

Minister for Planning  
PO Box 500  
**EAST MELBOURNE VIC 3002**

Contact: David Gellion  
Telephone: (03) 5172 2628  
Our Ref: krs92681.1et  
File No: SC 040 10

Dear Minister

**SOUTH GIPPSLAND HIGHWAY  
FLOOD PROTECTION & UPGRADE – STAGE 3 COX’S BRIDGE  
EES REFERRAL**

Please find attached a referral under the Environment Effects Act 1978 for the proposed upgrade and flood protection of the South Gippsland Highway between Longford and Sale: Stage 3 Cox’s Bridge, prepared in accordance with the EES Referral Form.

Should you require any further information, please contact David Gellion of this office on telephone number (03) 5172 2628 or e-mail [David.Gellion@roads.vic.gov.au](mailto:David.Gellion@roads.vic.gov.au).

Yours sincerely



**ANITA CURNOW  
ACTING REGIONAL DIRECTOR**

Date: 31 / 08 / 2009



# REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE ENVIRONMENT EFFECTS ACT 1978

## REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

**It will generally be useful for a proponent to discuss the preparation of a Referral with the Department of Planning and Community Development (DPCD) before submitting the Referral.**

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once DPCD is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
  - a brief description of potential changes or risks to environmental assets resulting from the project;
  - available information on the likelihood and significance of such changes;
  - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A CD or DVD copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Couriers

**Minister for Planning  
PO Box 500  
EAST MELBOURNE VIC 3002**

**Minister for Planning  
Level 17, 8 Nicholson Street  
EAST MELBOURNE VIC 3002**

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to [ees.referrals@dpcd.vic.gov.au](mailto:ees.referrals@dpcd.vic.gov.au) is encouraged. This will assist the timely processing of a referral.

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## PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

### 1. Information on proponent and person making Referral

<b>Name of Proponent:</b>	VicRoads
<b>Authorised person for proponent:</b>	Patricia Liew
<b>Position:</b>	Regional Director
<b>Organisation:</b>	Vic Roads – Eastern Victoria
<b>Postal address:</b>	120 Kay Street, Traralgon, Vic 3844
<b>Email address:</b>	Patricia.Liew@roads.vic.gov.au
<b>Phone number:</b>	03/51722666
<b>Facsimile number:</b>	
<b>Person who prepared Referral:</b>	David Gellion
<b>Position:</b>	Manager – Regional Projects
<b>Organisation:</b>	Vic Roads – Eastern Victoria
<b>Postal address:</b>	120 Kay Street, Traralgon
<b>Email address:</b>	David.Gellion@roads.vic.gov.au
<b>Phone number:</b>	03/51722666
<b>Facsimile number:</b>	
<b>Available industry &amp; environmental expertise:</b> (areas of 'in-house' expertise & consultancy firms engaged for project)	Ecology Partners Pty Ltd – Flora and Fauna assessment and targeted survey. Dr Vincent Clark & Associates – Cultural Heritage Due Diligence Assessment SMEC – Hydraulic Flood Modelling SMEC Urban – Planning Scheme Amendment VicRoads Environmental Services

### 2. Project – brief outline

<b>Project title:</b>	South Gippsland Highway Flood Protection and Upgrade between Sale and Longford: Stage 3 - Cox's Bridge
<b>Project location:</b> (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)	The project location is approximately 1.5km south of Sale and 5km north of Longford along the South Gippsland Highway. Attachment 1 shows the location of the proposed works.

**Short project description** (few sentences):

VicRoads is proposing to realign and raise the South Gippsland Highway (SGH) at Cox's Bridge between the townships of Sale and Longford in Gippsland, Victoria.

The proposed works include road and bridge construction and will partially encroach on the Sale Common which is part of the Gippsland Lakes Ramsar Wetland.

**3. Project description****Aim/objectives of the project** (what is its purpose / intended to achieve?):

The objective of this project is to provide a more consistent road environment along this section of the South Gippsland Highway and reduce the incidence of highway closure due to flooding.

**Background/rationale of project** (describe the context / basis for the proposal, eg. for siting):

This project is the final part of the upgrading of the South Gippsland Highway between Sale and Longford and involves the replacement of Cox's Bridge and raising the road and bridge levels to above the 1 in 20 year flood level (Average Recurrence Interval - ARI).

**Main components of the project** (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

This stage involves the replacement of Cox's Bridge with a new 450 metre long bridge, the raising of the roadways and construction of a second floodway structure 660 metres long, north of the Thompson River bridge. The total length of project road and bridge works is 2.85km.

The extent of the works is shown in Attachment 2.

**Ancillary components of the project** (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

The highway upgrade will require the relocation of the high pressure gas main, high voltage power lines and telecommunication cables. These services will be affected within the southern part of the project.

**Key construction activities:**

The key activities of the project are:-

- Preconstruction activities including relocation of a high pressure gas main, overhead powerlines and telecommunication cables
- earthworks including clearing of vegetation, stripping of topsoil, road widening, construction of road batters, drainage and preparation of subgrade
- bridgeworks including replacement of Cox's Bridge with a new 450m long bridge and construction of a new 660m long floodway structure
- roadworks including pavement construction, road surfacing, line marking and installation of signage

**Key operational activities:**

Version 4: September 2007

When the highway is completed and in service there will be no operational activities apart from the routine highway inspections and maintenance.

During construction there will be a need to manage the following activities a) control of highway traffic construction equipment and vehicles b) drainage and run-off from construction activities c) barricading and protection of the wetlands and billabongs and habitat d) access to public facilities, caravan park and properties.

**Key decommissioning activities** (if applicable): Remove as required the out of service HP Gas pipeline, power lines and other services that are affected by the works.

**Is the project an element or stage in a larger project?**

No  Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

The project is part of the development of South Gippsland Highway to 'A' road standard as identified in the VicRoads *South Gippsland Highway M420/A440 Corridor Strategy – Dandenong to Sale*.

The Cox's bridge project is the final stage of the highway upgrade between Sale and Longford. The previous stages, Swing Bridge Realignment (Stage 1) and Long Waterhole Bridge replacement and realignment (Stage 2) were completed in 2002 and 2003 respectively (refer to Attachment 1 – Locality Plan of Stages on the South Gippsland Highway).

