



## **Bells Line of Road Corridor Improvement Program**

**Information to support referral under Part 3 of Environment Protection and Biodiversity Conservation Act 1999 (EPBC 2014/7346)**

### **Submissions report**

July 2015

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Bells Line of Road Corridor Improvement  
Program

Preliminary Documentation to support referral  
under Part 3 of *Environment Protection and  
Biodiversity Conservation Act 1999* (EPBC  
2014/7346)

Submissions report

July 2015

# Executive summary

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This submissions report relates to the Preliminary Documentation that was prepared in support of the referral under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the Bells Line of Road Corridor Improvement Program.

The Preliminary Documentation was placed on public display and submissions relating to the proposal were received by Roads and Maritime Services. This submissions report summarises the matters raised and provides responses to each of them (Chapter 2) and identifies environmental management measures (Chapter 3).

Roads and Maritime is delivering work to improve road safety and traffic efficiency on Bells Line of Road between Mount Tomah and Kurrajong Heights. The proposal was referred to the Federal Department of the Environment under Part 3 of the EPBC Act due to impacts on matters of national environmental significance (MNES). Specifically with respect to the potentially significant impacts of the proposal on listed threatened species and communities, occurring as a result of a cumulative impact on 2.67 hectares of Turpentine-Ironbark Forest in the Sydney-Basin Bioregion (Turpentine-Ironbark Forest), which is listed as critically endangered under the EPBC Act.

The Department of the Environment requested further documentation from Roads and Maritime to enable the assessment of the proposal (the 'Preliminary Documentation'). This included a requirement to provide a biodiversity offset package for residual impacts to Turpentine-Ironbark Forest that addressed the EPBC Act Environmental Offsets Policy and Assessment Guide (2012).

In total, Roads and Maritime proposes to offset impacts to 3.14 hectares of Turpentine-Ironbark Forest. This includes the 2.67 hectares resulting from the current proposal, and 0.47 hectares that was cleared as part of a previous project. While this previous impact is not part of the current proposal, and approval is not being sought for this, it is considered appropriate to take account of it as part of the overall offset approach.

A suitable potential offset containing about 25 hectares of Turpentine-Ironbark Forest has been identified. Securing this property and facilitating its transfer into the NSW national parks system, has been assessed to appropriately meet the requirements of the EPBC Act Environmental Offsets Policy.

Five submissions were received in response to the exhibition of the Preliminary Documentation, including two submissions from government agencies and three submissions from the community.

The government submissions were from Blue Mountains City Council and the NSW Office of Environment and Heritage. Both submissions supported the proposed approach to offsetting the impacts of the proposal.

Three submissions were received from the community. The submissions focussed on matters relating to the overall proposal to improve safety and traffic efficiency on the Bells Line of Road corridor. Each matter has been addressed in this report.

Following the public display of the Preliminary Documentation, Roads and Maritime will liaise with the Department of the Environment about the proposal proceeding, and updating the community on the outcome.

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# 1 Introduction and background

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## 1.1 Purpose

This submissions report relates to the Preliminary Documentation that was prepared in support of the referral under Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the Bells Line of Road Corridor Improvement Program.

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

## 1.2 The proposal

Roads and Maritime is delivering work to improve road safety and traffic efficiency on Bells Line of Road between Mount Tomah and Kurrajong Heights. The proposal involves widening sections of Bells Line of Road and adding about six kilometres of additional overtaking lane distributed between five separate locations. This work is part of the implementation of a joint NSW-Australian Bells Line of Road Long Term Strategic Corridor Plan (Australian and NSW governments, 2012), which was completed in 2012 following community consultation.

The proposal was referred to the Federal Department of the Environment under Part 3 of the EPBC Act due to impacts on matters of national environmental significance (MNES). Specifically, with respect to the potentially significant impacts of the proposal on a cumulative total of 2.67 hectares of Turpentine-Ironbark Forest in the Sydney-Basin Bioregion (Turpentine-Ironbark Forest), listed as critically endangered on EPBC Act. As a result of this referral, the proposal was determined to be a 'controlled action' under the EPBC Act.

The Department of the Environment requested further documentation from Roads and Maritime to enable the assessment of the proposal (the 'Preliminary Documentation'). That includes a requirement to provide a biodiversity offset package for Turpentine-Ironbark Forest that addressed the EPBC Act Environmental Offsets Policy and Assessment Guide (2012).

Roads and Maritime also intends to provide a complementary offset for 0.47 hectares of Turpentine-Ironbark Forest cleared during the previous construction of overtaking lane at Site 4, which was not part of the referral. In total, Roads and Maritime will offset impacts to 3.14 hectares of Turpentine-Ironbark Forest.

