT and is also shown in Figure 4-2 above.

Table 4-1: Additional native vegetation removal

<table>
<thead>
<tr>
<th>PCT Number</th>
<th>PCT Name</th>
<th>Zone</th>
<th>Condition Class</th>
<th>BC Act Status</th>
<th>EPBC Act Status</th>
<th>REF Removal (ha)</th>
<th>Additional removal (ha)</th>
<th>Revised total removal (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1206</td>
<td>Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion</td>
<td>1</td>
<td>High</td>
<td>Not listed</td>
<td>Not listed</td>
<td>0.37</td>
<td>0.03</td>
<td>0.40</td>
</tr>
<tr>
<td>1220</td>
<td>Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East</td>
<td>2</td>
<td>High</td>
<td>Not listed</td>
<td>Not listed</td>
<td>13.25</td>
<td>0.22</td>
<td>13.47</td>
</tr>
</tbody>
</table>
A total of 0.26 hectares of native vegetation would be impacted as a result of the northbound merge extension in addition to the 21.79 hectares of native vegetation identified in the REF during the construction of the proposal. None of the PCT’s identified above are listed as threatened species under the Biodiversity Conservation Act 2016 (BC Act) or the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act), as such no threatened ecological communities would be further impacted by the refined design of the proposal.

The additional design refinements would not substantially increase habitat fragmentation such that habitat connectivity would be significantly affected for any fauna species. As such, the design refinements are not likely to significantly impact threatened species, populations, ecological communities or migratory species, within the meaning of the EPBC Act 1999.

Impacts to biodiversity from additional vegetation removal as a result of the design refinement are consistent with the impacts assessed in the REF. As such, any potential impacts will be mitigated with the implementation of the safeguards in the REF. Subject to vegetation clearing minimisation efforts, preparation of an offsets strategy would be required in accordance with the Guideline for Biodiversity Offsets (Roads and Maritime, 2016). Based on the current impacts within the construction boundary, the following additional offsets may be required as a result of the proposed design changes for an additional 0.26 hectares of native vegetation which consists of the following:

- 0.26 hectares of habitat for ecosystem credit species
- 0.26 hectares glossy black cockatoo breeding habitat (determined in accordance with Biodiversity Assessment Methodology (BAM))
- 0.03 hectares sooty owl breeding habitat (determined in accordance with BAM).

Table 4-2 provides a summary of the impact to native vegetation as a result of the proposed northbound merge lane extensions and the associated areas of species credit species habitat, defined as species polygons in accordance with the BAM.

---

<table>
<thead>
<tr>
<th>PCT Number</th>
<th>PCT Name</th>
<th>Zone</th>
<th>Condition Class</th>
<th>BC Act Status</th>
<th>EPBC Act Status</th>
<th>REF Removal (ha)</th>
<th>Additional removal (ha)</th>
<th>Revised total removal (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1220</td>
<td>Corner Bioregion</td>
<td>5</td>
<td>Degraded forest</td>
<td>Not listed</td>
<td>Not listed</td>
<td>2.33</td>
<td>0.01</td>
<td>2.34</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4-2: Summary of impact to vegetation and the associated implications for offsetting

<table>
<thead>
<tr>
<th>Type of credit (determined in accordance with BAM)</th>
<th>Area of clearing as described in REF (ha)</th>
<th>Additional clearing (ha) as a result of design changes in submissions report</th>
<th>Total area of clearing (ha) for biodiversity offset credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glossy black cockatoo breeding habitat</td>
<td>15.95</td>
<td>0.26</td>
<td>16.21</td>
</tr>
<tr>
<td>Sooty owl breeding habitat</td>
<td>7.69</td>
<td>0.03</td>
<td>7.72</td>
</tr>
<tr>
<td>Species credits</td>
<td>21.79 (*15.95)</td>
<td>0.26</td>
<td>22.05 (16.21)*</td>
</tr>
</tbody>
</table>

*Noting this number is based on a revised clearing footprint for moderate-high condition vegetation (zone 1, 2 and 5) only since the REF has been finalised.

A preliminary biodiversity offset credit calculation has been prepared using the Biodiversity Assessment Method Calculator (BAM-C) for ecosystem species credit and species credit species. Based on the revised construction boundary, the area of native vegetation with ecosystem credit species habitat that would be required for potential clearing is a total of 16.21 hectares (as shown in Table 4-1 and Figure 4-2) and comprises of:

- 0.40 hectares of PCT1206
- 15.81 hectares of PCT1220.

Table 4-3 below provides a summary of the preliminary ecosystem credits as a result of the updated construction boundary.

Table 4-3: Preliminary ecosystem credit summary

<table>
<thead>
<tr>
<th>PCT type</th>
<th>Total area of clearing (ha) for biodiversity offset credits</th>
<th>Biodiversity risk rating</th>
<th>Biodiversity credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1206 - Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion</td>
<td>0.40</td>
<td>1.5</td>
<td>10</td>
</tr>
<tr>
<td>1220 - Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner Bioregion</td>
<td>15.81</td>
<td>1.5</td>
<td>363</td>
</tr>
</tbody>
</table>
Table 4-4 below provides a summary of the preliminary species credit species required to offset the impact of the proposal as summarised in Table 4-2 which comprises of:

- 16.21 hectares of glossy black-cockatoo breeding habitat
- 7.72 hectares of sooty owl breeding habitat.

Table 4-4: Preliminary species credit summary

<table>
<thead>
<tr>
<th>Type of credit (determined in accordance with BAM)</th>
<th>Total area of clearing (ha) for biodiversity offset credits</th>
<th>Biodiversity risk rating</th>
<th>Biodiversity credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glossy black cockatoo breeding habitat</td>
<td>16.21</td>
<td>2</td>
<td>498</td>
</tr>
<tr>
<td>Sooty owl breeding habitat</td>
<td>7.72</td>
<td>3</td>
<td>360</td>
</tr>
</tbody>
</table>

Appendix B provides additional information relating to the BAM-C for preliminary ecosystem credits and preliminary species credit species.

4.3.3 Aboriginal Heritage Considerations

Additional assessment was carried out to determine if the northbound merge extension would impact Aboriginal heritage as shown in Appendix C. The extension of the construction was assessed as part of the Aboriginal Cultural Heritage Assessment Report (CHAR) prepared as part of the REF assessment. The proposed northbound extension works are not expected to impact upon any known Aboriginal Heritage items or areas where potential items may be present, and is consistent with the existing impacts identified in the REF. Should any unidentified Aboriginal heritage items be discovered during construction, works near the item would cease and Transport for NSW’s Unexpected Heritage Items – Heritage Procedure 02 (Roads and Maritime 2015) would be followed.

4.3.4 Revised safeguards and management measures

No additional or revised safeguards and management measures are proposed for the design change to the northbound merge lane. Impacts to vegetation will be mitigated through implementation of the REF safeguards. This includes refining the project footprint (and vegetation clearing) during detailed design. Any additional impacts to vegetation will be offset as required.
5 Environmental management

The REF for the South Batemans Bay Link Road identified the framework for environmental management, including safeguards and management measures that would be adopted to avoid or reduce environmental impacts (Chapter 7 of the REF).

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

5.1 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 Construction Environmental Management Plan (CEMP) will be prepared to describe safeguards and management measures identified. The PEMP and CEMP will provide a framework for establishing how these measures will be implemented and who would be responsible for their implementation.