When complete it will deliver the objective of reducing the frequency of flooding and closure of the SGH to a 1:20 year ARI.

**Is the project related to any other past, current or mooted proposals in the region?**

No  Yes If yes, please identify related proposals.

#### 4. Project alternatives

**Brief description of key alternatives considered to date** (eg. location, scale or design alternatives. If relevant, attach A4/A3 plans):

Options investigated in detail were kept as close as possible to the current highway alignment to minimise impacts on the Sale Common and the Thomson River whilst maintaining access for highway traffic during construction of the project. VicRoads has developed two alignment options beyond concept stage as shown in Attachment 2. Their relationship to the Sale Common is described as follows:-

**Central Alignment Option:** This option encroaches into the Sale Common for 300 metres to improve the alignment of a sharp bend and crosses from the Sale Common to the western side of the existing South Gippsland Highway near the entrance to the Thomson River Caravan Park. A new 450 metre structure replaces Cox's Bridge on the west side of the highway. This option will affect approximately 9 heritage listed trees between the existing highway and the caravan park. The total area of the Ramsar listed Sale Common impacted by this option is 1.3 hectares.

**West Alignment Option:** This option which is very similar to the Central option encroaches into the Sale Common for 240 metres to improve the alignment of a sharp bend and crosses from the Sale Common to the western side of the existing highway

through the Thomson River Caravan Park causing the caravan park to be closed and permanent residents relocated. This has the least impact on the Sale Common and heritage listed trees. The area of the Ramsar listed Sale Common impacted by this option is 1.0 hectares which is only marginally less area than the Central option.

During the initial planning phase, VicRoads also investigated an East Alignment Option. This option, which is similar to the Central and West Alignment options, follows the existing highway through the Sale Common east of the West and Central Alignments avoiding the Thomson River Caravan Park and the heritage trees. However, this option had the greatest impact on the Ramsar listed Sale Common and the Cox's Bridge billabong which is potential habitat for the Nationally significant Dwarf Galaxias. In addition, the East Alignment Option requires the largest area of native vegetation to be removed, equivalent to a total of 2.67 hectares compared with 2.11 hectares for the Central Alignment and 1.96 hectares for the West Alignment. In response to feedback from a range of stakeholders (refer Part 10 for details of the stakeholder group), this option was eliminated from further consideration.

**NOTE:** The above alignment options were renamed during the planning phase for simplicity's sake. Earlier reports refer to Option East, Option West and Option West (Caravan Park). The current names assigned to these options are East Alignment Option Central Alignment Option and West Alignment Option respectively.

**Brief description of key alternatives to be further investigated (if known):**

The remaining Central and West alignment options have been presented for public submissions as part of the formal exhibition of the planning Scheme Amendment. A preferred option will be chosen following review of submissions and prior to review by a planning panel as discussed with DPCD. Once a decision has been made regarding the approved alignment, further investigation including targeted surveys for significant fauna will be undertaken.

## 5. Proposed exclusions

**Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:**

Not Applicable

## 6. Project implementation

**Implementing organisation (ultimately responsible for project, ie. not contractor):** Vic Roads – Eastern Region

**Implementation timeframe:** Vic Roads is aiming to advertise contracts for the design and construction of the project early in 2010 and works to commence in late 2010.

**Proposed staging (if applicable):** These works will not be staged



## 7. Description of proposed site or area of investigation

<p><b>Has a preferred site for the project been selected?</b></p> <p><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If no, please describe area for investigation. If yes, please describe the preferred site in the next items (if practicable).</p> <p>The project involves upgrading the existing 2.85 km length of the South Gippsland Highway located between Sale and the bridge over the Thomson River, north of Longford.</p>
<p><b>General description of preferred site.</b> (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site &amp; surrounds, showing project footprint):</p> <p>This section of the South Gippsland Highway was constructed along a natural stretch of land formed by the historic deposition of silts and erosion regimes caused by the Thomson River that traverses along the west side of the highway. The existing highway's alignment takes advantage of this natural embankment to provide access to the wetlands, waterway and access bridges over the Thomson River to reach communities in the South and South West of Sale.</p> <p>Generally the site comprises flat modified/exotic grassland and scattered planted exotic and native trees in the north, and remnant indigenous woodland and wetland vegetation in the south. The site follows the course of the Thomson River for approximately 2.5 km, and also includes the eastern reaches of the Sale Common. An existing caravan park and associated infrastructure are situated to the west of the carriageway.</p> <p>According to DSE's Biodiversity Interactive Map (<a href="http://www.dse.vic.gov.au">www.dse.vic.gov.au</a>) the study area is within the Gippsland Plain Bioregion, which extends from Port Phillip Bay in the west to Bairnsdale in the east, between the southern slopes of the Great Dividing Range and Wilsons Promontory, excluding the Strzelecki Ranges.</p> <p>Attachment 1 shows the location of the proposed highway upgrade and its proximity to the Sale Common. Attachment 2 is an aerial photograph that shows the project footprint and the alignment of the options being considered.</p>
<p><b>Site area</b> (if known): 12 (hectares)</p> <p><b>Route length</b> (for linear infrastructure) 2.85 (km) <b>and width</b> 30.0 (m)</p> <p><b>Current land use and development:</b></p> <p>The current land use is an existing road reserve and crown land. On the east side of the highway, both alignment options encroach into the Sale Common wetlands and on the west side there is the Thomson River Caravan park and open space to the north of the park. These areas are managed by Wellington Shire Council. To the northeast of the site there are rural/residential lots with dwellings and some isolated industrial properties.</p>
<p><b>Description of local setting</b> (eg. adjoining land uses, road access, infrastructure, proximity to residences &amp; urban centres):</p> <p>The existing Cox's Bridge is located in the northern section of the project. The bridge is a narrow low level bridge with 2 lanes, no shoulders for cyclists or pedestrians use. At the northern limits (May Street) of the proposed works is land currently used for netball courts. This area may be developed to relocate the Gippsland TAFE college. South of May Street on the east side of the South Gippsland Highway are a number of rural living style residential lots 20-30m from the roadway. There are two lots of land on the corner</p>

of Johns and Stephensen Streets being used for industry purposes. Further south, at the northern edge of the Sale Common is Crown land containing a motorcycle/dirt bike track and a rifle club. The Thomson River Tourist Caravan Park is located in the middle section of the project on the banks of the Thomson River. The main commercial /shopping area of Sale is located approximately 1 km to the north of May Street.