A property at Lot 51 and Lot 52 DP 751658 has been confirmed as containing about 25 hectares of suitable condition Turpentine-Ironbark Forest that would provide an appropriate offset. The property is surrounded by Wollemi National Park, is densely vegetated, shows little evidence of past disturbance, and would provide a strategic addition to Wollemi National Park.

The EPBC Act environmental offsets calculator, which accompanies the EPBC Act Environmental Offsets Policy, was used to determine the adequacy of the proposed offsets for the proposal. The outcome of the assessment was that the proposed offsets at Lot 51 and Lot 52 would provide an appropriate offset in accordance with the Policy. Roads and Maritime has 'in-principle' agreement from the landowner to continue discussions regarding potential purchase of the property. In addition, the

Office of Environment and Heritage (National Parks and Wildlife Services) has indicated an interest in accepting transfer of the lands for inclusion in Wollemi National Park.

Implementation of this offset will compensate for the proposal's impact upon Turpentine-Ironbark Forest. In accordance with the Department's assessment process, Roads and Maritime placed the documents on public display and invited feedback from key stakeholders and the community on the proposal.

### 1.3 Preliminary Documentation display

The information that was placed on display consisted of copies of documents including:

- Referral of the Action (September 2014): the application form completed by Roads and Maritime and submitted to Department of the Environment for an action made on matters of environmental significance as defined under the EPBC Act
- Biodiversity Assessment (September 2014): detailing the methods and results of a biodiversity assessment of the project to identify the known or potential presence of threatened species, populations and ecological communities, in order to assess the extent and magnitude of ecological impacts
- Preliminary Documentation (May 2015): responding to the request by the Department of the Environment for information to further support and enable assessment of the relevant impacts of the action in accordance with EPBC Act requirements.

Roads and Maritime exhibited the Preliminary Documentation between **Wednesday 10 June 2015** and **Tuesday 23 June 2015** at five locations, as detailed in Table 1.1. The Preliminary Documentation was placed on the Roads and Maritime website and made available for download. The exhibition locations and a website link to the information were advertised at:

[www.rms.nsw.gov.au/documents/projects/sydney-west/blue-mountains](http://www.rms.nsw.gov.au/documents/projects/sydney-west/blue-mountains).

**Table 1-1: Display locations**

Location	Address
Blue Mountains City Council	2 Civic Place, Katoomba
Hawkesbury City Council	366 George Street, Windsor
Hawkesbury Central Library	300 George Street, Windsor
Richmond Library	29 West Market Street, Richmond
Office of Environment and Heritage	50 Goulburn Street, Sydney.

## 2 Response to issues

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Roads and Maritime received five submissions, accepted up until the closing date of Tuesday 23 June 2015. Each submission has been examined individually to understand the matters being raised. The points in each submission have been extracted and collated, and corresponding responses to them have been provided. Where similar matters have been raised in different submissions, only one response has been provided. The matters raised and Roads and Maritime response to these forms the basis of this chapter.

Table 2-1 lists the respondents and where the matters from each submission have been addressed.

**Table 2-1: Respondents and where addressed**

<b>Respondent</b>	<b>Submission No.</b>	<b>Section number where issues are addressed</b>
Individual submission	1	2.2
Blue Mountains City Council	2	2.3
Individual submission	3	2.2
Office of Environment and Heritage	4	2.3
Individual submission	5	2.2

### 2.1 Overview of issues raised

Five submissions were received in response to the exhibition of the Preliminary Documentation, comprising two government agencies and three from the community.

The two submissions from government agencies were Blue Mountains City Council and the NSW Office of Environment and Heritage. Both submissions addressed the proposal and fully supported the offset strategy. Blue Mountains City Council considered the proposal's impact on Turpentine-Ironbark Forest within the Blue Mountains Local Government Area to be minor and balanced by the proposed biodiversity offset. The Office of Environment and Heritage supports the proposal and outlined that the agency would continue to work with Roads and Maritime to advance the offset strategy.

Both the council and Office of Environment and Heritage endorse the referral of the proposal to the Commonwealth for determination under the EPBC Act.

The three submissions received from the community focussed on matters involving the overall proposal to improve safety and traffic efficiency on the Bells Line of Road, rather than biodiversity impacts and the proposed offsets strategy. Roads and Maritime has acknowledged and addressed each submission.

## 2.2 Issue 1, Safety and traffic efficiency

Submission number(s)

1

### Description

Submission number 1 was supportive of the overall proposal to improve the road safety and traffic efficiency of the Bells Line of Road corridor. The current condition of the road was considered to contribute to unsafe driving movements and there was a need for safe overtaking opportunities. The offset of Turpentine-Ironbark Forest was not specifically referenced, however, the loss of vegetation was considered justified to improve the Bells Line of Road corridor.