The PEMP and CEMP will be prepared prior to construction of the proposal and must be reviewed and certified by environment staff 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 would be developed in accordance with the specifications set out in:

- QA Specification G36 – Environmental Protection (Management System)
- QA Specification G38 – Soil and Water Management (Soil and Water Plan)
- QA Specification G40 – Clearing and Grubbing

5.2 Summary of safeguards and management measures

The REF for the South Batemans Bay Link Road identified a range of environmental outcomes and management measures that would be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the public submissions, the environmental management measures for the proposal (refer to Chapter 6 of the REF) have been revised. Should the proposal proceed, the environmental management measures in Table 5-1 will guide the subsequent phases of the proposal. Additional and/or modified environmental safeguards and management measures to those presented in the REF are in **bold italics** and deleted measures, or parts of measures, have been struck out.
Table 5-1 Summary of environmental safeguards and management measures

<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
<th>Timing</th>
<th>Reference</th>
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</table>
| GEN1 | General – Minimise environmental impacts during construction | A CEMP will be prepared and submitted for review and endorsement of the Transport for NSW Environment Manager prior to commencement of construction. As a minimum, the CEMP will address the following:  
  - Any requirements associated with statutory approvals  
  - Details of how the proposal will implement the identified safeguards outlined in the REF  
  - Issue-specific environmental management plans  
  - Roles and responsibilities  
  - Communication requirements  
  - Induction and training requirements  
  - Procedures for monitoring and evaluating environmental performance, and for corrective action  
  - Reporting requirements and record-keeping | Contractor / Transport for NSW | Pre-construction / construction | Clause 3 of Transport for NSW Specification G36 Environment Protection |
<table>
<thead>
<tr>
<th>No.</th>
<th>Impact</th>
<th>Environmental safeguards and management measures</th>
<th>Responsibility</th>
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<th>Reference</th>
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</table>
| GEN2| General – Bushfire risk        | A bushfire risk management plan will be developed and implemented by the contractor as part of the CEMP to prevent, mitigate and respond to the risk of bushfire. The procedures contained within would include as a minimum:  
  - Waste (including vegetation) will not be burned on site  
  - Smoking will only be permitted within designated areas  
  - Specific procedures for ongoing fire risk assessment and response  
  - The location of firefighting equipment  
  - An evacuation plan. | Contractor | Pre-construction / construction | Clause 4.5 of Transport for NSW Specification G36 Environment Protection |
<p>| GEN3| General - Notification         | All businesses, residential properties and other key stakeholders (eg schools, local councils) affected by the activity | Contractor / Transport for NSW | Pre-construction / construction | Clause 3.7 of Transport for NSW Specification G36 |</p>
<table>
<thead>
<tr>
<th>No.</th>
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<th>Reference</th>
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<tbody>
<tr>
<td></td>
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<td>will be notified at least five days prior to commencement of the construction activity.</td>
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<td>Environment Protection</td>
</tr>
</tbody>
</table>
| GEN4| General – Environmental awareness | All personnel working on site will receive training to ensure awareness of the environment protection requirements to be implemented during the construction of the proposal. This will include up-front site induction and regular "toolbox" style briefings. Site-specific training will be provided to personnel engaged in activities or areas of higher risk. These include:  
  - Areas of Aboriginal heritage sensitivity  
  - Areas of threatened species habitat  
  - Other identified environmentally sensitive areas. | Contractor / Transport for NSW project manager | Pre-construction / detailed design | Clause 4.9 of Transport for NSW Specification G36 Environment Protection |
<p>| BD01| Biodiversity                | A Flora and Fauna Management Plan will be prepared in accordance with Transport for NSW's Biodiversity Guidelines: Protecting and Managing Biodiversity on RTA Projects (RTA 2011) and implemented as part of the CEMP. It will include, but not be limited to: | Contractor | Pre-construction | Clause 4.8 of Transport for NSW Specification G36 Environment Protection |</p>
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<th>No.</th>
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</table>
|     |                                 | • Plans showing areas to be cleared and areas to be protected, including exclusion zones, protected habitat features and revegetation areas  
|     |                                 | • A strategy to minimise clearing of vegetation and hollow-bearing trees  
|     |                                 | • Pre-clearing survey requirements  
|     |                                 | • Procedures for handling fauna  
<p>|     |                                 | • Protocols to manage weeds and pathogens.                                                                        |                       |                               |                                               |
| BD02| Native vegetation removal       | Native vegetation clearing will be minimised through detailed design. Vegetation clearing limit drawings will be developed to minimise vegetation clearing outside of the operational boundary and be in accordance with Transport for NSW Specification G40 Clearing and Grubbing. Construction drawings will include clearing limits, environmental no-go zones, and hollow bearing trees to be retained and to be marked prior to clearing. | Transport for NSW     | Detailed design / pre-construction | Clause 3 of Transport for NSW Specification G40 Clearing and Grubbing |
| BD03| Native vegetation removal       | Efforts will be made to retain vegetation not subject to timber harvesting along drainage lines confirmed to support yellow-bellied glider and potential sooty owl breeding habitat near Hanging Rock Creek. | Transport for NSW/ contractor | Detailed design / pre-construction | Clause 2.4 of Transport for NSW Specification G40 Clearing and Grubbing |</p>
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<tbody>
<tr>
<td>BD04</td>
<td>Hollow bearing tree removal</td>
<td>Pre-clearing surveys will be undertaken in accordance with Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011). Hollow-bearing trees to be retained will be identified and marked during the pre-clearing survey. Habitat trees requiring staged-clearing will also be marked during the pre-clearing survey.</td>
<td>Contactor</td>
<td>Construction</td>
<td>Clause 2.4 of Transport for NSW Specification G40 Clearing and Grubbing</td>
</tr>
<tr>
<td>BD05</td>
<td>Hollow bearing tree removal</td>
<td>Where possible, clearing of trees with large or very large hollows would be undertaken outside the breeding season for glossy black cockatoo and sooty owl (i.e. April to August). Where this is not possible, searches for active nests would be undertaken and clearing of active nests would be avoided.</td>
<td>Contactor</td>
<td>Construction</td>
<td>Clause 2.4 of Transport for NSW Specification G40 Clearing and Grubbing</td>
</tr>
<tr>
<td>BD06</td>
<td>Habitat removal</td>
<td>Vegetation removal will be undertaken in accordance with Guide 4: Clearing of vegetation and removal of bushrock of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011).</td>
<td>Contactor</td>
<td>Construction</td>
<td>Clause 2.4 of Transport for NSW Specification G40 Clearing and Grubbing</td>
</tr>
<tr>
<td>BD07</td>
<td>Habitat removal</td>
<td>Fallen logs will be retained where possible and be either moved into</td>
<td>Contactor</td>
<td>Construction</td>
<td>Clause 2.2 of Transport for NSW</td>
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<td>adjacent areas outside the clearing limit but within the construction boundary or stockpiled for later placement as part of the site rehabilitation plan in accordance with Guide 5: Re-use of woody debris and bushrock.</td>
<td></td>
<td></td>
<td>Specification G40 Clearing and Grubbing</td>
</tr>
</tbody>
</table>
| BD08| Habitat removal     | A nest box strategy would be developed and implemented targeting tree-roosting microbats, arboreal mammals, little lorikeet, forest owls and glossy black cockatoo to offset hollows suitable for these species to be removed. The strategy would:  
  - Include a new survey of surviving hollow bearing trees that would be removed for construction.  
  - Be developed in accordance with Guide 8: Nest boxes of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011)  
  - Investigate alternative approaches to offset loss of large and very large hollow bearing trees for forest owls and glossy black cockatoos. | Transport for NSW/contractor | Detailed Design/Pre-construction | Guide 8: Nest boxes of the Biodiversity Guidelines: Protecting and Managing Biodiversity on RTA projects |
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<tbody>
<tr>
<td>BD09</td>
<td>Habitat removal</td>
<td>If residual impacts exceed threshold for offsetting cleared native vegetation or threatened species habitat, a biodiversity offsets strategy will be prepared in accordance with Transport for NSW Biodiversity Offset Guidelines (Roads and Maritime 2016) during detailed design.</td>
<td>Transport for NSW</td>
<td>Detailed Design</td>
<td>Biodiversity Offset Guidelines (Roads and Maritime, 2016)</td>
</tr>
<tr>
<td>BD10</td>
<td>Fragmentation of identified habitat corridors</td>
<td>A survey to determine whether yellow-bellied gliders persist in the Hanging Rock Creek catchment following the 2019 – 2020 fires will be carried out in spring/summer and in accordance with Survey Guidelines for Australia’s Threatened Mammals (Commonwealth of Australia, 2011).</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Survey Guidelines for Australia’s Threatened Mammals (Commonwealth of Australia, 2011)</td>
</tr>
</tbody>
</table>
| BD11| Fragmentation of identified habitat corridors | A connectivity strategy will be prepared if yellow-bellied glider individuals persist in Hanging Rock Creek catchment. Measures that would be investigated include:  
  - Retention of trees in the verges at a maximum of 30 metres apart  
  - Installation of glider poles or rope bridges in a suitable location along Glenella Road.                                                                                                                                                                                                                      | Transport for NSW | Detailed design | Draft Wildlife Connectivity Guidelines for Road Projects (RTA, 2011)     |
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</thead>
<tbody>
<tr>
<td>BD12</td>
<td>Fragmentation of identified habitat corridors</td>
<td>Any connectivity measures to be implemented would be installed under the supervision of an experienced ecologist.</td>
<td>Contractor</td>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td>BD14</td>
<td>Exclusion zones</td>
<td>All site staff will be inducted about the location and purpose of the exclusion zones.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.8 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>BD15</td>
<td>Injury and mortality of fauna</td>
<td>Minimising road-kill will be considered in the detailed design of the road and associated infrastructure (e.g. culverts and landscaping).</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td></td>
</tr>
<tr>
<td>BD16</td>
<td>Light spill impacts</td>
<td>The extent of road lighting along the intersection approaches will be minimised without compromising road user safety.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Transport for NSW Specification R151 Street lighting</td>
</tr>
<tr>
<td>BD17</td>
<td>Light spill impacts</td>
<td>The use of smart street lighting will be investigated during detailed design as a way to minimise light spill impacts.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Transport for NSW Specification R151 Street lighting</td>
</tr>
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<td>No.</td>
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<tr>
<td>BD18</td>
<td>Invasion and spread of weeds</td>
<td>Weed species will be managed in accordance with the South East Regional Strategic Weed Management Plan (LLS, 2018), species specific weed control programs implemented by Eurobodalla Shire Council (ESC, 2020) and Guide 6: Weed management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011).</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.8 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>DF01</td>
<td>Drainage elements</td>
<td>Management of drainage during construction would be carried out in accordance with Technical Guideline – Temporary Stormwater Drainage for Road Construction, the Bluebook and Roads and Maritime Specifications G38 - Soil and Water Management and R11 - Stormwater Drainage.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Transport for NSW Specifications G38 and R11</td>
</tr>
<tr>
<td>DF02</td>
<td>Aquaplaning risk</td>
<td>An assessment will be undertaken to ensure the risk of aquaplaning is minimised.</td>
<td>Transport for NSW</td>
<td>Detailed Design</td>
<td>Transport for NSW Specification PS351 – Road Design</td>
</tr>
<tr>
<td>No.</td>
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</tbody>
</table>
| WQ01| Water quality               | A Soil and Water Management Plan (SWMP) will be prepared and implemented as part of the CEMP. The SWMP will:  
- Identify all reasonably foreseeable risks relating to soil erosion and water pollution and describe how these risks will be addressed during construction  
- Include a tannin leachate management protocol in accordance with Roads and Maritime’ Environmental Direction – Management of Tannins from Vegetation Mulch (Roads and Maritime 2012)  
- Include a pre-rainfall procedure.                                                                                                           | Contractor      | Detailed design / pre-construction | Clause 2.1 of Transport for NSW Specification G38 Soil and Water Management |
| WQ02| Erosion and sedimentation   | Progressive site specific Erosion and Sediment Control Plans (ESCP) will be prepared in accordance with the Blue Book by a Certified Professional in Erosion and Sediment Control (CPESC).                                                                 | Contractor      | Detailed design / Pre-construction | Clause 2.2 of Transport for NSW Specification G38 Soil and Water Management |
| WQ03| Erosion and sedimentation   | Progressive rehabilitation will be carried out during construction, whereby                                                                                                                     | Contractor      | Construction                | Clause 3.1 of Transport for NSW                                                                 |

