

# 11 Justification and conclusion

This chapter presents a justification of the project and a conclusion to the environmental assessment. It considers a range of issues including project benefits, protection of the environment, the objects of the EP&A Act, including ecologically sustainable development and community consultation. The Director-General's requirements (DGRs) for the project justification shown in the extract below are also addressed in this chapter.

Director-General's requirements	Where addressed
<b>Project justification:</b>	
<i>Assess the alternatives considered (including an assessment of the environmental costs and benefits of the project relative to alternatives). and provide justification for the preferred project taking into consideration the objectives of the Environmental Planning and Assessment Act 1979 and the following:</i>	Section 11.1 Chapter 3
<i>The environmental, social and economic impacts of the project.</i>	Section 11.1.1
<i>The suitability of the site.</i>	Section 11.1.1
<i>Whether or not the project is in the public interest.</i>	Section 11.1.1

## 11.1 Justification

### 11.1.1 Summary of strategic and project justification

The strategic need for the project stems from the importance of the Princes Highway in providing safe and efficient access, including freight access, to the NSW south coast. The project would form part of the Princes Highway upgrade goal of providing four lanes from Waterfall to the Jervis Bay Road Junction, Falls Creek.

The objectives of the project are consistent with the relevant strategic planning and policy frameworks, including the *National Road Safety Strategy for Australia 2011 – 2020* (Australian Transport Council, 2011), *NSW 2012 – A Plan to Make NSW Number One* (Department of Premier and Cabinet, 2011), the draft *NSW Long Term Transport Master Plan* (Transport for NSW, 2012), the *Illawarra Regional Strategy 2006-2031* (Department of Planning (DP&I), 2007a), the *South Coast Regional Strategy 2006-2031* (DP&I, 2007b) and *Shoalhaven – An Enterprising Alternative, an Economic Development Strategy* (Shoalhaven City Council et al, 2005). The project objectives are:

- *To improve road safety*

The project would significantly improve road safety. Steep and winding sections of the existing highway would be eliminated. The provision of two lanes in each direction and climbing lanes on steeper sections would improve overtaking safety. The median barrier would eliminate the potential for head-on crashes. The provision of grade separated interchanges for main highway accesses and enhanced left-in left-out treatments on all other junctions would reduce the frequency of conflicting turning movements. The removal of highway traffic from within Berry would reduce conflict between pedestrians and vehicles and would facilitate turning movements on and off Queen Street.

Improvements to regional road safety would also be expected as the project would reduce the volume of regional traffic using the Sandtrack as an alternative route. Decreased traffic volume on the Sandtrack would deliver safety benefits and amenity improvements to road users and the communities located alongside it.

- *To improve efficiency of the Princes Highway between Toolijooa Road and Schofields Lane*

The improved horizontal and vertical alignments for the project would significantly improve road efficiency. Traffic would be able to maintain the posted speed limit, reversing the trend of falling average travel speeds associated with ongoing traffic growth. The provision of two lanes in each direction and climbing lanes on steeper sections significantly improves overtaking opportunities. The provision of grade separated interchanges for main highway accesses and enhanced left-in left-out treatments on all other junctions would improve the efficiency of all movements on and off the highway. A bypass of Berry would eliminate the need for a reduced speed zone.

- *To support regional and local economic development*

The project would enhance potential business opportunities in the area by improving connectivity to the NSW south coast. It would facilitate improved access to the existing tourism industry at Jervis Bay, Batemans Bay and Ulladulla. Industries in the Nowra area would benefit from more reliable access to markets and raw materials in the Sydney and Wollongong areas.

Without the project, longer travel times and congestion within Berry would have economic consequences on local businesses, industry and tourism. Increased commuting times would hinder employment growth in the region, and recreational travellers would become less inclined to accept the time and cost associated with travelling through the area.

The impacts on high quality agricultural land would be minimised and the proximity of interchanges close to Berry would facilitate access to the central business district.

- *To provide value for money*

The value management workshop undertaken for the project ensured that value for money was a key consideration when assessing the alignment and design of the project.