Existing services infrastructure located within the vicinity are the high pressure gas main, high voltage power lines and telecommunication cables. These services run adjacent to the current highway and will require relocation to facilitate the new highway upgrade works.

**Planning context** (eg. strategic planning, zoning & overlays, management plans):

Use and development on the site is governed by the Wellington Planning Scheme. The site is within a number of zones and overlays. The Sale Common Wetlands is zoned Public Conservation and Resource Zone (PCRZ) and is protected by an Environmental Significance Overlay 2 (ESO2). On the west side of the South Gippsland Highway, the Caravan Park and the land to the north is zoned Public Park and Recreation Zone (PPRZ). The whole site is contained within a Rural Floodway Overlay (RFO). At Robinson Park reserve, located south of the caravan park there is a collection of exotic trees (Oak) within the reserve and a row of mature elms along the SGH from the reserve to Cox's Bridge. These trees are protected in a heritage overlay in Wellington's Planning Scheme HO134.

The existing highway is contained within the Road Zone 1. The proposed works require rezoning land to Road Zone 1 and changes to the Overlay Controls.

**Local government area:**

The proposed works are wholly contained with the Wellington Shire.

## 8. Existing environment

**Overview of key environmental assets/sensitivities in project area and vicinity**  
(cf. general description of project site/study area under section 7):

The Cox's Bridge section of the highway is generally sited between the Thomson River to the west and the Sale Common to the east.

The Sale Common is a 308 hectare wetland forming 5% of the Gippsland Lakes Ramsar Site, making it part of a wetland that is considered to be of international importance. The diversity of habitats for both flora and fauna, and the number of rare or threatened species recorded at the Sale Common make it an important environment in an otherwise modified landscape.

An investigative biological survey was conducted by Ecology Partners to undertake a flora and fauna assessment and preliminary Net Gain analysis of the vegetation along the proposed alignments. This report can be found as attachment 4. Both of the proposed alignments intersect with remnants of Floodplain Riparian Woodland and Floodplain Wetland Aggregate. The survey determined that the conservation significance to be of at least state significance on the east side of the South Gippsland Highway, given that it is part of the Sale Common and consists of remnant vegetation. The other areas were determined to be low significance for flora and fauna.

Ecology Partners also undertook further studies to determine the presence and extent of Dwarf Galaxias and Grouling Grass frog and found that none were present within the Sale Common at Cox's bridge

References:- Flora and Fauna report Nov 2008 attachment 4 and Targeted Survey report March 2009 attachment 5.

## 9. Land availability and control

### Is the proposal on, or partly on, Crown land?

No  Yes If yes, please provide details.

The existing and proposed works are all on Crown Land that is administered by several authorities as follows:-

#### Current land tenure :

Crown Allotment 23E Sec. C1 PARISH OF SALE – Zoned Public Park Recreational Zone (PPRZ) are the sporting ovals managed by Wellington Shire Council.  
 Crown Allotment 23F Sec. C1 PARISH OF SALE – Zoned Public Conservation and Resource Zone (PCRZ) is the Thomson River Caravan Park is managed by Wellington Shire Council and leased to Caravan Park Management.  
 Crown Allotment. 29 Sec. B2 PARISH OF SALE – Zoned PCZR is the Sale Common managed by Parks Victoria  
 Crown Allotment 31 Sec. B2 PARISH OF SALE – Zoned RDZ1 is partly Road Reserve managed by VicRoads  
 Crown Allotment. 18D Sec. C1 PARISH OF SALE –Sale Common is zoned RDZ1 is managed by Parks Victoria.

#### Intended land tenure (tenure over or access to project land):

Typically, after the Planning Scheme amendment is approved and completion of works there would be a follow up rezoning to amend the boundaries and re-allocate administrative responsibilities between Council, VicRoads, and Parks Victoria.

#### Other interests in affected land (eg. easements, native title claims):

There is an active Native Title claim covering the affected land - VID398/05

## 10. Required approvals

### State and Commonwealth approvals required for project components (if known):

VicRoads has received authorisation from Minister of Planning to be the planning authority and prepare two Planning Scheme Amendments (PSA) for the West Alignment Option (C56) and the Central Alignment Option (C57). If a directions hearing is required by Planning Panels Victoria, only one alignment will be presented as the preferred choice. Similarly, if a Panel is not required, only one alignment will be presented to the Minister for Planning for approval. The amendment proposes to:

- Rezone land from Public Park and Recreation Zone (PPRZ) and Public Conservation and Resource Zone (PCRZ) to Road Zone 1 (RDZ1).
- Remove a portion of the Environmental Significance Overlay Schedule 2 (ESO2).
- Remove a portion of the Heritage Overlay (HO134).
- Introduce the proposed road upgrading into the list of buildings and works in the Schedule to the Rural Floodway Overlay (RFO) for which a permit is not required under Clause 44.03-1.
- Include a permit exemption within the Schedule to Clause 52.17 for the removal

of native vegetation associated with the road upgrading.

**Have any applications for approval been lodged?**

No  Yes  If yes, please provide details.

VicRoads has submitted a referral to the Federal Department of Environment, Water, Heritage and the Arts (DEWHA), dated 19 June 2009 under EPBC Act for the proposed upgrade and flood protection of the South Gippsland Highway between Sale and Longford: Stage 3 Cox's Bridge. VicRoads has recommended that the project is not a controlled action.

The above referral is based solely on the Central Alignment Option on the basis that out of the two options being considered, this option has the greater impact under the EPBC legislation on the Ramsar listed Sale Common. If the West Alignment Option is ultimately approved, VicRoads will advise the DEWHA accordingly and provide any specific details that may be required regarding the (lesser) impacts of this option.