South Batemans Bay Link Road Submissions Report
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<thead>
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<tbody>
<tr>
<td>WQ04</td>
<td>Erosion and sedimentation</td>
<td>Rehabilitation will commence as soon as practicable after works are completed in any area. Where feasible, work would be staged to reduce soil erosion risk.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Specification G38 Soil and Water Management</td>
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<tr>
<td>WQ05</td>
<td>Operational water quality</td>
<td>Surface water diversions will be installed in accordance with the erosion and sedimentation control plan (ESCP) prior to construction commencing.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 2.2 of Transport for NSW Specification G38 Soil and Water Management</td>
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<tr>
<td>WQ06</td>
<td>Scour protection</td>
<td>The need for and options for use of biofiltration swales to reduce water quality impacts on sensitive receiving environments will be investigated during detailed design.</td>
<td>Transport for NSW</td>
<td>Detailed Design</td>
<td>Transport for NSW Specification PS311 Water Quality</td>
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<tr>
<td>WQ07</td>
<td>Operational water quality</td>
<td>Adequate and suitable scour protection measures will be incorporated into the drainage detailed design to prevent the erosion and subsequent pollutant loading of watercourses and drainage channels in accordance with Roads and Maritime Procedure for Selecting Treatment Strategies to Control Road Runoff (2003).</td>
<td>Transport for NSW</td>
<td>Detailed Design</td>
<td>Transport for NSW Specification PS371 Water Quality</td>
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<td></td>
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<td>will be completed during detailed design.</td>
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<td></td>
<td>A Water Quality Objective impact assessment for all affected waterways must be completed prior to construction. The assessment must identify the projects' receiving waters and their respective environmental values in accordance with the NSW Water Quality Objectives and the ANZECC Guidelines.</td>
<td></td>
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</tr>
<tr>
<td>SE01</td>
<td>Asbestos contamination</td>
<td>Further investigations would be carried out prior to construction to determine the presence of friable and non-friable asbestos and required management measures.</td>
<td>Transport for NSW / Contractor</td>
<td>Detailed design / Pre-construction</td>
<td>Transport for NSW Specification G36 Environment Protection</td>
</tr>
</tbody>
</table>
| SE02| Asbestos contamination | An Asbestos Management Plan will be prepared in accordance with the SafeWork NSW Code of Practice. The plan will include, but not be limited to:  
  • A map showing the location of asbestos containing material  
  • An assessment of options for management of asbestos | Contractor | Pre-construction | Clause 4.2 of Transport for NSW Specification G36 Environment Protection |
<table>
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<tr>
<td></td>
<td></td>
<td>• Potential locations suitable for onsite encapsulation within the road formation</td>
<td>Transport for NSW / Contractor</td>
<td>Detailed design / Pre-construction</td>
<td>Clause 4.2 of Transport for NSW Specification G36 Environment Protection</td>
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<tr>
<td></td>
<td></td>
<td>• Approvals, regulatory, environmental and consultation requirements for onsite encapsulation</td>
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<td>• Measures to ensure the safety of site personnel and local communities during construction.</td>
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<tr>
<td>SE03</td>
<td>Asbestos contamination</td>
<td>Consultation with the EPA, Eurobodalla Shire Council and Forestry Corporation of NSW will be carried out during the development of the Asbestos Management Plan.</td>
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<tr>
<td>SE04</td>
<td>Contamination</td>
<td>An unexpected finds procedure for contaminated land will be prepared as part of the CEMP.</td>
<td>Contractor</td>
<td>Pre-construction</td>
<td>Clause 4.2 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>SE05</td>
<td>Accidental spill</td>
<td>An emergency spill plan will be prepared in accordance with relevant EPA guidelines. The plan will include measures to be implemented in the event of a spill, including location of spill kits, initial response and containment, notification of emergency services and</td>
<td>Contractor</td>
<td>Detailed design / Pre-construction</td>
<td>Clause 4.2 of Transport for NSW Specification G36 Environment Protection</td>
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<td>relevant authorities (including Transport for NSW and EPA officers).</td>
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</tr>
<tr>
<td>SE06</td>
<td>Known contaminated land</td>
<td>If soils in the area where the Underground Storage Tanks (UST) is located are to be excavated or a structure built over top, further investigation will be carried out to ascertain the structural integrity of the UST and environmental management requirements to develop a suitable treatment. If removal of UST is necessary, it will be done in accordance with the applicable Underground Petroleum Storage System regulations.</td>
<td>Transport for NSW/ Contractor</td>
<td>Detailed design/pre-construction</td>
<td>Clause 4.2 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>SE07</td>
<td>Known contaminated land</td>
<td>Remediation requirements for the hydrocarbon hotspot identified beneath the building slab will be investigated if the concrete slab is to be removed at the Old Sawmill site.</td>
<td>Contractor</td>
<td>Detailed design / Pre-construction</td>
<td>Clause 4.2 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
</tbody>
</table>
| TT01| Traffic and transport  | A Traffic Management Plan (TMP) will be prepared and implemented as part of the CEMP in accordance with the Transport for NSW Traffic Control at Work Sites Manual (Roads and Maritime 2018) and QA Specification G10 Traffic Management (2019). The TMP will include:  
* Confirmation of haulage routes | Contractor | Pre-construction | Clause 2.2 of Transport for NSW Specification G10 Traffic Management |
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<tr>
<td></td>
<td></td>
<td>• Site specific traffic control measures (including signage) to manage and regulate traffic movement</td>
<td>Transport for NSW</td>
<td>Construction</td>
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<td>• Requirements and methods to consult and inform the local community and other stakeholders of impacts on the local road network and active transport options</td>
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<td>• Identification of access to construction sites including entry and exit locations</td>
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<td>• A response plan for any construction traffic incident</td>
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<td>• Measures to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic</td>
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<td>• Monitoring, review and amendment mechanisms.</td>
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<tr>
<td>TT02</td>
<td>Traffic and transport</td>
<td>Transport for NSW will consult with Eurobodalla Shire Council, Forestry Corporation of NSW and emergency services to ensure planned road and lane closures to not impact their activities.</td>
<td>Transport for NSW</td>
<td>Construction</td>
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<tr>
<td>TT03</td>
<td>Traffic and transport</td>
<td>A suitable signage strategy will be developed to inform drivers of road network changes and closures, including impacts on bike trails.</td>
<td>Transport for NSW/ Contractor</td>
<td>Pre-construction/ construction</td>
<td>Clause 3 of Transport for NSW Specification G10 Traffic Management</td>
</tr>
<tr>
<td>TT04</td>
<td>Traffic and transport</td>
<td>Road users, local communities and the freight industry will be provided with timely, accurate, relevant and accessible information about changed traffic arrangements and delays as a result of construction activities.</td>
<td>Transport for NSW/ Contractor</td>
<td>Construction</td>
<td>Transport for NSW Specification G10 Traffic Management</td>
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</tbody>
</table>
| NV01| Noise and vibration           | A Noise Management Plan (NMP) will be prepared and implemented as part of the CEMP. The NMP will generally follow the approach in the Interim Construction Noise Guideline (ICNG) (DECC, 2009) and identify:  
  - All potential significant noise and vibration generating activities associated with the activity  
  - Feasible and reasonable mitigation measures to be implemented during construction  
  - A notification and noise complaint handling procedure.                                                                                     | Contractor               | Pre-construction              | Clause 4.6 of Transport for NSW Specification G36 Environment Protection    |
<p>| NV02| Noise and vibration           | All sensitive receivers likely to be affected by construction noise, including                                                                                                                                                                      | Contractor               | Detailed design / pre-construction                                      | Clause 4.6 of Transport for NSW                                          |</p>
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|     |                               | out of hours works, will be notified at least 5 days prior to commencement of the activity. The notification will provide details of:  
|     |                               | • The project  
|     |                               | • The construction period and construction hours  
|     |                               | • Contact information for project management staff  
|     |                               | • Complaint and incident reporting  
<p>|     |                               | • How to obtain further information.                                                                                                                                                                                                                                                                   |                |                | Specification G36 Environment Protection                                  |
| NV03| Out of hours works            | Where feasible and reasonable, construction should be carried out during the standard daytime working hours. Any out of hours works needed would be carried out in accordance with the Construction Noise and Vibration Guideline (Roads and Maritime 2016).  | Contractor     | Construction  | Clause 4.6 of Transport for NSW Specification G36 Environment Protection   |
| NV04| Operational noise mitigation  | Operational noise mitigation requirements will be reviewed during detailed design. Any necessary at-property treatments will be agreed upon and implemented in consultation with property owners and in accordance with Transport for NSW's Noise Mitigation Guidelines.  | Transport for NSW | Detailed design/construction | Roads and Maritime Noise Mitigation Guideline (2015).                       |</p>
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<tr>
<td>AH01</td>
<td>Aboriginal heritage</td>
<td>An Aboriginal Heritage Management Plan (AHMP) will be prepared in accordance with the Procedure for Aboriginal cultural heritage consultation and investigation (Roads and Maritime 2012) and Standard Management Procedure - Unexpected Heritage Items (Roads and Maritime 2015). It will provide specific guidance on measures and controls to be implemented for managing impacts on Aboriginal heritage. The AHMP will also include considerations based on recommendations made during the Aboriginal Cultural Engagement Day regarding communication methods.</td>
<td>Contractor</td>
<td>Pre-construction</td>
<td>Clause 4.9 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>AH02</td>
<td>AHIP</td>
<td>An Aboriginal heritage impact permit (AHIP) will be sought for the construction boundary.</td>
<td>Transport for NSW/ Contractor</td>
<td>Detailed design/pre-construction</td>
<td>Clause 4.9 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>AH03</td>
<td>Aboriginal heritage</td>
<td>Artefacts recovered during test excavations will be re-buried at a suitable location in consultation with the Aboriginal community.</td>
<td>Transport for NSW</td>
<td>Detailed design/pre-construction</td>
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<tr>
<td>AH04</td>
<td>Unexpected finds</td>
<td><em>The Standard Management Procedure - Unexpected Heritage Items</em> (Roads and Maritime 2015) will be followed in the</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.9 of Transport for NSW Specification G36</td>
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<td>event that an unknown or potential Aboriginal object, including skeletal remains, is found during construction.</td>
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<td>Environment Protection</td>
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<tr>
<td>NA01</td>
<td>Non-Aboriginal heritage</td>
<td><em>The Standard Management Procedure - Unexpected Heritage Items</em> (Roads and Maritime 2015) will be followed in the event that any unexpected heritage items, archaeological remains or potential relics of Non-Aboriginal origin are encountered.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.10 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
</tbody>
</table>
| LC01| Landscape character and visual impact | A revegetation plan would be prepared to detail the revegetation and landscape work needed to maintain the integrity of the existing environment and visual character of areas impacted by the proposal. The plan will include:  
- Location and identification of existing vegetation and proposed landscaped areas, including species to be used  
- Built elements including retaining walls and batters  