- *To enhance potential beneficial environmental effects and manage potential adverse environmental impacts*

- Key environmental benefits of the project include reduced noise levels, improved air quality and amenity within Berry, improved flood outcomes in Berry due to the diversion of Town Creek and improved fauna crossings along the length of the project.

Potential adverse environmental impacts would be managed through the mitigation measures presented in **Chapter 7** and **Chapter 8**. Residual impacts remaining after the implementation of these mitigation measures, such as the unavoidable removal of an Endangered Ecological Community (EEC), would be offset in accordance with an agreed offset strategy.

- *To optimise the benefits and minimise adverse impacts on the local social environment*

Benefits to the local social environment would include improved road safety and highway efficiency, reduced conflict between highway traffic and pedestrians within Berry, enhanced public space and pedestrian/cycle access within Berry, and improved and more reliable access to larger regional centres such as Wollongong.

Adverse social impacts for the project, such as changed access, community cohesion impacts and impacts on recreational facilities, have been minimised through the design of the project and would be managed through the mitigation measures provided in **Chapter 7** and **Chapter 8**.

## Environmental, social and economic impacts

Consideration of the environmental, social and economic impacts of the project has been fundamental to the design process. As far as possible, impacts have been avoided.

A detailed assessment of the impacts of the project is provided in **Chapter 7** and **Chapter 8**. An environmental risk assessment was prepared to ensure that all potential impacts were addressed. The environmental risk assessment is presented in **Chapter 9** and the key impacts are summarised below.

### *Traffic and transport*

Construction activities would disrupt highway, regional and local flows, leading to travel time delays and decreased network performance as discussed in **Section 7.1**. To mitigate these impacts, a traffic management plan would be prepared and would include guidelines and procedures to ensure the continuous, safe and efficient movement of construction and non-construction traffic in and around the project area during construction.

Following construction, the project would reduce the length of the highway by around 1.5 kilometres between Toolijooa Road and Schofields Lane. The project would provide two lanes in each direction and would increase the safe operating speed of the Princes Highway in the project area. It would bypass the Foxground bends and remove conflicts between local traffic movements within Berry. It would result in the Princes Highway having an estimated seven minute shorter travel time for vehicles travelling between Toolijooa Road and Schofields Lane.

Local roads and accesses in rural areas would be restricted to left-in and left-out movements due to a central median and safety barrier fencing. This would provide substantial improvements in road safety, including the elimination of traffic turning to and from minor roads across fast-moving two-way traffic. However, there would be an additional travel time resulting from vehicles travelling to interchanges in order to complete a u-turn. The maximum additional travel time would be around four minutes.

Some local roads would also be modified as part of the project and this would result in some redistribution of local road traffic with associated minor increases in travel times for some vehicles wishing to access the highway.

### *Noise and vibration*

During construction of the project, noise and vibration impacts would arise from construction plant, equipment, traffic and activities (refer to **Section 7.2**). Impacts, including sleep disturbance, would be expected from extended work hours and out-of-hours work. Vibration impacts on buildings and/or human comfort would also arise, especially as a result of blasting activities at Toolijooa Ridge. To mitigate these impacts, a Noise and Vibration Management Plan would be prepared and would include reasonable and feasible approaches to reduce noise and vibration impacts during construction. Notification and consultation procedures would also be implemented for extended work hours and out of hours work.

During operation, noise at a total of 164 receivers was found to exceed the applicable operational noise criteria (with some receivers experiencing exceedances during both the daytime and night-time periods). In total 18 receivers were considered to be acutely affected. In order to mitigate these impacts, noise barriers have been proposed along North Street and along the northbound off-ramp for the southern interchange for Berry. Additionally, a total of 20 isolated properties have been identified that would experience noise levels above the criteria and would qualify for the consideration of architectural treatment to dwellings.

### *Biodiversity*

As discussed in **Section 7.3**, there would be 57.1 hectares of native vegetation potentially impacted directly or indirectly by the project. This includes an EEC and five different vegetation communities that provide potential habitats for threatened species. There would be 2.9 hectares of riparian vegetation, which is an EEC, removed and seven hectares would be subject to indirect impacts. Indirect impacts would include fragmentation and edge effects.