### Response

Roads and Maritime acknowledge that there is currently a lack of existing opportunities to overtake safely on the Bells Line of Road corridor. It is expected that the introduction of the new overtaking lanes would allow vehicles to overtake slower moving vehicles within the posted speed limit. This proposal would improve safety and efficiency on the Bells Line of Road corridor and improve travel times and safety for motorists.

Submission number(s)

3, 5

### Description

Two comments from the community did not reference the biodiversity offset package. They instead discussed traffic impacts around Bilpin village as a result of overtaking lanes at Site 5 and Site 6, which are part of a proposal to improve the safety and efficiency of the Bells Line of Road corridor. The introduction of overtaking lanes at Site 5 and Site 6 was suggested to encourage increased speeds and unsafe road movements around Bilpin village and Bilpin Public School. The submissions noted the overtaking lanes would decrease safety for local traffic accessing streets and properties off Bells Line of Road.

### Response

The Bells Line of Road corridor is unable to adequately support three existing transport roles: local access road; through route; and scenic route. This often results in travel at the posted speed limit being restricted by slower heavy vehicles or scenic travellers, causing increased travel time and frustration.

Roads and Maritime considered that no major increase in traffic volume is anticipated on the Bells Line of Road corridor as a result of the proposal to improve safety and efficiency along the corridor. Overtaking lanes are provided to allow vehicles to overtake slower moving vehicles, safely and within the posted speed limit.

The location of the proposed overtaking lanes at Site 5 and Site 6 were chosen in conjunction with the other overtaking lanes proposed along the Bells Line of Road corridor. It is consistent with Roads and Maritime guidelines that recommend that overtaking lanes be located at 10–15 kilometre intervals from each other, in each direction.

## 2.3 Issue 2, Biodiversity

Submission number(s)

2, 4

### Description

Blue Mountains City Council considered the impact on Turpentine-Ironbark Forest specifically in relation to overtaking lane at Site 7, because this overtaking lane is located within the Blue Mountains Local Government Area. Blue Mountains City Council considered the proposal's impact on Turpentine-Ironbark Forest as minor due to vegetation alongside the Bells Line of Road being fragmented. The biodiversity offset was considered to balance overall vegetation removal.

### Response

The Blue Mountains City Council submission is noted.

### Description

Office of Environment and Heritage supports the offset strategy and will work with Roads and Maritime to advance its implementation. The chosen offset properties surrounded by the Wollemi National Park were considered an appropriate offset for the loss of 3.14 hectares of Turpentine-Ironbark Forest near the Bells Line of Road corridor.

Should approval of the controlled action be granted the following recommendations should be considered:

- Should the preferred offset not be able to be effected, then Roads and Maritime should consult with Office of Environment and Heritage on the alternative offset.
- The timing of the transfer should be clearly specified.
- The agency would like to receive more information regarding the weed/rehabilitation works that would be required as part of the transfer of the land to the park system.
- A management plan for the weed/rehabilitation works should be prepared by Roads and maritime in consultation with Office of Environment and Heritage.

### Response

The Office of Environment and Heritage submission is noted. Roads and Maritime will continue to consult with the Office of Environment and Heritage as the proposal to improve road safety and traffic efficiency of Bells Line of Road progresses. Roads and Maritime will also liaise with the Office of Environment and Heritage regarding arrangements for the transfer of offset lands and any associated with weed management or rehabilitation work.

## 3 Environmental management

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In accordance with requirements of the *NSW Environmental Planning and Assessment Act 1979*, Roads and Maritime undertakes environmental assessments for all proposed road projects. That usually occurs through preparation of a Review of Environmental Factors (REF).

Each of the overtaking lane proposals that are part of the Bells Line of Road Corridor Improvement Program will be the subject of assessment by an REF (some have already been completed). Each REF will identify a framework for environmental management that takes account of the particular circumstances of each specific overtaking lane, including management and mitigation measures that would be adopted to avoid or reduce environmental impacts (section 7 of the REF).

That will include measures to avoid or reduce biodiversity impacts. These are in addition to the proposed biodiversity offset discussed above, which is intended to address the total cumulative impacts of the overall proposal.

The following section details the types of environmental safeguards and mitigation measures that are likely to be applied for the individual overtaking lane sections. The final measures will be documented and determined as part of the individual REFs, and may include additional matters or tailored measures that are appropriate to the particular location or types of expected impacts.

### 3.1 Typical safeguards and management measures

A number of safeguards and management measures have been identified in order to minimise adverse environmental impacts, including biodiversity impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these management measures would be implemented to mitigate any potential adverse impacts arising from the proposed works.

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

The typical safeguards and management measures expected to be applied for the Bells Line of Road Corridor Improvement Program are summarised in Table 3-1.