- Fixtures such as lighting and signs  
- A procedure for monitoring and maintaining landscaped or rehabilitated areas. | Transport for NSW/Contractor | Detailed design / pre-construction | Transport for NSW Specification R179 Landscape Planting |
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<tbody>
<tr>
<td>LC02</td>
<td>Landscape character and visual impact</td>
<td>Where removal of existing trees is unavoidable, new tree plantings will be considered for inclusion in the revegetation plan at appropriate locations.</td>
<td>Transport for NSW</td>
<td>Detailed design/ construction</td>
<td>Transport for NSW Specification R179 Landscape Planting</td>
</tr>
<tr>
<td>LC03</td>
<td>Retention of existing vegetation</td>
<td>The proposal will be designed to avoid impact to prominent trees and vegetation communities where possible. Water quality structures and drainage lines would be designed to avoid existing vegetation where possible.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>LC04</td>
<td>Retention of existing vegetation</td>
<td>Retaining walls will be designed to minimise the construction footprint and removal of existing vegetation, where possible. Consideration would be given to screen planting below walls and the use of visually recessive materials to minimise the visual dominance of retaining walls.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Transport for NSW Specifications PS351 and R55</td>
</tr>
<tr>
<td>LC05</td>
<td>Integration of earthworks</td>
<td>Cut/fill batters will be softly integrated through landscaping. The potential visual impact of the earthworks will be minimised by careful design that integrates with adjoining landforms.</td>
<td>Transport for NSW/ Contractor</td>
<td>Detailed design/ construction</td>
<td></td>
</tr>
<tr>
<td>LC06</td>
<td>Hard works colour and materiality</td>
<td>Colours and materiality of all hard works used in the design will be carefully</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
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<td>considered. This includes retaining wall structures. Materiality will reflect existing character to help the proposal and associated works blend in with the surrounding environment. Colours of any proposed hardscape/built elements will be chosen with the intention to reduce visual contrast where possible.</td>
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<tr>
<td>PL01</td>
<td>Forestry Permit</td>
<td>A Forestry Permit will be sought prior to construction for access to the Mogo State Forest land located within the construction boundary.</td>
<td>Transport for NSW</td>
<td>Pre-construction</td>
<td>Clause 3.7 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>PL02</td>
<td>Property acquisition</td>
<td>Should revocation of State Forest land be required, provisions of the Forestry Act 2012 would be followed. The Forestry Corporation of NSW would be consulted as soon as possible after land requiring revocation is confirmed during detailed design.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
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<tr>
<td>SE01</td>
<td>Community and stakeholder engagement</td>
<td>A Community and Stakeholder Engagement Plan (CSEP) would be prepared as part of the CEMP. The CSEP will include (as a minimum): • A process to carry out regular and ongoing engagement with the community</td>
<td>Transport for NSW / Contractor</td>
<td>Pre-construction</td>
<td>Community Involvement and Communications Resource Manual (RTA, 2008).</td>
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|     |                                | • A list of stakeholders to be consulted or informed, including local residents, regional highway users, Mogo State Forest recreational users, tourists, and local businesses  
• A complaints management procedure.  
A process for ongoing communications with the Forestry Corporation of NSW to ensure the proposal does not result in disruption of their forest management activities. |                          |                               | Clause 3.7 of Transport for NSW Specification G36 Environment Protection    |
<p>| SE02 | Traffic closure               | Any traffic closure and delays of the Princes Highway would be planned to minimise impacts on the local community, freight, businesses and commercial operators using the roads.                                                                 | Transport for NSW / Contractor | Pre-construction / construction | Transport for NSW Specification G10 Traffic Management                     |
| SE03 | Recreational users            | Community hubs such as Trailforks would be notified of the changes to trail access within the Mogo State Forest during construction to assist in reducing the number of impacted users.                                                          | Transport for NSW / Contractor | Pre-construction / construction | Clause 3.7 of Transport for NSW Specification G36 Environment Protection    |
| WM01 | Waste management general      | A Waste Management Plan (WMP) will be prepared and implemented as part of the CEMP. The WMP will include but not be limited to:                                                                                                                     | Contractor              | Pre-construction              | Technical Guide - Management of road construction and maintenance         |</p>
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<td>• Measures to avoid and minimise waste associated with the proposal</td>
<td>Contractor</td>
<td>Construction</td>
<td>wastes (Roads and Maritime 2016)</td>
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<td>• Classification of waste streams and management options (re-use, recycle, stockpile, disposal)</td>
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<td></td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
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<td>• Statutory approvals required for managing both on and off-site waste, or application of any relevant resource recovery exemptions</td>
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<td>• Procedures for storage, transport and disposal of waste</td>
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<td>• Monitoring, record keeping and reporting requirements.</td>
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<tr>
<td>WM02</td>
<td>Waste management general</td>
<td>All wastes will be managed and disposed of in accordance with the POEO Act and POEO (Waste) regulation.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>WM03</td>
<td>Waste management general</td>
<td>Appropriate portable toilets or pump out facilities will be provided for construction site workers and sewage will be disposed of appropriately and in accordance with relevant legislation.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
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<td>WM04</td>
<td>Waste management general</td>
<td>Site inductions will include waste management and disposal requirements and facilities.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>WM05</td>
<td>Excess material disposal</td>
<td>Where relevant, waste material required to be disposed off-site will be recorded through a section 143 (S.143; 3A) notice.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>WM06</td>
<td>Fill material</td>
<td>Any additional fill material required will be sourced from appropriately licensed facilities and/or other construction projects wherever possible. Additional fill material will be sourced and verified as suitable for use in accordance with relevant EPA and Transport for NSW guidelines.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
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<tr>
<td>WM07</td>
<td>Material reuse</td>
<td>Excavated material will be reused on site where feasible and suitable for the intended reuse. Where excavated material cannot be used on site, opportunities for reuse on nearby projects will be investigated.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
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<tr>
<td>WM08</td>
<td>Green waste</td>
<td>Where possible and suitable for use, cleared vegetation will be used as mulch or coarse woody debris for site.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
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<td>erosion and sedimentation controls or rehabilitation.</td>
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<td>Environment Protection</td>
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<tr>
<td>WM09</td>
<td>Waste disposal</td>
<td>All waste and excess excavated material will be disposed of at an appropriately licensed facility.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>AQ01</td>
<td>Air quality</td>
<td>Air quality management measures will be included in the CEMP, including:</td>
<td>Contractor</td>
<td>Pre-construction/ construction</td>
<td>Clause 4.4 of Transport for NSW Specification G36 Environment Protection</td>
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<td>- Identification of potential risks/impacts due to the work/activities as dust generation activities</td>
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<td>- Management measures to minimise risk of dust generation</td>
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<td>- A process for monitoring and supressing dust generation on-site</td>
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<td>- A process for altering management measures as required and reprogramming construction activities if the safeguards and management measures do not adequately restrict dust generation.</td>
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<tr>
<td>AQ02</td>
<td>Dust emissions</td>
<td>Work will cease when levels of visible airborne dust become excessive and</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.4 of Transport for NSW</td>
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<td>cannot be suppressed with standard dust suppression methods.</td>
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<td>Specification G36 Environment Protection</td>
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<tr>
<td>AQ03</td>
<td>Dust emissions</td>
<td>Stockpiled materials will be covered, stabilised or stored in areas not subject to high wind.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.4 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>AQ04</td>
<td>Dust emissions</td>
<td>All truck loads will be covered when transporting material to and from the site.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.4 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>CC01</td>
<td>Greenhouse gas emissions</td>
<td>The use of alternative fuels and power sources for construction plant and equipment will be investigated and implemented, where appropriate.</td>
<td>Contractor</td>
<td>Pre-construction</td>
<td>Clause 4.4 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>CC02</td>
<td>Greenhouse gas emissions</td>
<td>Energy efficiency and related carbon emissions will be considered in the selection of vehicle and plant equipment.</td>
<td>Contractor</td>
<td>Pre-construction</td>
<td>Clause 4.4 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>CC03</td>
<td>Sustainability</td>
<td>Equipment will be serviced to ensure they are operating efficiently and all non-road diesel plant and equipment.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Clause 4.4 of Transport for NSW Specification G36 Environment Protection</td>
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<td>used for construction will comply with relevant EU or US EPA emissions standards.</td>
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<tr>
<td>CC04</td>
<td>Sustainability</td>
<td>Where possible, materials will be delivered as full loads and local suppliers will be used.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>CC05</td>
<td>Sustainability</td>
<td>Plant used intermittently will be shut down when not in use.</td>
<td>Contractor</td>
<td>Construction</td>
<td>Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>CC06</td>
<td>Sustainability</td>
<td>The use of recycled aggregates in road pavement and surfacing (including crushed concrete, granulated blast furnace slag, glass, slate waste and fly ash) will be investigated during detailed design.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Clause 4.11 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
<tr>
<td>CC07</td>
<td>Sustainability</td>
<td>Energy efficient LED light bulbs will be used for street lighting where allowed.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
<td>Transport for NSW Specification R151 Street lighting</td>
</tr>
<tr>
<td>CC08</td>
<td>Sustainability</td>
<td>Risks associated with climate change, such as increased bushfire risk in the surrounding environment, will be considered during detailed design development.</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
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</tr>
<tr>
<td>CC09</td>
<td>Sustainability</td>
<td>Relevant targets established in Roads and Maritime Environment Sustainability</td>
<td>Transport for NSW</td>
<td>Detailed design</td>
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<td>Reference</td>
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<tr>
<td>-----</td>
<td>----------------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
<td>------------------</td>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strategy 2019-2023 will be considered during detailed design development.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CM01</td>
<td>Cumulative impacts</td>
<td>Ongoing coordination and consultation will be undertaken with the contractors from the Nelligen and Batemans Bay bridge replacement projects to ensure cumulative traffic impacts are appropriately assessed and managed, particularly during peak holiday periods.</td>
<td>Transport for NSW / Contractor</td>
<td>Pre-construction/ construction</td>
<td>Transport for NSW Specification G10 Traffic Management</td>
</tr>
<tr>
<td>CM02</td>
<td>Cumulative impacts</td>
<td>The CEMP will be revised to consider potential cumulative impacts from surrounding development activities as they become known.</td>
<td>Contractor</td>
<td>Pre-construction/ construction</td>
<td>Clause 3 of Transport for NSW Specification G36 Environment Protection</td>
</tr>
</tbody>
</table>
### 5.3 Licensing and approvals