To mitigate these impacts, mitigation and management measures would be implemented relating to (but not limited to) vegetation clearance, edge effects, weed management, exclusion zones, fish passage and fauna management measures (such as fauna crossings). These would be undertaken in accordance with RMS Biodiversity Guidelines (RTA, 2011), detailed in a Fauna and Flora Management Plan and supported by monitoring during pre-construction, construction and operational phases of the project. A Vegetation Management Plan would also be prepared in consultation with local Landcare groups and the CMA. It would include details for the restoration, regeneration and rehabilitation of areas of native vegetation in the vicinity of the project.

The unavoidable loss of riparian vegetation would be a residual impact of the project. Offsetting would be required to meet the 'improve or maintain' outcomes required in the DGRs for the project. A biodiversity offset package would be submitted within 12 months of approval and would include details of the final suite of measures to be implemented based on the biodiversity offset strategy. It would identify the timeline for implementation and the detail of measures, including ongoing management. A simulated BioBanking assessment undertaken for the project determined that native vegetation removed would need to be offset at an average ratio of 1:5.3 in order to achieve the 'improve or maintain' standard.

### *Surface water and groundwater*

Potential impacts to surface water as a result of the construction of the project are discussed in **Section 7.4**. Impacts would include potential sedimentation and pollution of surface water from construction activities including site preparation, excavation, earthworks and drainage works. Impacts would also potentially arise from ancillary facilities and soil stockpiles. A soil and water management plan would be prepared prior to construction and would detail control measures for erosion, sedimentation and pollution.

During operation, surface water runoff would increase due to an increase in impervious surfaces and concentration of road runoff through drainage infrastructure. This in turn would increase the frequency, volume and velocity of flows in receiving waterways, potentially leading to or exacerbating erosion and increasing the risk of pollutants entering nearby waterways. The project may also cause permanent changes to drainage catchments for existing farm dams.

The diversion of Town Creek would alter the flow regimes in parts of Bundewallah Creek, Connolly's Creek, Broughton Mill Creek and Town Creek. The changed catchment area would have negligible impact on flow volumes of Bundewallah Creek, Connolly's Creek and Broughton Mill Creek. The reduction in flow volumes in Town Creek could lead to sediment accumulation. Given the existing degraded condition of Town Creek through Berry, sediment accumulation is not considered to have a significant adverse impact on water quality.

As discussed in **Section 7.4**, construction and operation of the project would have the potential to impact groundwater levels as a result of changes to groundwater flow patterns, recharge and discharge characteristics of the site. The decrease in recharge rates is expected to be minor given the small road surface of the project compared to the remainder of the catchment.

### *Flooding*

As described in **Section 7.5**, construction ancillary facilities would be located outside the 1 in 100 year flood zone, where possible. Where storage in the floodplain is required, appropriate bunding and scour protection would be provided.

Following construction, culverts, bridges and embankments would potentially impact the existing flooding regime in Broughton Creek, Connollys Creek, Broughton Mill Creek, Bundewallah Creek, Town Creek and Hitchcocks Lane Creek. There is potential for an increase in the extent, level and velocity of flooding, although the impact is expected to be minor and manageable through the consideration of additional drainage measures during detailed design. The diversion of Town Creek would reduce flood levels in areas of Berry.

### *Landscape character and visual amenity*

Changes to the visual landscape as a result of the project are discussed in **Section 7.6**. Project elements that would have a visual impact following the construction of the project would include bridges, cuttings, embankments, interchanges (including lighting), noise barriers and vegetation removal. The greatest visual impacts would occur in sections where offline construction is required. In these areas new infrastructure would be introduced into the visual landscape where there currently is none.