**Table 3-2: Summary of indicative environmental safeguards and management measures**

No.	Impact	Environmental safeguards	Responsibility	Timing
1	General	<ul style="list-style-type: none"> <li>• All environmental safeguards must be incorporated within the following documents:</li> <li>• Project Environmental Management Plan</li> <li>• Detailed design stage</li> <li>• Contract specifications for the proposal</li> <li>• Contractor's Environmental Management Plan</li> </ul>	Project manager	Pre-construction
2	General	<ul style="list-style-type: none"> <li>• A risk assessment must be carried out on the Proposal in accordance with the Roads and Maritime Services Audit Pack and OSD risk assessment procedures to determine an audit and inspection program for the works. The recommendations of the risk assessment are to be implemented</li> <li>• A review of the risk assessment must be carried out after the initial audit or inspection to evaluate the level of risk chosen for the project is appropriate</li> <li>• Any works resulting from the proposal and as covered by the REF may be subject to environmental audit(s) and/or inspection(s) at any time during their duration.</li> </ul>	Project manager and regional environmental staff	Pre-construction  After first audit
3	General	<ul style="list-style-type: none"> <li>• The environmental contract specifications must be forwarded to the Roads and Maritime Services Environmental Officer for review at least 10 working days prior to the tender stage</li> </ul>	Project manager	Pre-construction

No.	Impact	Environmental safeguards	Responsibility	Timing
		<ul style="list-style-type: none"> <li>A contractual hold point must be maintained until the EMP is reviewed by the Roads and Maritime Services Senior Environmental Officer.</li> </ul>		
4	General	<ul style="list-style-type: none"> <li>The Roads and Maritime Services Project Manager must notify the Roads and Maritime Services Environmental Officer Sydney Region at least five days prior to work starting.</li> </ul>	Project manager	Pre-construction
5	General	<ul style="list-style-type: none"> <li>All businesses and residences likely to be affected by the proposed work must be notified at least five working days prior to the start of the proposed activities.</li> </ul>	Project manager	Pre-construction
6	General	<ul style="list-style-type: none"> <li>Environmental awareness training must be provided, by the contractor, to all field personnel and subcontractors.</li> </ul>	Construction Contractor	Pre-construction and during construction as required.
<b>Biodiversity</b>				
7	Biodiversity impacts	<ul style="list-style-type: none"> <li>A Biodiversity Management Plan (BMP) is to be prepared for work and included within the CEMP. The BMP is to include (but not be limited to) the following:</li> <li>A site walk with appropriate site personnel including Roads and Maritime representatives to confirm clearing boundaries and sensitive location prior to work starting</li> <li>Identification (marking) of the clearing boundary and identification (marking) of habitat features to be protected. Eg. – use of flagging tape</li> <li>A map which clearly shows vegetation clearing boundaries and</li> </ul>	Construction Contractor	Pre- construction

No.	Impact	Environmental safeguards	Responsibility	Timing
		<p>sensitive areas/no go zones</p> <ul style="list-style-type: none"> <li>• Use flagging tape to delineate exclusion zones and communicate the importance of exclusion zones to construction personnel</li> <li>• A detailed pre-clearing and clearing procedure in accordance with Roads and Maritime Biodiversity Guidelines (2011) including requirements of Guide 1, 2, 4, 5, 6 ,7 &amp; 9 (including pre-clearing surveys to identify habitat trees, identification of suitable site for the release of fauna, two stage clearing process)</li> <li>• Incorporation of management measures identified as a result of the pre-clearing survey report, completed by an ecologist, (G40, section 2.4) and nomination of actions to respond to the recommendations made</li> <li>• Identification in toolbox talks where biodiversity would be included such as vegetation clearing or works in or adjacent to sensitive locations</li> <li>• Identification of control/mitigations measures to prevent impacts on sensitive locations or no go zones</li> <li>• A stop work procedure in the event of incident with any fauna discovered on the project site that require handling or rescue</li> <li>• To prevent injury and mortality of fauna during the clearing of vegetation, an experienced and licensed wildlife carer and/or ecologist would be present to supervise vegetation clearing and capture and relocate fauna where required</li> <li>• Fauna handling and vegetation clearing would be carried out in accordance with procedures provided in the Roads and Maritime</li> </ul>		