Table 5-2 outlines the licencing and approvals required for the project. As a result of the submissions and, there are no further licences or approvals required.

**Table 5-2: Summary of licensing and approval required**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Requirement</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Protection of the Environment Operations Act 1997 (s43)</em></td>
<td>Environmental Protection Licence for Schedule 1 activities (road construction) under the POEO Act from the EPA.</td>
<td>Prior to start of the activity.</td>
</tr>
<tr>
<td><em>Forestry Act 2012 (Division 2, Part 4)</em></td>
<td>Licence to remove trees or forest materials from a State Forest, timber reserve or flora reserve from the Forestry Corporation of NSW.</td>
<td>Prior to removing trees or forest materials from Mogo State Forest.</td>
</tr>
<tr>
<td><em>Forestry Act 2012 (Division 2, Part 4)</em></td>
<td>Some of the land affected by the proposal may require revocation of the State Forest status and acquisition from the Forestry Corporation of NSW in accordance with the provisions of the <em>Forestry Act 2012</em>. This would result in a DAEA being prepared and an MOU for acquiring State Forest land.</td>
<td>MOU and DAEA would be drafted prior to commencement of construction. Revocation, if required would be carried out after completion of construction works.</td>
</tr>
<tr>
<td><em>National Parks and Wildlife Act 1974 (s90)</em></td>
<td>Aboriginal heritage impact permit from the Chief Executive of Biodiversity and Conservation Division, DPIE.</td>
<td>Prior to start of the activity.</td>
</tr>
</tbody>
</table>
6 References