The project would have the greatest impact around Berry, especially in the vicinity of North Street. Interruptions to the views of ridges and the escarpment from Berry would result from the introduction of the new highway infrastructure and the noise attenuation measures in the vicinity of North Street. These impacts would be managed by landscaping and the urban design measures at key precincts in Berry, namely the bridge at Berry, the North Street precinct and the Kangaroo Valley Road and southern interchange for Berry precinct. The design of these elements would be in accordance with the Urban and Landscape Design Strategy and RMS urban design guidelines, with community feedback sought as the detailed design develops. The scale and rhythm of noise attenuation measures would also be determined in consultation with the local community and would have consideration to the town grid layout and view corridors of north-south streets. Consideration to a share path linking North Street with the southern interchange for Berry would also be given during detailed design.

### *Aboriginal cultural heritage*

Eighteen Aboriginal heritage recordings would be partially impacted by the project and eight fully impacted. Of those fully impacted, all consist of archaeological deposits, with the exception of one fig tree. Partially and fully impacted sites, which include two ethno-historical recordings and one cultural landscape, are discussed in **Section 7.7**. To mitigate these impacts, a Heritage Management Plan would be prepared and would include training for construction staff and the Unexpected Finds Procedure that details procedures should there be any unanticipated discovery of Aboriginal objects, burial sites or human remains. Additional measures would also include archaeological salvage of Aboriginal objects, exclusion fencing to avoid impacts, and minimising the disturbance to the natural soil profile. A Heritage Interpretation Plan would be prepared in consultation with Aboriginal stakeholders, local Councils and landowners with the aim to identify options for the promotion of the cultural values of the project area.

### *Non-Aboriginal (historic) heritage*

In total 40 non-Aboriginal heritage recordings were assessed. Of the 40 recordings, 21 would not be directly impacted, six would be partially impacted, and 13 wholly impacted. Of the 22 items not directly impacted, 13 would be subject to indirect impacts relating to their landscape contexts. A summary of items that would be impacted by the project is provided in **Section 7.8**. Impacts will be managed by the archival recording, archaeological and salvage programs, which would include monitoring. Exclusion zones would also be identified and protected (with fencing).

### *Land use and property*

Potential impacts on property and land use by the project are discussed in **Section 7.9**. Impacts would include property acquisition, severance and sterilisation of land, changes in property access, impacts on future development potential of land within the project and adjoining areas and impacts on urban settlement patterns and future development potential of adjoining land.

### *Socio-economic*

Potential positive and negative socio-economic impacts from construction and operation of the project are discussed in **Section 7.10**. During construction, socio-economic impacts would be the result of changes in amenity and changed traffic conditions and access arrangements. These changes would lead to impacts to amenity, economic impacts to agriculture, tourism sectors and businesses within Berry, impacts on traffic conditions, impacts to community cohesion and impacts to community facilities and recreation. These would be managed by the implementation of a Community Involvement Plan to inform the community regarding future work, changes to the road network and the general construction program. Measures to inform tourists, and signage to promote services and tourist attractions in Berry would be implemented to minimise impacts on tourism in the area. Landscape, noise, traffic and air quality mitigation and management measures would also minimise impacts on amenity.

Following construction, both positive and negative socio-economic impacts would result from the bypass of Berry town centre, improved amenity in town improved pedestrian and local traffic safety in Berry, changes to the local and regional road network, property acquisition as well as severance of rural properties. These changes would lead to amenity impacts, economic impacts, such as impacts to the agriculture and tourism sectors and to highway reliant and non-highway reliant businesses, impacts on community cohesion and social character and impacts on recreational activities and community assets. RMS would continue discussions with Shoalhaven City Council to assist in develop strategies to encourage the ongoing viability of businesses in the town of Berry and to encourage new businesses. This could include signage, and programs to enhance community areas and streetscapes. With Berry, consultation with the community would continue in developing a plan to provide pedestrian access and cycle links over the proposed highway and determining potential uses in the buffer zone between North Street and the edge of the project. A temporary and permanent solution of the Berry Riding Club would also be determined during detailed design. Consultation with agricultural businesses owners would also be continued to address the impacts of land acquisition on the viability of farm operations.