No.	Impact	Environmental safeguards	Responsibility	Timing
		Biodiversity Guidelines (RTA 2011).		
8	Road kill	<ul style="list-style-type: none"> <li>Wildlife road signage would be installed within the Bells Line of Road corridor within five kilometres of the proposal area in both directions</li> <li>Opportunities to maintain fauna connectivity across concrete safety barriers during construction would be investigated (eg investigation of concrete barriers with gaps for small fauna movement and jute mesh ladders) and if deemed safe, would be implemented</li> <li>Barriers would be located to separate construction works and live traffic. There would be breaks in the barriers to facilitate driveway access. This would limit this risk of fauna being trapped between the barrier and traffic.</li> </ul>	<p>Design Contractor</p> <p>Construction Contractor</p>	Pre-construction and Construction
9	Unintentional clearing	<ul style="list-style-type: none"> <li>The maximum clearing extent as detailed in the REF should be identified and marked before construction and exclusion zones established in all retained areas</li> <li>Tree removal is to be accessed from the road where possible to avoid damaging surrounding vegetation. No vegetation outside the clearing limit would be impacted.</li> </ul>	Construction Contractor	Pre-construction and construction
11	Spread of weeds	<ul style="list-style-type: none"> <li>A weed management plan would be implemented as part of the EMP in accordance with Roads and Maritime Biodiversity Guidelines (RTA 2011) and the Introductory Weed Management Manual (Natural Heritage Trust 2004)</li> <li>The contractor is to prepare and implement a machinery hygiene protocol to ensure that weed seeds and propagules are not spread to other areas.</li> </ul>	Construction Contractor	Pre-construction and construction

No.	Impact	Environmental safeguards	Responsibility	Timing
12	Spread of pathogens	<ul style="list-style-type: none"> <li>The recent history of construction vehicles would be investigated and plant would be cleaned in appropriate bunded areas prior to being transferred to site to avoid spreading pathogens</li> <li>A risk assessment would be carried out prior to construction to confirm if pathogens are present in the area. If confirmed, a pathogen management plan would be prepared and incorporated into the Biodiversity management plan.</li> </ul>	Construction Contractor	Pre-construction and construction
13	Impacts at ancillary areas	<ul style="list-style-type: none"> <li>Stockpiled material would be limited to nominated areas and as shown on the ESCP and managed in accordance with Roads and Maritime's Stockpile Management Procedures.</li> </ul>	Construction Contractor	Pre- construction and Construction
14	Offsetting threatened vegetation loss	<ul style="list-style-type: none"> <li>An offset strategy would be developed and implemented in accordance with Guidelines for Biodiversity Offset (Roads and Maritime 2011). The offsets would be coordinated and developed in consultation with Office of Environmental and Heritage and Commonwealth Department of the Environment.</li> </ul>	Roads and Maritime Project Manager	Pre-Construction
Noise and vibration				
15	Construction noise and vibration impacts	<p>A Construction Noise and Vibration Management Plan (CNVMP) would be developed during finalisation of the construction methodology and the detailed design phase. The CNVMP would include but not be limited to:</p> <ul style="list-style-type: none"> <li>A map indicating the locations of potentially affected properties and residences</li> <li>A quantitative noise assessment in accordance with the EPA Interim</li> </ul>	Construction Contractor	Pre-construction

No.	Impact	Environmental safeguards	Responsibility	Timing
		<p>Construction Noise Guidelines (DECCW, 2009)</p> <ul style="list-style-type: none"> <li>• Management measures to minimise the potential noise impacts from the quantitative noise assessment and for potential works outside of standard working hours (including implementation of EPA Interim Construction Noise Guidelines (DECCW, 2009))</li> <li>• A risk assessment to determine potential risk for discrete work elements/activities likely to affect residents</li> <li>• A map indicating the locations of likely potential impacts</li> <li>• A process for assessing the performance of the implemented mitigation measures</li> <li>• A process for documenting and resolving issues and complaints</li> <li>• A construction staging program incorporating a program of noise and vibration monitoring for sensitive receivers</li> <li>• A process for updating the plan when activities affecting construction noise and vibration change</li> <li>• Equipment selection: Where alternative plant is available, the plant emitting the lowest noise levels is to be selected. Similarly, where an alternative method for carrying out a process or activity would result in reduced noise emissions, this must be considered where practical</li> <li>• Distance: Throughout each construction activity, stationary plant items are to be located as far from receivers as practical</li> <li>• Screening: Where activities are in very close proximity to residences for extended periods, the erection of temporary hoarding/screens is to</li> </ul>		

No.	Impact	Environmental safeguards	Responsibility	Timing
		<p>be considered</p> <ul style="list-style-type: none"> <li>• Enclosures: Where smaller, stationary plant is located closer to residences low noise equipment or enclosures are to be used.</li> <li>• Engine silencers: mobile plant and equipment are to be chosen to include exhaust silencers or be suitable for fitting residential class mufflers</li> <li>• Reversing alarms: reversing alarms that have a tonal noise character are to be avoided during out of hour's activities. Quacker style or 'smart' reversing alarms are to be used during night time activities</li> <li>• Where residences are predicted to be in excess of the "Highly Affected" criterion, respite periods should be included in the program of works</li> <li>• Where out of standard hours activities are proposed, residents and businesses potentially affected will be notified at least five days prior to any work starting. A letter notification outlining work activities, dates and time of work would be prepared.</li> <li>• Where out of standard hours activities are proposed, work would be scheduled to start before midnight.</li> </ul>		
16	Construction Vibration	<ul style="list-style-type: none"> <li>• Where high impact vibratory rollers are placing adjoining residential structures at risk of damage, a building condition survey would be conducted prior to work starting</li> <li>• Vibration emissions would be minimised where possible, this may include the use of appropriate sized machinery and the consideration of alternative equipment and methods, where feasible and reasonable.</li> </ul>	Contractor/ Roads and Maritime	Pre-construction