DECCW 2011, Road Noise Policy
NSW Government 1979, NSW Environmental Planning and Assessment Act 1979
NSW Government 1979, NSW Environmental Planning and Assessment Act 1979
NSW Government 2016, NSW Biodiversity Conservation Act 2016
Roads and Maritime 2017, At-Receiver Noise Treatment Guideline
Roads and Maritime 2015, Noise Criteria Guideline
Roads and Maritime 2015, Noise Mitigation Guideline
Transport for NSW 2020, South Batemans Bay Link Road Review of Environmental Factors.
Appendix A
Plant community type identification
Briefing Note

To: Erica Garbayo  
From: Umwelt (Australia) Pty Ltd  
Author: David Moore, Principal Ecologist  
Date: 23 July 2020  
Subject: Vegetation within extended Construction Boundary dated 22 July 2020

1.0 Purpose

Following submission of the South Batemans Bay Link Road Biodiversity Assessment Report (the BAR) (TfNSW 2020), TfNSW have amended the Construction Boundary (dated 22 July 2020) to extent north along the alignment of Princes Highway, potentially increasing disturbance to adjacent native vegetation.

The majority of the extended Construction Boundary is located within the BAR Study Area and vegetation mapped for the purposes of the BAR, however a triangle of Construction Fooprint covering 335 square metres extends approximately 20 metres north of the BAR study area. This triangle beyond the BAR study area comprises the Subject Area for this briefing note.