**Approval agency consultation** (agencies with whom the proposal has been discussed):

Department of Planning and Community Development Regional office in Traralgon  
Federal Department of Environment, Water, Heritage and the Arts  
Wellington Shire Council

**Other agencies consulted:**

Wellington Shire and other public authorities have been regularly updated regarding the proposed works. A Stakeholder Consultative Group was established in early 2000 and reconvened in 2008. It contained approximately 25 participants including:

- The Department of Sustainability and Environment
- The Environment Protection Authority
- The West Gippsland Catchment Management Authority
- Parks Victoria
- The Department of Planning and Community Development
- The Department of Primary Industries

## PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

### 11. Potentially significant environmental effects

**Overview of potentially significant environmental effects** (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

The project borders the western edge of the Sale Common which is a 308 hectare wetland forming 5% of the Gippsland Lakes Ramsar Site. The Gippsland Lakes Ramsar site is located on the low-lying South East Coastal Plain of the Latrobe Valley and south of the Eastern Highlands, approximately 300km from Melbourne.

The diversity of habitats for both flora and fauna, and the number of rare or threatened species recorded at the Sale Common make it an important environment in an otherwise modified landscape.

The Cox's Bridge section of the highway is 'wedged' generally between the Thomson River to the west and the Sale Common to the east. The proximity and alignment of the

South Gippsland Highway upgrade - Cox's Bridge in relation to the Sale Common Ramsar wetland is shown in Attachment 1.

The encroachment into the Ramsar listed Sale Common by the Central and West Alignment options are shown in Attachment 3.

VicRoads engaged Snowy Mountain Engineering Company (SMEC) to undertake Hydraulic Flood Modelling to determine the best location for the bridge sections and required waterway area to provide for the adequate passage of floodwaters through the Sale Common and to prevent the raising of flood levels at the Port of Sale, located approximately 2km to the north of Cox's Bridge.

The hydraulic modelling identified that the highway needs to be raised by approximately 1.5 metres and that a total of 1100 metres of bridge works was required to raise the road and bridge levels to above the 1 in 20 year Average Recurrence Interval (ARI) and also to satisfy any rise in floodwaters at the Port of Sale for the 1 in 100 ARI.

VicRoads also commissioned a study (Earth Tech/VicRoads, 2003, Attachment 6), which assessed the potential ecological and biological effects on the Sale Common from changes in the flooding regime associated with proposed highway upgrading works. The study made the following conclusions:

The hydraulic flood modelling results show that the proposed roadworks will not significantly alter the volumes entering the Sale Common resulting from river flows that occur on average once every 1 to 2 years. These lower flows are the most important ones for the wetland ecology. There is expected to be some reduction in the frequency of higher river inflows to the wetland.

Since there will be minimal change to the current water regime of Sale Common it is expected that there would only be minimal change to its ecology. There is not expected to be any loss or change to wetland zones or fauna habitat as a result of the proposed highway upgrade.

The primary impact will be that associated with the construction of the road embankment within the Sale Common. Construction is planned to be undertaken during the summer period when water levels in the Thomson River and the Sale Common are at their lowest.

In Sections 6.1 and 6.2 of the Flora and Fauna report, 2008 by Ecology Partners, (Attachment 4), details the potential impacts and mitigation measures for the proposed works which includes measures needed in relation to the Sale Common. VicRoads will ensure that the performance of the works for the preferred option will meet these mitigation requirements.

**12. Native vegetation, flora and fauna**

**Native vegetation**

**Is any native vegetation likely to be cleared or otherwise affected by the project?**

NYD  No  Yes If yes, answer the following questions and attach details.

**What investigation of native vegetation in the project area has been done?** (briefly describe)

VicRoads commissioned specialist consultant *Ecology Partners* to undertake a Flora and Fauna Assessment and Preliminary Net Gain Analysis plus a Targeted Survey to identify any significant species and to recommend appropriate mitigation strategies. These studies were carried out in September 2008 and March 2009 respectively. These reports are included as Attachments 4 & 5.

**What is the maximum area of native vegetation that may need to be cleared?**

NYD  Yes

The Flora and Fauna reports estimate the following areas may need to be cleared. The extent depends on the final option chosen :- Central Alignment Option 2: 11 Ha and West Alignment (caravan park) Option 1: 96 Ha

**How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?**

N/A  Yes ..... approx. percent (if applicable)

**Which Ecological Vegetation Classes may be affected?** (if not authorised as above)

NYD  Preliminary/detailed assessment completed. If assessed, please list:

The two proposed alignments intersect with remnants of Floodplain Riparian Woodland and Floodplain Wetland Aggregate

**Have potential vegetation offsets been identified as yet?**

NYD  Yes If yes, please briefly describe.

A Net Gain Analysis has been undertaken for the proposed two alignments, refer to Section 7 of the Flora and Fauna report, Attachment 4. A brief summary is provided below:

**Central Alignment Option**

A requirement to generate 2.33 habitat hectares from the Gippsland Plain bioregion, protect 108 trees and to recruit 520 new trees for losses from vegetation patches, to protect 24 small and old trees and to recruit 120 new trees OR to recruit 920 new trees from scattered tree losses.

**West Alignment Option**

A requirement to generate 2.15 habitat hectares from the Gippsland Plain bioregion, protect 104 trees and to recruit 520 new trees for losses from vegetation patches, to protect 25 small and old trees and to recruit 125 new trees OR to recruit 970 new trees from scattered tree losses.

**Other information/comments?** (eg. accuracy of information)

NYD = not yet determined

**Flora and fauna**

**What investigations of Flora and fauna in the project area have been done?**

(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

The conclusions of the Flora & Fauna report are as follows (attachment 4):-

**Flora**

A total of 96 plant taxa (37 indigenous, 59 exotic) were recorded within the study area during the assessment (Appendix 2.1).

Based upon the current assessment it is considered that the site consists of modified Floodplain Riparian Woodland where a canopy of River Red Gums *Eucalyptus camaldulensis* are present and Floodplain Wetland Aggregate where semi-aquatic and aquatic species are present. Both proposed alignments intersect with remnants of Floodplain Riparian Woodland and Floodplain Wetland Aggregate.