No.	Impact	Environmental safeguards	Responsibility	Timing
17	Construction noise and vibration impacts	<ul style="list-style-type: none"> <li>• Noise receivers would be notified of the construction work schedule and expected noise levels prior to the start of construction.</li> <li>• Where residences are predicted to be in excess of the “Highly Affected” criterion, respite periods should be included in the program of works.</li> </ul>	Construction Contractor	Construction
18	Consultation	<ul style="list-style-type: none"> <li>• A community liaison phone number and site contact would be provided so that noise and vibration-related complaints can be received and addressed in a timely manner. The number would be available on Roads and Maritime website and on the site compound fencing.</li> </ul>	Construction Contractor	Construction
19	Out of hours work	<ul style="list-style-type: none"> <li>• Where out of hours activities are proposed, the procedure for consultation with affected residents as outlines in the Environmental Noise Management Manual would be followed.</li> <li>• All out of hours works would comply with the Roads and Maritime ENMM Practice Note vii – Roadworks outside normal working hours requirements</li> <li>• If Roads and Maritime ENMM Practice Note vii – Roadworks outside normal working hours requirements cannot be achieved, the Roads and Maritime contract manager would be informed and the Noise and Vibration Plan would need to be updated to outline additional site specific noise management measures and additional consultation requirements prior to the out of hours work starting.</li> </ul>	Construction Contractor	Construction

No.	Impact	Environmental safeguards	Responsibility	Timing
Non-Aboriginal Heritage				
20	Unexpected heritage find during construction.	<ul style="list-style-type: none"> <li>If unexpected heritage item/s, archaeological remains or potential relics are uncovered during the work, all work would stop in the vicinity of the material/find and the Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds 2012 would be followed.</li> </ul>	Roads and Maritime and Construction Contractor	Pre-construction, construction
Aboriginal Heritage				
21	Unexpected Aboriginal heritage find during construction.	<ul style="list-style-type: none"> <li>In the event of an unexpected find of an Aboriginal heritage item (or suspected item):</li> <li>Work will cease in the affected area and Roads and Maritime's Environmental Officer, Sydney Region and Roads and Maritime' Senior Environmental Specialist for Aboriginal Heritage will be contacted on advice on how to proceed</li> <li>The Roads and Maritime Standard Management Procedure - Unexpected Archaeological Finds 2012 will be followed.</li> </ul>	Construction contractor	Pre-construction and construction
Landscape character and visual amenity				
23	Landscape character and visual impacts	<ul style="list-style-type: none"> <li>The final revegetation and landscaping design would continue to consider the objectives and principles of the Blue Mountains Framework document (Great Western Highway Urban Design Framework – Blue Mountains Lapstone to Katoomba).</li> </ul>	Design contractor	Detailed design
24	Retaining walls	<ul style="list-style-type: none"> <li>Design of the surface finish to the pre-cast panel should ensure they are integrated with the landscape setting, and consider an appearance</li> </ul>	Design	Detailed design

No.	Impact	Environmental safeguards	Responsibility	Timing
		that is compatible with existing sections of cut slope along adjoining sections of the Bells Line of Road corridor.	contractor	
25	Management of topsoil	<ul style="list-style-type: none"> <li>Where the proposed works immediately adjoin areas of native forest vegetation, site soil testing and characterisation should be carried out by a NATA accredited subcontractor to determine the potential for adapting, stripping and reusing the topsoil for landscape and revegetation purposes.</li> </ul>	Construction contractor	Construction
26	Management of topsoil	<ul style="list-style-type: none"> <li>A NATA accredited subcontractor would also assess the potential for a mix of recovered soil and mulch to be used as topsoil for areas of revegetation to promote embankment stabilisation and to control the amelioration of the topsoil mix.</li> </ul>	Construction contractor	Construction
27	Revegetation of disturbed areas	<ul style="list-style-type: none"> <li>Revegetation would be carried out where appropriate on all areas disturbed by the proposal, including cut and fill embankments, subject to sight line and clear zone requirements. The appropriateness of revegetation works is to be considered on a site-by-site basis.</li> </ul>	Construction contractor	Construction
28	Compound visual impacts	<ul style="list-style-type: none"> <li>Site compound areas would be located and designed to take account of views from occupied nearby properties and roads and minimise the removal of existing vegetation. These areas are to be restored to their original condition at completion of the work.</li> </ul>	Construction contractor	Construction
29	Construction related visual impacts	<ul style="list-style-type: none"> <li>Methods to provide screening of ancillary sites from motorists and residents would be implemented. This may include fencing with material attached (for example, shade cloth) or using compound elements such as sheds to screen views.</li> </ul>	Construction contractor	Construction