The purpose of this report is to confirm whether vegetation within this Subject Area can be confidently identified on the basis of information in the BAR and the associated field assessment and, if possible, to confirm the plant community type (PCT) and vegetation condition present.

2.0 Desktop Assessment of the Subject Area

Based on review of aerial imagery, the Subject Area contains sealed road surface and native forest, with a disturbed edge between.

The area of native forest has a high likelihood of comprising PCT1206: Spotted Gum-Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion (PCT1206) in high condition. While vegetation characteristics within the Subject Area were not specifically documented during the field inspection, Umwelt is confident that this identification is appropriate on the following basis:

- areas immediately south were assessed and determined to support PCT1206 in high condition, with this community starting at the northern edge of the BAR study area and extending to the north into the Subject Area
- local microtopographic features (i.e. development of the head of a drainage line) are consistent with this community extending north of the area mapped in the BAR throughout the Subject Area, and there is no evidence of other changes to topographical features or soil conditions that could result in a change in the ecological community
- unrecorded assessor observations when assessing and travelling adjacent to the subject area confirm the presence of blackbutt (Eucalyptus pilularis) in and adjacent to the Subject Area
• classification of timbered areas in this location as supporting vegetation in high condition is consistent with categorisations used in the BAR, and on the basis that the vegetation is part of a larger patch of high quality vegetation evident outside the Subject Area to the west

• due to the landscape position and details of survey of adjacent areas, there are no threatened ecological communities likely to be present within the Subject Area.

The narrow (i.e. <5 metres wide) strip of cleared road edge visible in aerial imagery located between the forested area and the existing road surface is likely to support bare ground and/or exotic vegetation due to the level of disturbance associated with road use and construction, consistent with other parts of the road edge. However, in the absence of targeted inspection there is potential that the disturbed road edge may support native groundcover associated with the adjacent forest. As the road edge was not inspected in detail, this strip could support native groundcover. On a precautionary basis this disturbed road edge has been assumed to comprise part of the adjacent high condition native vegetation zone. The remainder of the subject area contains a sealed road surface and is not vegetated.

Updated PCT and vegetation zone mapping incorporating the above assessment are provided in Figure 1.1.

3.0 Conclusion

PCT1206: Spotted Gum- Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion in high condition is likely to extend throughout the vegetated part of the Subject Area as shown in Figure 1.1. Detailed information regarding the condition of this vegetation zone is recorded in the BAR. Updated vegetation mapping has been provided in shapefile format to inform detailed planning and design.
### Vegetation Communities

<table>
<thead>
<tr>
<th>PCT Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCT1206</td>
<td>Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion</td>
</tr>
<tr>
<td>PCT1220</td>
<td>White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner Bioregion</td>
</tr>
<tr>
<td>PCT1232</td>
<td>Swamp Oak floodplain swamp forest, Sydney Basin Bioregion and South East Corner Bioregion</td>
</tr>
<tr>
<td>PCT1326</td>
<td>Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin Bioregion and South East Corner Bioregion</td>
</tr>
<tr>
<td>PCT877</td>
<td>Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion</td>
</tr>
</tbody>
</table>

### Vegetation Zones

**PCT1206:** Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion

**PCT1220:** White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner Bioregion

**PCT1232:** Swamp Oak floodplain swamp forest, Sydney Basin Bioregion and South East Corner Bioregion

**PCT1326:** Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin Bioregion and South East Corner Bioregion

**PCT877:** Grey Myrtle dry rainforest of the Sydney Basin Bioregion and South East Corner Bioregion

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**Legend**

- Study Area
- Revised Construction Boundary (22 July 2020)
- Previously Defined Construction Boundary
- Operation Boundary
- Access Tracks
- Watercourses

**Vegetation Zone, PCT, Condition**

1. PCT1206, High
2. PCT1220, High
3. PCT1220, Degraded grassland
4. PCT1220, Derived native grassland
5. PCT1220, Degraded forest

**Vegetation zones**

- FIGURE 1-1

**Image Source:** Nearmap (September 2019)

**Data source:** RMS (2019)
Appendix B
Preliminary biodiversity offset calculation
Dear Erika,

Re: South Batemans Bay Link Road Preliminary Biodiversity Credit Calculations (revised 27 July 2020)

The South Batemans Bay Link Road Biodiversity Assessment Report (BAR) (Transport for NSW, 2020a) prepared by Umwelt on behalf of Transport for NSW (TfNSW) determined that the South Batemans Bay Link Road Project triggers offsets under the Roads and Maritime Services (Roads and Maritime) Guideline for Biodiversity Offsets (Roads and Maritime, 2016).

At the request of TfNSW, Umwelt has applied the Biodiversity Assessment Method Calculator (BAM-C) to calculate preliminary credit obligations for the South Batemans Bay Link Road based on the revised construction boundary dated 22 July 2020 and in accordance with the South Batemans Bay Submissions Report (TfNSW, 2020b). The purpose of these calculations is to determine a maximum credit obligation to assist in project budgeting. Impact areas are anticipated to be refined and reduced further during detailed design and construction planning.

Following confirmation by TfNSW by phone on 9 June 2020, the original credit summary dated 7 April 2020 has been updated to exclude areas (Zone 3 and Zone 4) supporting derived native grasslands. While Zone 3 and Zone 4 comprised potential foraging habitat for square-tailed kite (Lophoictinia isura) they are degraded and do not have the potential to regenerate.

Please find attached the preliminary BAM-C Credit Summary report (Appendix A) for the South Batemans Bay Link Road updated based on the construction boundary dated 22 July 2020. A summary of relevant information is provided below.

**Ecosystem Credit Species**

The South Batemans Bay Link Road BAR (Transport for NSW, 2020a), determined that the total area of native vegetation that would require offsetting for potential clearing of ecosystem credit species habitat in the construction boundary was 21.79 ha, comprising:

- 0.37 ha of PCT1206
- 21.42 ha of PCT1220.
0.89 hectares of planted native vegetation (i.e. vegetation zone 6) does not require offsetting under the Guidelines for Biodiversity Offsets (Roads and Maritime, 2016).

The calculations presented in the South Batemans Bay Link Road BAR (Transport for NSW, 2020) assumed that degraded grassland (Zone 3) and derived grassland (Zone 4) required offsetting to generate ecosystem credits for square-tailed kite. Based on discussions with TfNSW dated 9 June 2020, offsetting will only be completed for moderate – high condition vegetation, i.e. Zones 1, 2 and 5. Modifications to the construction boundary to include a northbound merge extension dated 22 July 2020 increased the total impact on native vegetation by 0.78 hectares. Based on the revised offsetting principles and the updated design dated 22 July 2020 as incorporated into the submissions report (TfNSW, 2020b) the revised area of native vegetation that would require offsetting for potential clearing of ecosystem credit species habitat in the construction boundary is 16.21 ha, comprising:

- 0.40 ha of PCT1206
- 15.81 ha of PCT1220.

The summary of the preliminary BAM ecosystem credits based on the construction boundary dated 22 July 2020, as determined by the BAM-C, is presented in Table 1. Additional details can be found in the BAM-C Credit Summary report (Appendix A).