The northern half of the study area is in a very poor condition, and is dominated by planted trees and shrubs, and a ground cover of introduced grasses, and the southern half of the study (south of Cox's Bridge) consists of areas dominated by introduced flora species, which are in a very poor condition (Caravan Park) and areas dominated by modified Floodplain Riparian Woodland and Floodplain Wetland Aggregate vegetation, which are both in moderate condition.

**Fauna**

A total of 61 terrestrial fauna species, comprising four native mammals, 54 birds (49 native, five introduced), two frogs and one introduced fish were recorded within the study area during the present survey. No native reptile species were recorded during the survey period. Domesticated pets or livestock were not recorded as part of the study.

Four major habitat types occur in the study area, and they are located in each realignment option. These include: exotic pasture, scattered planted native and exotic trees, wetlands and riparian woodlands. The condition of the overall habitat within the study area for fauna is considered low to high. A high number of additional native and introduced species are likely to use these habitats, particularly within riparian habitats.

**Site conservation significance**

The northern half of the study area is considered to support few, if any ecological values, and has negligible significance for flora and fauna. However, the scattered remnants in this area are considered to be of high local ecological significance.

The southern half of the study area is considered to be of at least state significance, particularly on the east side of the South Gippsland Highway, given that it is part of the Sale Common and consists of remnant vegetation.

VicRoads also commissioned Ecology Partners to undertake a targeted aquatic fauna survey for the Dwarf Galaxias, Growing Grass Frog and avifauna survey for species listed as migratory/marine under the Environmental Protection and Biodiversity Act within Cox's Bridge billabong. Refer to Attachment 5.

**The conclusions from Targeted Survey :-**

Despite extensive surveys conducted there was no current evidence of Dwarf Galaxias within Sale Common or at Cox's Bridge. While Dwarf Galaxias was previously recorded within the Sale Common (2007), the species was not recorded during the targeted survey. Although the targeted survey was undertaken during survey conditions for Growing Grass Frog, the species was not recorded during this assessment.

**Have any threatened or migratory species or listed communities been recorded from the local area?**

NYD  No  Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.

Refer Appendix 2.2 – Significant Flora Species and Appendix 3.2 – Significant Fauna Species of Ecology Partners final flora and fauna report (October 2008).

A total of 61 terrestrial fauna species, comprising four native mammals, 54 birds (49 native, five introduced), two frogs and one introduced fish were recorded within the study area during the survey (refer F&F report attachment 4, appendix 3.1). No native reptile species were recorded during the survey period.

**If known, what threatening processes affecting these species or communities may be exacerbated by the project?** (eg. loss or fragmentation of habitats) Please describe briefly.

Based on the current F&F survey few, if any, flora and several terrestrial fauna species, and one fish species, listed under the FFG Act 1988 are likely to occur within the study area, at times. Any proposed re-alignment of the South Gippsland Highway irrespective of the preferred option, is likely to have some impact on indigenous flora and fauna including the removal of hollow bearing trees. Indirect effects on adjacent areas are also possible if construction activities and drainage are not appropriately managed, in particular, within the Sale Common and the Thomson River verges.

**Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?**

- NYD    X    No    Yes   If yes, please:
- List these species/communities:
  - Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

Ecology Partners carried out targeted surveys for Growling Grass Frog, Dwarf Galaxias and EPBC Act listed Migratory/Marine birds for the proposed Cox's Bridge and South Gippsland Highway upgrade. Attachment 5

The report concluded:- Despite targeted surveys having been undertaken during suitable conditions, Dwarf Galaxias were not detected within the study area. Similarly, Growling Grass Frog was not detected in the Cox's Bridge Billabong, Thomson River or Sale Common, despite these areas all supporting key habitat characteristics for the species. Additionally, despite undertaking relatively intensive surveys for significant, rare and EPBC Act listed migratory and marine bird species, only a limited number (14) were observed within the study area during the present assessment.

**Is mitigation of potential effects on indigenous flora and fauna proposed?**

- NYD    No    Yes   If yes, please briefly describe.

The following measures are proposed to minimise impacts upon indigenous flora and fauna as follows:-

During the planning and development phase of this project VicRoads has sought advice from whole range of stakeholders and have engaged specialist consultants to undertake various environmental studies. VicRoads has undertaken the following measures to reduce the impacts on the Sale Common:

The new alignment has been kept as close as possible to the existing South Gippsland Highway alignment to minimise impacts on the Sale Common (Ramsar wetlands) while maintaining access for highway traffic during the construction of the project. The radii of the curves to improve the sharp bends in the highway have been kept to minimum safe standard to achieve a design speed of 100km/h. Use of a larger radius would further impact the Sale Common.

There is not expected to be any loss or change to wetland zones or fauna habitat as a result of the proposed highway upgrade.

VicRoads has investigated and eliminated an East Option and further options to the east after receiving feedback from the stakeholders, because of the larger impact on the Sale Common and associated native vegetation and aquatic and terrestrial habitats.



Other measures to be implemented are:

- Impacts on the wetland associated with Cox's Bridge bilabong are considered a priority and will be minimised and prior to any road works commencing, a targeted survey for the Dwarf Galaxias will be undertaken.
- Once a preferred option is selected, minimise impacts on native vegetation, particularly south of Cox's Bridge by restricting construction activities to areas of modified vegetation (Caravan Park) and the roadside/gravel verges (where appropriate), and install temporary fencing (parawebbing) to prevent access to adjacent patches of remnant native vegetation, particularly the Floodplain Riparian Woodland remnants in the south of the study area. The avoidance of remnant native vegetation will satisfy the first step of the Net Gain policy and subsequently reduce the total Net Gain offset requirement for the project. It will also reduce impacts to any fauna (primarily ground dwelling species with limited dispersal capabilities).
- Retained areas of ecological significance will be fenced and labelled as 'no go' areas during any construction activities;
- Where possible, avoid disturbing native vegetation through construction and micro-siting techniques. If indeed necessary, trees should be lopped or trimmed rather than removed. Similarly, soil disturbance and sedimentation within wetlands will be avoided or kept to a minimum, to avoid, or minimise impacts to fauna habitats;
- Minimise noise disturbance to waterbirds at the Sale Common and other areas within the study area during construction;
- All contractors will be made aware of areas of ecological value and penalties imposed if vegetation is removed or disturbed without permission, or outside the area of works;
- Where possible, construction stockpiles, machinery, roads, and other infrastructure will be placed away from areas supporting native vegetation, large old trees and/or wetlands;
- Use locally indigenous tree, shrub and understorey plantings in any plantings within the study area, which can be part of the roadside landscaping;
- If any trees or shrubs are proposed to be removed then fauna such as Brushtail or Ring-tailed Possums, micro-bats should be salvaged and translocated;
- All will be made aware of areas of ecological value and penalties imposed if vegetation is removed or disturbed without permission, or outside the area of works. To ensure that vegetation is not inadvertently disturbed, remnant vegetation will be fenced
- Include EVC polygons (areas of sensitivity) on detailed surveying drawings and check for accuracy; and
- Ensure that best practice sedimentation and pollution control measures to the satisfaction of EPA are undertaken at all times to prevent offsite impacts to waterways and wetlands.

**Other information/comments?** (eg. accuracy of information)

### 13. Water environments

**Will the project require significant volumes of fresh water (eg. > 1 GL/yr)?**  
 NYD  No  Yes If yes, indicate approximate volume and likely source.

**Will the project discharge waste water or runoff to water environments?**  
 NYD  No  Yes If yes, specify types of discharges and which environments.

The project will result in similar runoff to that occurring presently from the existing highway. During construction, rainfall runoff from the construction area will be controlled in accordance with best practices and will conform with EPA and VicRoads guidelines. The highway will be designed in a manner which will ensure drainage complies with the required construction and environmental guidelines. The highway drainage will ultimately be directed to the Thomson River or the Sale Common wetland as it does at present.

<p><b>Are any waterways, wetlands, estuaries or marine environments likely to be affected?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments, answer the following questions and attach any relevant details.</p>
<p><b>Are any of these water environments likely to support threatened or migratory species?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments.</p> <p>Cox's Bridge billabong and Sale Common wetlands.</p>
<p><b>Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</p> <p>Sale Common Wetlands</p>
<p>The Sale Common is a 308 hectare wetland forming 5% of the Gippsland lakes Ramsar Site.</p>
<p><b>Could the project affect stream flows?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, briefly describe implications for stream flows.</p> <p>The hydraulic flood modelling results show that the proposed roadworks will not significantly alter the volumes entering the Sale Common resulting from river flows that occur on average once every 1 to 2 years. These lower flows are the most important ones for the wetland ecology. There is expected to be some reduction in the frequency of higher river inflows to the wetland. However there is an existing drop board structure on southern side of the Sale Common. With the structure opened, water can be let into the wetland from Latrobe River with flows below the flood events required to overtop the levee banks and the structure can be used to let water out of the wetland when it is full.</p> <p>Therefore this structure provides management control on river flows entering the wetland that can compensate, if required, for slightly fewer inflows from river flows over the levee banks.</p>
<p>The project will involve raising of the SGH to above the 1:20 ARI. During the planning phase of the project, SMEC undertook hydraulic modelling to ensure that the highway upgrade design does not change the flooding regime of the wetlands and to ensure that the afflux levels upstream of the project met the urban and rural requirements. Two sections of the upgraded highway will have significant bridge structures (total length 1110m) included to minimise the affect on stream flows and improve the flooding regimes within the Sale Common</p>
<p><b>Could regional groundwater resources be affected by the project?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, describe in what way.</p>
<p><b>Could environmental values (beneficial uses) of water environments be affected?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)</p>
<p><b>Could aquatic, estuarine or marine ecosystems be affected by the project?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, describe in what way.</p>
<p><b>Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?</b></p> <p><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.</p>
<p><b>Is mitigation of potential effects on water environments proposed?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe.</p>

Undertake a pre-disturbance targeted aquatic survey for Dwarf Galaxias prior to the commencement of any construction activities, to ensure the absence of the species in Cox's Bridge billabong;

Prepare a Conservation Management Plan specifically for Dwarf Galaxias, detailing salvage and translocation protocol and management recommendations, which are to be followed in the event Dwarf Galaxias are found during construction works

**Other information/comments?** (eg. accuracy of information)

#### 14. Landscape and soils

##### Landscape

<p><b>Has a preliminary landscape assessment been prepared?</b>  <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please attach.</p>
<p><b>Is the project to be located either within or near an area that is:</b></p> <ul style="list-style-type: none"> <li>• <b>Subject to a Landscape Significance Overlay or Environmental Significance Overlay?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, provide plan showing footprint relative to overlay.</li> </ul> <p>The proposed works are within and adjacent to the following overlay:  ESO2 - Wetlands</p> <p>Attachment 8 provides details of the Environmental Significant overlay showing the location of the Sale Common and the footprint of the project relative to the wetlands.</p> <ul style="list-style-type: none"> <li>• <b>Identified as of regional or State significance in a reputable study of landscape values?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> <li>• <b>Within or adjoining land reserved under the <i>National Parks Act 1975</i> ?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please specify.</li> </ul> <p>Sale Common State Game Refuge is not reserved under the National Parks Act 1975  It is a recognised State Game Refuge and administered by Parks Victoria.</p> <ul style="list-style-type: none"> <li>• <b>Within or adjoining other public land used for conservation or recreational purposes ?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> </ul> <p>The works are adjacent to the Sale Common wetlands (east side) and the Caravan park, sporting grounds &amp; recreational areas on the west side of the South Gippsland Highway.</p> <p><b>Is any clearing vegetation or alteration of landforms likely to affect landscape values?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe.</p> <p>The central alignment will impact upon a stand of mature elms that form part of HO134. Removal of these trees – fully or partially may alter the landscape value of the road.</p> <p><b>Is there a potential for effects on landscape values of regional or State importance?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Please briefly explain response.</p> <p><b>Is mitigation of potential landscape effects proposed?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe.</p> <p><b>Other information/comments?</b> (eg. accuracy of information)</p>

**Note:** A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

### Soils

**Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?**  
 NYD  No  Yes If yes, please briefly describe.

Acid sulphate soils associated with the wetland environment are likely to occur at depth. The majority of excavation associated with the project involves shallow excavation. However, Contractors will be required to have procedures in place for the management of acid sulphate soils that may be encountered during the works.