### **Suitability of the site**

Environmental, social and economic impacts of different sites were assessed through the evaluation of route options in value management workshops. The preferred option was selected as it best met the project objectives as well as the functional, socio-economic and environmental criteria established through the value management workshop (refer to **Chapter 3** for further details).

The preferred option is considered to be the most suitable site for the project as:

- It provides the best value for money by optimising the cut/fill balance and providing the most cost effective design solution through Toolijooa Ridge.
- It minimises the environmental impact of the project by lessening the disturbance to threatened species and EECs, reducing flood impacts within Berry and responding to the natural landscape by following existing contours and utilising the existing highway alignment where possible.
- It minimises the social and economic impacts of the project by avoiding direct impacts to the heritage precinct at Pullman Street and community sporting and recreational facilities, minimising property acquisition, amenity and heritage impacts, reducing impacts on high quality agricultural land and supporting local and regional economic development.

### **The public interest**

The project is considered to be in the public interest as it would improve road safety, traffic efficiency and access on the NSW south coast. It would also improve safety and amenity within the township of Berry.

As a result of the project, the following crash reductions are predicted to occur along the highway between Toolijooa Road and Schofields Lane (refer to **Section 7.1**):

- 100 per cent reduction in crashes between vehicles travelling in opposing directions.
- 74 per cent reduction in off-path crashes on curves.
- 50 per cent reduction in crash frequency between vehicles travelling in the same direction.
- 64 per cent total reduction in crashes in the project area.

The project would improve traffic efficiency and access, including for freight, on the NSW south coast. It would result in the Princes Highway having an estimated seven minute shorter travel time for vehicles travelling between Toolijooa Road and Schofields Lane.

The removal of heavy vehicles from the Berry town centre would improve both safety within the town and amenity. The existing conflict between pedestrians and vehicles would be reduced and there would be amenity improvements such as reduced noise levels and improved air quality.

### 11.1.2 Objects of the EP&A Act

The objects of the *Environmental Planning and Assessment Act 1979* (EP&A Act) provide a framework within which the justification of the project can be considered. A summary of this assessment is provided in **Table 11-1**.

**Table 11-1 Objects of the EP&A Act and relevance to the project**

EP&A Act objective	Comment
To encourage the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, waters, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment.	<p>Where possible the design of the project has been developed to manage and conserve natural and artificial resources. Mitigation and management measures detailed in <b>Chapter 7</b> and <b>Chapter 8</b> would be implemented in instances where impacts to resources cannot be avoided. The actions provided in the biodiversity offset strategy would be undertaken in order to maintain the availability of natural resources in the project area.</p> <p>The main objectives of the project are to improve road safety and efficiency on the NSW south coast and measures would be implemented to ensure the impact of this development on the natural and built environment is minimised. There would be significant amenity and safety improvements within the township of Berry.</p> <p>It is recognised that there would be some impact on agricultural land in the project area but this would not be significant on a regional scale.</p>
To encourage the promotion and co-ordination of the orderly and economic use and development of land.	The project would form part of the Princes Highway upgrade program to upgrade the highway to four lanes from Waterfall to the Jervis Bay Road junction, Falls Creek. It would provide improved access to and encourage the orderly and economic use of land on the NSW south coast.
To encourage the protection, provision and co-ordination of communication and utility services.	Utilities affected by the project are described in Section 4.2.11. Affected utilities would be protected or relocated.
To encourage the provision of land for public purposes.	The project would be used for public purposes. If possible residual land between North Street and the project would be utilised as public open space.
To encourage the provision and co-ordination of community services and facilities.	<p>The project has been designed to minimise impacts to community facilities.</p> <p>The project would improve access between towns and regional centres in the project area. Access to community services on the South Coast would be improved.</p>
To encourage the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.	<p>The project has been designed to minimise impacts on the environment, including impacts to native flora and fauna, threatened species, populations and ecological communities and their habitats.</p> <p>Impacts to endangered ecological communities (EECs) as a result of the project would be offset as discussed in Section 7.3.</p>

EP&A Act objective	Comment
To encourage ecologically sustainable development.	Ecologically sustainable development (ESD) is considered below in Section 11.1.3.
To encourage the provision and maintenance of affordable housing.	Not relevant to the project.
To promote the sharing of the responsibility for environmental planning between different levels of government in the State.	Throughout the project consultation has been undertaken with relevant levels of government.
To provide increased opportunity for public involvement and participation in environmental planning and assessment.	Community consultation has been undertaken throughout all stages of the project and would continue through the detailed design phase, construction and following the opening of the project. Details of community involvement are provided in <b>Chapter 6</b> .