No.	Impact	Environmental safeguards	Responsibility	Timing
30	Construction related visual impacts	<ul style="list-style-type: none"> <li>Worksite areas would be maintained in a tidy condition, ensuring the works do not present an unsightly view to passing motorists.</li> </ul>	Construction contractor	Construction
Traffic and access				
31	Emergency services	<ul style="list-style-type: none"> <li>Consultation with emergency service authorities would be carried out during development of the detailed design.</li> </ul>	Roads and Maritime	Detailed Design
32	Traffic management	<ul style="list-style-type: none"> <li>A construction traffic management plan would be prepared and implemented in accordance with the Traffic Control and Worksites, version 4.0 (Roads and Maritime, June 2010). The construction traffic management plan would enable the safe management of traffic, provide for the safety of construction personnel and minimise impacts on the local community.</li> </ul>	Construction contractor	Pre-construction
33	Property access	<ul style="list-style-type: none"> <li>Vehicular property access would be maintained where possible including private property and small businesses</li> <li>Consultation with property owners would be carried out prior to any changes to property accesses.</li> </ul>	Construction contractor	Construction
Socio-economic				
34	Local amenity and social infrastructure	<ul style="list-style-type: none"> <li>A communication plan will be prepared and included in the EMP. The communication plan will include:</li> <li>Requirements to provide details and timing of proposed construction</li> </ul>	Construction contractor	Pre-construction and construction

No.	Impact	Environmental safeguards	Responsibility	Timing
		<p>activities to affected residents as well as businesses, Busways, Bilpin Public School, and Hawkesbury and Blue Mountains Councils</p> <ul style="list-style-type: none"> <li>• Contact name and number for complaints</li> <li>• Procedure to notify adjacent land users for changed conditions during the construction period such as traffic, pedestrian or driveway access</li> <li>• The communications plan will be prepared in accordance with G36 requirements and Roads and Maritime Community Engagement Guidelines</li> <li>• The communications plan would include a complaint handling procedure and register and maintained for the duration of the proposal.</li> </ul>		
35	Utilities	<ul style="list-style-type: none"> <li>• Notification to affected businesses and residents would be required in advance of utility disruptions.</li> </ul>	Construction contractor	Construction
Water quality, hydrology and soils				
36	Erosion and sediment control	<ul style="list-style-type: none"> <li>• An Erosion and Sedimentation Control Plan (ESCP) would be prepared prior to construction and is to include as a minimum:</li> <li>• Identify site catchment and sub-catchments, high risk areas and sensitive areas</li> <li>• The likely run-off from each sub-catchment</li> <li>• Separation of on-site and off-site water</li> <li>• The direction of run-off and drainage points during each stage of</li> </ul>	Construction contractor	Construction

No.	Impact	Environmental safeguards	Responsibility	Timing
		<p>construction</p> <ul style="list-style-type: none"> <li>The locations of other erosion and sediment control measures (eg rock check dams, swales and sediment fences)</li> <li>Controls/measures to be implemented on wet weather events</li> <li>A mapped plan identifying the above process for reviewing and updating the plan on a fortnightly basis and/or when works alter.</li> </ul>		
37	Erosion and sediment control	<ul style="list-style-type: none"> <li>Erosion and sediment control measures would be implemented and maintained in accordance with Managing Urban Stormwater: Soils and Construction (Landcom 2004) with reference to Roads and Maritime G38 Erosion and Sediment Control Plan prior to the commencement of construction. These measures will address Roads and Maritime Technical Guideline: Temporary Stormwater Drainage for Road Construction, 2011.</li> </ul>	Construction contractor	Pre-construction
38	Erosion and sediment control	<ul style="list-style-type: none"> <li>Erosion and sediment control measures are to remain in place until the works are complete or areas have stabilised.</li> </ul>	Construction contractor	Construction
39	Spills	<ul style="list-style-type: none"> <li>Emergency spill kits would be kept on site at all times and all staff would be made aware of the location of the spill kit and trained in its use.</li> </ul>	Construction contractor	Construction
40	Spills	<ul style="list-style-type: none"> <li>The vehicles refuelling process will include a person attending the refuelling facility / vehicle and a spill kit on the vehicle.</li> </ul>	Construction contractor	Construction
41	Water quality management	<ul style="list-style-type: none"> <li>Vehicle wash down is to occur in a designated bunded area.</li> </ul>	Construction contractor	Construction