**Are there geotechnical hazards that may either affect the project or be affected by it?**  
 NYD  No  Yes If yes, please briefly describe.

**Other information/comments?** (eg. accuracy of information)

### 15. Social environments

**Is the project likely to generate significant volumes of road traffic, during construction or operation?**  
 NYD  No  Yes If yes, provide estimate of traffic volume(s) if practicable.

**Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?**  
 NYD  No  Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

During the relocation of services and upgrading of the highway, the traffic using the highway between Sale and Longford will experience some delays from time to time to enable this work to be carried out. It is intended that the disruption to traffic will be minimised during the construction of the works.

Also, depending on the final alignment option selected, the residents and annuals of the Thomson River Caravan Park and the residents of the adjacent properties at the northern end of the project will experience some inconvenience and disruption during the construction of works.

**Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?**  
 NYD  No  Yes If yes, briefly describe the hazards and possible implications.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?  
 NYD  No  Yes If yes, briefly describe potential effects.

The West Option requires the Thomson River Caravan Park to be closed which would result in the relocation of approximately 10 permanent and 49 annual residents and the loss of full time employment for the park managers. In addition to permanent residents,

the park currently has 3,250 overnight visits a year. The majority of annual residents at the park have been frequent visitors for up to 35 years and share strong family and friendship ties with the other residents. Consequently, there is a strong sense of community at the park which would be significantly disrupted if the park were to be closed.

In considering the final alignment, this impact will be compared against the removal of the historic elm trees and the slightly greater impact on the Sale Common posed by the Central Alignment Option.

The decision on which option will be adopted has not yet been made.

**Are non-residential land use activities likely to be displaced as a result of the project?**

NYD  No  Yes If yes, briefly describe the likely effects.

**Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?**

NYD  No  Yes If yes, briefly describe the potential effects.

**Is mitigation of potential social effects proposed?**

NYD  No  Yes If yes, please briefly describe.

If the west caravan park option is chosen then mitigation measures will be negotiated with the lease holders of the caravan park and the caravan park residences.

**Other information/comments?** (eg: accuracy of information)

## Cultural heritage

**Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?**

No  If no, list any organisations that it is proposed to consult.  
 Yes If yes, list the organisations so far consulted.

VicRoads officers have met with Mr Lloyd Hood and representative from the registered Aboriginal party from the Gunai Kurnai to provide an overview of the project.

**What investigations of cultural heritage in the project area have been done?**

(attach details of method and results of any surveys for the project & describe their accuracy)

VicRoads officers have met with Mr Lloyd Hood, representative from the registered Aboriginal party from the Gunai Kurnai to provide an overview of the project. A Due Diligence Assessment was carried out by Dr V Clark in Nov 2008 (refer to attachment 7). This project was the subject of a previous desktop assessment and field assessment by Lane and Clark Cultural Heritage Study in May 2001. The Due Diligence Assessment reviewed and updated information in relation to cultural heritage issues and reviewed the implications for the project arising from current Victorian Cultural heritage legislation, in particular the Aboriginal Heritage Act 2006. Although there is no requirement for VicRoads to prepare a Cultural Heritage Management Plan (CHMP), VicRoads will prepare a CHMP as part of the project given the sensitivity of the area.

**Is any Aboriginal cultural heritage known from the project area?**

NYD  No  Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

**Are there any cultural heritage places listed on the Heritage Register or the Archaeological**

<p><b>Inventory under the <i>Heritage Act 1995</i> within the project area?</b></p> <p><input type="checkbox"/> NYD   <input checked="" type="checkbox"/> No   <input type="checkbox"/> Yes   If yes, please list.</p>
<p><b>Is mitigation of potential cultural heritage effects proposed?</b></p> <p><input type="checkbox"/> NYD   <input checked="" type="checkbox"/> No   <input type="checkbox"/> Yes   If yes, please briefly describe.</p> <p>VicRoads will prepare a CHMP as part of the project given the sensitivity of the area.</p>
<p><b>Other information/comments?</b> (eg. accuracy of information)</p>

**16. Energy, wastes & greenhouse gas emissions**

<p><b>What are the main sources of energy that the project facility would consume/generate?</b></p> <p><input type="checkbox"/> Electricity network. If possible, estimate power requirement/output .....</p> <p><input type="checkbox"/> Natural gas network. If possible, estimate gas requirement/output .....</p> <p><input type="checkbox"/> Generated on-site. If possible, estimate power capacity/output .....</p> <p><input checked="" type="checkbox"/> Other. Please describe.</p> <p>In the longer term once the highway construction has been completed there will be no energy consumed or generated. During construction, petroleum products will be used by construction vehicles and the construction of bridges will use concrete, steel and quarry products. Quarry products will be used in the road formations and bitumen in the road sealing.</p> <p>Please add any relevant additional information.</p>
<p><b>What are the main forms of waste that would be generated by the project facility?</b></p> <p><input checked="" type="checkbox"/> Wastewater. During construction, rainwater run-off and dewatering of foundations.</p> <p><input type="checkbox"/> Solid chemical wastes. Describe briefly.</p> <p><input type="checkbox"/> Excavated material. Describe briefly. Imported fill material to construct road and bridge embankments</p> <p><input type="checkbox"/> Other. Describe briefly. After completion of construction, the only discharge of waste from the highway will be rainfall run-off from the road surface which will be filtered through rock beaching and grassed areas prior to entering the waterways.</p> <p>Please provide relevant further information, including proposed management of wastes.</p>
<p><b>What level of greenhouse gas emissions is expected to result directly from operation of the project facility?</b></p> <p><input checked="" type="checkbox"/> Less than 50,000 tonnes of CO<sub>2</sub> equivalent per annum</p> <p><input type="checkbox"/> Between 50,000 and 100,000 tonnes of CO<sub>2</sub> equivalent per annum</p> <p><input type="checkbox"/> Between 100,000 and 200,000 tonnes of CO<sub>2</sub> equivalent per annum</p> <p><input type="checkbox"/> More than 200,000 tonnes of CO<sub>2</sub> equivalent per annum</p> <p>Please add any relevant additional information, including any identified mitigation options.</p>

## 17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

No  Yes If yes, briefly describe.