### Table 1 Preliminary Ecosystem Credit Summary

<table>
<thead>
<tr>
<th>Zones</th>
<th>PCT</th>
<th>Area (ha)*</th>
<th>Biodiversity Risk Rating</th>
<th>Trading Group</th>
<th>Hollow bearing trees</th>
<th>Biodiversity Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1206 Spotted Gum – Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion</td>
<td>0.4</td>
<td>1.5</td>
<td>Southern Lowland Wet Sclerophyll Forests - &lt; 50% cleared group (including Tier 7 or higher)</td>
<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2, 5</td>
<td>1220 Spotted Gum – White Stringy bark – Burrawang shrubby open forest on hinterland foothills, northern South East Corner Bioregion</td>
<td>15.8</td>
<td>1.5</td>
<td>Southern Lowland Wet Sclerophyll Forests - &lt; 50% cleared group (including Tier 7 or higher)</td>
<td>Yes</td>
<td>363</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Southern Lowland Wet Sclerophyll Forests - &lt; 50% cleared group (including Tier 7 or higher)</td>
<td>373</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Areas for ecosystem credits are rounded to one decimal place based on individual zones in the BAM calculator. Discrepancies may therefore be observed between the total areas shown in this table and total areas based on more accurate values.*
Species Credit Species

The South Batemans Bay Link Road BAR (Transport for NSW, 2020) determined that the areas of species credit species habitat, defined as species polygons determined in accordance with the BAM, that would require offset for potential clearing in the construction boundary was:

- 15.95 ha of glossy black-cockatoo breeding habitat
- 7.69 ha of sooty owl breeding habitat.

Revisions to the construction boundary dated 22 July 2020 incorporated into the submissions report (TfNSW, 2020) determined that the areas of species credit species habitat, defined as species polygons determined in accordance with the BAM, that would require offset for potential clearing in the construction boundary is:

- 16.21 ha of glossy black-cockatoo breeding habitat
- 7.72 ha of sooty owl breeding habitat.

The summary of the preliminary BAM species credits required to offset potential impacts on species credit species based on the construction boundary dated 22 July 2020, and as determined by the BAM-C, is presented in Table 2. Additional details can be found in the BAM-C Credit Summary report (Appendix A).

Table 2  Preliminary Species Credit Summary

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>Area (ha)*</th>
<th>Biodiversity Risk Rating</th>
<th>Biodiversity Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calyptorhynchus lathami</td>
<td>glossy black-cockatoo</td>
<td>16.21</td>
<td>2</td>
<td>498</td>
</tr>
<tr>
<td>Tyto tenebriscosa</td>
<td>sooty owl</td>
<td>7.72</td>
<td>3</td>
<td>360</td>
</tr>
</tbody>
</table>

*Areas for species credits are rounded to two decimal places in the BAM calculator

I trust this information meets with your current requirements. Please do not hesitate to contact me on 0436 693 556 should you require clarification or further information.

Best regards

David Moore
Principal Ecologist / ACT Office Manager

References


### Proposal Details

<table>
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<td>18/06/2020</td>
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<td>To be finalised</td>
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</tbody>
</table>

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

## Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

<table>
<thead>
<tr>
<th>Zone</th>
<th>Vegetation zone name</th>
<th>Vegetation integrity loss / gain</th>
<th>Area (ha)</th>
<th>Constant</th>
<th>Species sensitivity to gain class (for BRW)</th>
<th>Biodiversity risk weighting</th>
<th>Potential SAI</th>
<th>Ecosystem credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1206_High</td>
<td>67.1</td>
<td>0.4</td>
<td>0.25</td>
<td>High Sensitivity to Potential Gain</td>
<td>1.50</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin Bioregion and northern South East Corner Bioregion**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Vegetation zone name</th>
<th>Vegetation integrity loss / gain</th>
<th>Area (ha)</th>
<th>Constant</th>
<th>Species sensitivity to gain class (for BRW)</th>
<th>Biodiversity risk weighting</th>
<th>Potential SAI</th>
<th>Ecosystem credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1206_High</td>
<td>67.1</td>
<td>0.4</td>
<td>0.25</td>
<td>High Sensitivity to Potential Gain</td>
<td>1.50</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Subtotal** 10

---

Page 1 of 2
### Species credits for threatened species

<table>
<thead>
<tr>
<th>Vegetation zone name</th>
<th>Habitat condition (HC)</th>
<th>Area (ha) / individual (HL)</th>
<th>Constant</th>
<th>Biodiversity risk weighting</th>
<th>Potential SAII</th>
<th>Species credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calyptorhynchus lathami / Glossy Black-Cockatoo (Fauna)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1220_Deg_forest</td>
<td>58.3</td>
<td>2.3</td>
<td>0.25</td>
<td>High Sensitivity to Potential Gain</td>
<td>1.50</td>
<td>51</td>
</tr>
<tr>
<td>1220_High</td>
<td>61.8</td>
<td>13.5</td>
<td>0.25</td>
<td>High Sensitivity to Potential Gain</td>
<td>1.50</td>
<td>312</td>
</tr>
</tbody>
</table>

**Subtotal** 363

**Total** 373

<table>
<thead>
<tr>
<th>Tyto tenebricosa / Sooty Owl (Fauna)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1206_High</td>
</tr>
<tr>
<td>1220_High</td>
</tr>
</tbody>
</table>

**Subtotal** 360

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**Assessment Id**

00017469/BAAS18066/19/00017470

**Proposal Name**

SBBLR
Appendix C
Aboriginal heritage consistency assessment
22 July 2020

Erika Garbayo
Senior Project Development Officer
Transport for NSW
90 Crown Street
Wollongong NSW 2500

Dear Erika,

RE. South Batemans Bay Link Road
Additional Assessment – Boundary Adjustment Review
Aboriginal Heritage

Kelleher Nightingale Consulting (KNC) has reviewed construction boundary adjustments resulting from design refinements for the South Batemans Bay Link Road project, beyond the previous Review of Environmental Factors (REF) boundary assessed in the South Batemans Bay Link Road – Aboriginal Cultural Heritage Assessment Report (KNC April 2020 Final Draft).

Assessment
The assessed construction boundary adjustments are included in the study area shown on Figure 1. Assessed areas of construction boundary adjustment were identified where the South Batemans Bay Link Road project boundary has changed during the finalisation of the REF.

The construction boundary adjustment area (impact area) was assessed as part of archaeological survey and cultural heritage assessment completed in accordance with the Procedure for Aboriginal Cultural Heritage Consultation and Investigation (PACHCI Stages 2 and 3) for the South Batemans Bay Link Road project.

No additional impacts to Aboriginal heritage were identified as a result of this additional assessment. Impacts to Aboriginal heritage sites from the construction boundary adjustments are consistent with the existing impacts identified in the Transport for NSW South Batemans Bay Link Road: Review of environmental factors (April 2020) and the South Batemans Bay Link Road – Aboriginal Cultural Heritage Assessment Report (KNC April 2020 Final Draft).

Result
The construction boundary adjustments are consistent with the findings of the South Batemans Bay Link Road cultural heritage assessment report and REF displayed.

No further Aboriginal archaeological assessment is warranted for the construction boundary adjustments. Aboriginal heritage for the project should be managed in accordance with the existing recommendations in the South Batemans Bay Link Road cultural heritage assessment report.

If you have any questions, please do not hesitate to contact me on 02 9232 5373.

Yours sincerely

Dr Matthew Kelleher
Director/Archaeologist
Figure 1. South Batemans Bay Link Road – Additional Assessment Boundary Adjustment review