### 11.1.3 Ecologically sustainable development

Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends is referred to as ESD. The principles of ESD have been an integral consideration for the Foxground and Berry bypass and throughout the development of the project. This includes the effective integration of social, economic and environmental considerations in all decision-making processes, as defined by Section 6(2) of the *Protection of the Environment Administration Act 1991*.

ESD requires the effective integration of social, economic and environmental considerations in decision-making processes. The four main principles supporting the achievement of ESD are discussed below in the context of the project. **Table 11-2** summarises how the Foxground and Berry bypass project is consistent with the principles of ESD.

In NSW, the commitment to the concept of environmental sustainability is expressed in current legislation. It is an object of the EP&A Act to encourage ESD (Section 5(vii)).

The four principles of ESD are defined as follows:

**The precautionary principle** – if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:

- (i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment.
- (ii) An assessment of the risk-weighted consequences of various options.

**Inter-generational equity** – the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

**Conservation of biological diversity and ecological integrity** – that conservation of biological diversity and ecological integrity should be a fundamental consideration.



**Improved valuation, pricing and incentive mechanisms** – that environmental factors should be included in the valuation of assets and services, such as:

- (i) Polluter pays - those who generate pollution and waste should bear the cost of containment, avoidance or abatement.
- (ii) The users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste.
- (iii) Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms that enable those best placed to maximise benefits or minimise costs, to develop their own solutions and responses to environmental problems.

**Table 11-2** considers all four principles of ESD in the light of the project.

**Table 11-2 Application of the principles of ESD to the project**

ESD principle	Foxground to Berry bypass	Project application
Precautionary principle	<p>The project environmental assessment has included a strategic approach to ensure that environmental risks are considered early and time is afforded for detailed specialist reports in key risk areas.</p> <p>All information has utilised best available technical information and environmental standards, goals and measures to minimise potential environmental risks. In addition 'do nothing' scenarios used for assessment have been adopted to take into account the precautionary principle.</p>	<p>A number of environmental impacts are difficult to quantify or define. In order to alleviate this, the precautionary principle was applied early in the Project through the risk process and early mitigation measures identified. An environmental risk analysis was completed for the project development and environmental assessment. The risk analysis included an evaluation of whether the project poses any risk of serious or irreversible environmental harm. Specialist investigations that were of particular importance in applying a precautionary approach to the project included flora and fauna, climate change and flood management.</p> <p>As a precautionary approach, all worse case potential environmental impacts have been assessed and mitigation measures have been developed to manage those worse case impacts.</p> <p>Flora and Fauna field investigations have enabled important ecological features to be avoided during the initial route selection stage, where possible. The Biodiversity Offset Strategy (<b>Appendix E</b>) addresses residual impacts that cannot be mitigated, such as the unavoidable loss of Riverbank forest (River-flat eucalypt forest EEC).</p>