## 18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

Siting: Please describe briefly

Options investigated in detail were kept as close as possible to the current highway alignment to minimise impacts on the Sale Common and the Thomson River whilst maintaining access for highway traffic during construction of the project.

Design: Please describe briefly.

The radii of the curves to improve the sharp bends in the highway have been kept to a minimum safe standard to achieve a design speed of 100km/h. Use of a larger radius would further impact on the Sale Common. Also, ensure that the design of the structures and road formations comply with the requirements of the hydraulic studies so that the effects on the wetlands and upstream assets are minimised.

VicRoads has investigated and eliminated an East Option and further options to the east after receiving feedback from the stakeholders, because of the significantly larger impact on the Sale Common and associated native vegetation and aquatic and terrestrial habitats. Specifically, Dwarf Galaxias have been previously recorded in the Sale Common. The Cox's Bridge billabong provides potential habitat for this Nationally significant species.

Environmental management: Please describe briefly.

There is not expected to be any loss or change to wetland areas zones or fauna habitat as a result of the proposed highway upgrade.

Work will also be carried out in accordance with EPA and VicRoads environmental guidelines and as follows :-

### 18.1 Prior to Construction

The following measures will be undertaken prior to construction:

- Prepare a Conservation Management Plan specifically for Dwarf Galaxias, detailing salvage and translocation protocol and management recommendations, which are to be followed in the event Dwarf Galaxias are found during construction works;
- Prepare an Environmental Management Plan for the project with particular reference to the protection of native aquatic fauna and their associated habitats within the upstream/downstream of the project area;
- Undertake a pre-disturbance targeted aquatic survey for Dwarf Galaxias prior to the commencement of any construction activities, to ensure the absence of the species in Cox's Bridge billabong;
- Ensure all environmental protection measures follow best practice, including those recognized within the VicRoads Environmental Protection Policy (1999) and the VicRoads Project Management Guidelines – Environmental Protection (2000);

**18.2 During Construction**

The following measures will be undertaken during construction:

- Where possible, avoid disturbance of Sale Common and Cox's Bridge billabong bed sediments and in-stream habitat;
- Adopt best practice sediment control measures to protect in-stream habitat. Management practices and construction techniques should be consistent with *Construction Techniques for Sediment Pollution Control* (EPA 1991) and *Environmental Guidelines for Major Construction Sites* (EPA 1996);
- Refuel vehicles and machinery well away from Cox's Bridge billabong channel and the banks of both the Thompson River and Sale Common to avoid runoff of toxic substances into waterways;
- Avoid having heavy vehicles/plant equipment set close to the banks to prevent bank slough; and
- Consider measures for avoiding other FFG-listed potential threatening processes (Refer to Table 7, page 29 of Attachment 5 - Targeted Surveys for Growing Grass Frog, Dwarf Galaxias and EPBC Act listed Migratory/ Marine birds for the proposed Cox's bridge project, March 2009).

**18.3 Post Construction**

The following measures will be undertaken post construction:

- Undertake appropriate post construction clean-up of the site in accordance with environmental best practices, including the stabilisation of exposed soils with local native vegetation from the appropriate EVC and rehabilitation/reintroduction of in-stream habitat features where required (e.g. reintroduction of large woody debris, bed or bank stabilisation);
  - Undertake post-construction habitat assessments after completion of all works;
- Other: Please describe briefly
- Add any relevant additional information.

**19. Other activities**

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

NYD  No  Yes If yes, briefly describe.

**20. Investigation program****Study program**

Have any environmental studies not referred to above been conducted for the project?

No  Yes If yes, please list here and attach if relevant.

1. Report Cox's Bridge Proposed Roadworks. Assessment of effects on the Sale Common from



<p><b>Has a program for future environmental studies been developed?</b></p> <p><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, briefly describe.</p>
--

**Consultation program**

<p><b>Has a consultation program conducted to date for the project?</b></p> <p><input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.</p> <p>Wellington Shire and other public authorities have been regularly updated regarding the proposed works. A Stakeholder Consultative Group was established in early 2000 and reconvened in 2008. It contained approximately 25 participants including:</p> <ul style="list-style-type: none"> <li>• The Department of Sustainability and Environment</li> <li>• The Environment Protection Authority</li> <li>• The West Gippsland Catchment Management Authority</li> <li>• Parks Victoria</li> <li>• The Department of Planning and Community Development</li> <li>• The Department of Primary Industries</li> </ul> <p>The early sessions established the parameters for the environmental studies in conjunction with the flood modelling project. In 2008 the workshop considered the stakeholder views on the three alignment options.</p> <p>All permanent caravan park residents have been individually consulted and an information session was held for annual lease holders 6 and 7 March 2009. A community information day was held in the Sale on Wednesday, 17 March 2009. Plans of the proposed works were displayed at the Wellington Shire Council and VicRoads Traralgon office during the period from 17 March to 20 April 2009 which enable feedback on the options from the communities.</p>
<p><b>Has a program for future consultation been developed?</b></p> <p><input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, briefly describe.</p> <p>Formal Exhibition of Options.</p> <p>Ongoing consultation with community on preferred option during implementation phase.</p>

**Authorised person for proponent:**

I, Anita Currow (full name),  
Acting Regional Director, Eastern Region (position), confirm that the information  
 contained in this form is, to my knowledge, true and not misleading.

Signature [Signature]

Date 21/08/2009

**Person who prepared this referral:**

I, David Gellion (full name),  
MANAGER-REGIONAL PROJECTS (position), confirm that the information  
 contained in this form is, to my knowledge, true and not misleading.

Signature [Signature]

Date