No.	Impact	Environmental safeguards	Responsibility	Timing
42	Spills	<ul style="list-style-type: none"> <li>If a spill or incident occurs, the Roads and Maritime Environmental Incident Classification and Management Procedure is to be followed and the Roads and Maritime Contract Manager notified immediately.</li> </ul>	Construction contractor	Construction
43	Contamination	<ul style="list-style-type: none"> <li>If unexpected contamination is discovered at any stage of a project, work must stop immediately and the procedures of any sites specific contingency plans should be followed.</li> <li>Environment Branch and relevant agencies should also be contacted immediately in accordance with the Roads and Maritime Environmental Incident Classification and Reporting Procedure</li> <li>Should any signs of contamination be identified during the proposed works, the materials shall be tested and assessed against the site assessment criteria.</li> </ul>	Construction contractor	Construction
Air quality				
44	General air quality management	<ul style="list-style-type: none"> <li>Air quality management measures would be included as part of the EMP. Relevant measures from Roads and Maritime QA Specification G36M would be applied to ensure that airborne pollutants do not cause undue disruption or inconvenience in the vicinity of the work.</li> </ul>	Construction contractor	Construction
Waste and resource management				
45	Waste management	<ul style="list-style-type: none"> <li>Waste and resource management measures would be included in the EMP which will include the following (as a minimum):</li> <li>The type, classification and volume of all materials to be generated and used on site including identification of recyclable and non-recyclable waste in accordance with EPA Waste Classification</li> </ul>	Construction contractor	Pre-Construction and Construction

No.	Impact	Environmental safeguards	Responsibility	Timing
		<p>Guidelines</p> <ul style="list-style-type: none"> <li>• Quantity and classification of excavated waste material generated as a result of the proposal (Refer Roads and Maritime Waste Management Fact sheets 1-6, 2012)</li> <li>• Strategies for re-use of cut and fill materials on site, where possible</li> <li>• Destinations for each resource/waste type either for on-site reuse or recycling, offsite reuse or recycling, or disposal at a licensed waste facility</li> <li>• Procedures and disposal arrangements for unsuitable excavated material or contaminated material</li> <li>• Site clean-up requirements for each construction stage.</li> </ul>		
46	Waste reduction	<ul style="list-style-type: none"> <li>• Procurement will endeavour to use materials and products with a recycled content where that material or product is cost and performance effective.</li> </ul>	Construction contractor	Detailed design and pre-construction
47	Waste vegetation	<ul style="list-style-type: none"> <li>• Cleared weed free vegetation will be chipped and reused onsite to stabilise disturbed soils where required, or alternatively disposed of a suitably licensed waste facility.</li> </ul>	Construction contractor	Construction
48	Waste management	<ul style="list-style-type: none"> <li>• Types of waste collected, amounts, date/time and details of disposal are to be recorded in a waste register.</li> </ul>	Construction contractor	Construction
49	Waste management	<ul style="list-style-type: none"> <li>• Work sites would be maintained, kept free of rubbish and cleaned up at the end of each working day.</li> </ul>	Construction contractor	Construction

No.	Impact	Environmental safeguards	Responsibility	Timing
50	Waste disposal	<ul style="list-style-type: none"> <li>Suitable waste disposal locations would be identified and used to dispose of litter and other wastes on-site. Suitable containers would be provided for waste collection.</li> </ul>	Construction contractor	Pre-construction and Construction
Cumulative environmental impacts				
51	Cumulative traffic impacts	<ul style="list-style-type: none"> <li>The EMP would be updated as required to incorporate potential cumulative impacts from surrounding development activities as they become known. This would include a process to review and update mitigation measures as new work begins or if complaints are received.</li> </ul>	Construction contractor	Pre-Construction
52	Cumulative biodiversity impacts	<ul style="list-style-type: none"> <li>An offset strategy would be developed in accordance with Guideline for Biodiversity Offset (Roads and Maritime 2011) for the overall loss of State and Commonwealth listed threatened vegetation. The offsets would be coordinated and developed in consultation with Office of Environment and Heritage.</li> </ul>	Roads and Maritime Project Manager	Pre-Construction
53	Cumulative traffic impacts	<ul style="list-style-type: none"> <li>Traffic management would be coordinated through the Transport Management Centre, considering all works on the Bells Line of Road and the Great Western Highway, so as to not cause unacceptable travel delay during the construction period. This would include notification via VMS and the Roads and Maritime Live Traffic Website.</li> </ul>	Roads and Maritime	Construction

## 4 Conclusion

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Roads and Maritime received five submissions during the display period of the Preliminary Documentation. Two of these submissions were from government agencies. These submissions were generally supportive of the offset proposal or had comments related to the non-biodiversity impacts of the proposal.

Should approval be granted, Roads and Maritime intend to progress implementation of the proposed offset strategy in consultation with the existing landowner and the Office of Environment and Heritage.



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