ESD principle	Foxground to Berry bypass	Project application
Inter-generational equity	The project has included a number of specialist reports to assess social equity both in terms of environmental, social and economic costs and benefits to the current community and future generations.	<p>A number of potential socio-economic impacts in both construction and operational phases of the project have been assessed, including impacts to amenity, community cohesion, business, recreation and the agricultural sector. Overall, the social and economic benefit of the proposal is expected to outweigh any negative impacts that cannot be satisfactorily mitigated.</p> <p>Impacts resulting from climate change such as the frequency and intensity of flooding events, storm surges and sea level rises have also been considered including an allowance for a 6% increase in rainfall intensity, the majority of which are not considered to carry a high likelihood or severity. The outcomes of the climate risk assessment and the flood management study have been considered in the design (particularly culvert and bridge design).</p>
Conservation of biological diversity and ecological integrity	<p>Potential impacts resulting from the project on ecological values include the following:</p> <ul style="list-style-type: none"> <li>• Vegetation clearance and habitat loss.</li> <li>• Increased fragmentation including edge effects.</li> <li>• Increased mortality.</li> <li>• Weed invasion.</li> </ul>	The route selection and the development of the concept design have sought to avoid and minimize biodiversity impacts as much as possible. This includes the design of appropriate fauna connectivity structures and the consideration of appropriate revegetation strategies to maintain fauna movement patterns and habitat. The Biodiversity Offset Strategy ( <b>Appendix F</b> ) addresses residual impacts that cannot be mitigated, such as the unavoidable loss of Riverbank forest (River-flat eucalypt forest EEC). Climate change impacts have also been considered but the assessment indicates that the likelihood of direct impact on biodiversity in the project area is low.

ESD principle	Foxground to Berry bypass	Project application
Improved valuation and pricing of environmental resources	<p>The pricing of environmental resources is considered throughout the assessment and is best demonstrated through the socio-economic assessment, the greenhouse gas report and the Biodiversity Offset Strategy.</p> <p>In addition the costs associated with the planning and design of mitigation measures to minimise adverse environmental impacts and the cost to implement them have been built into the overall project costs</p>	Overall, the social and economic benefit of the proposal is expected to outweigh any negative impacts that cannot be satisfactorily mitigated. In addition the greenhouse gas assessment considered the impact of the Clean Energy Future legislative Package 2011 (including the carbon price).

## 11.2 Conclusion

This environmental assessment has addressed the key issues identified in the DGRs issued under Part 3A of the EP&A Act. A checklist showing where the DGRs are addressed in this environmental assessment is provided in **Appendix A**. The assessment has also addressed the additional key issues identified in the environmental risk analysis in **Chapter 9**. The key issues identified include:

- Implications for traffic and transport.
- Noise and vibration impacts.
- Impacts on flora and fauna.
- Surface and groundwater impacts.
- Flooding impacts.
- Landscape and visual amenity changes.
- Impacts to Aboriginal heritage.
- Impacts to non-Aboriginal (historic) heritage.
- Property and land use issues.
- Socio-economic impacts.

Where possible, these impacts have been avoided through the design of the project. Unavoidable impacts would be managed through the mitigation measures detailed in **Chapter 7**, **Chapter 8** and the Statement of Commitments in **Chapter 10**. Consultation has been undertaken with affected stakeholders to provide early notification of potential impacts. Where appropriate, consultation has included identification and agreement on appropriate mitigation measures (refer to **Chapter 6** for further details).

The project would provide beneficial outcomes on a local and regional scale. These would include:

- Improved road safety on the Princes Highway and the 'Sandtrack'.
- Improved road efficiency on the Princes Highway.
- Removed conflicts between highway and local traffic movements within Berry.
- Improved safety and amenity within Berry due to the removal of heavy vehicles.
- Improved access to the existing tourism industry on the South Coast.
- Greater reliability of access to markets and raw materials in Sydney and the Wollongong-Kiama area for industries in the Nowra area.
- Increased turnover for non-highway reliant businesses.
- Reduced flooding in Berry due to the diversion of Town Creek.

These benefits as well as the mitigation of impacts mean that the project would meet its objectives (as discussed in **Section 12.1**). It would also satisfy key government strategies and plans, including the *Illawarra Regional Strategy* and *Shoalhaven – An Enterprising Alternative, an Economic Development Strategy*. These plans identify improvements to the Princes Highway as a priority to support the economy of the NSW south coast.

The project has been designed in accordance with current RMS road design guidelines, safety and traffic efficiency requirements to address the existing high crash history, and aims to deliver immediate safety benefits.

The project achieves acceptable environmental, social and economic outcomes, and delivers substantial road safety and wider economic and road-user benefits. The project is considered justified.