

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

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Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	<p>This referral utilises information compiled by:</p> <ul style="list-style-type: none"> • GHD (2015) – Biodiversity Rapid Assessment • Ecology & Heritage Partners (2008, 2014) – Flora & Fauna • Beca (2012) – Alignment Options • Halcrow (2011) – Geotechnical • Vincent Clark and Associates (2008) – Cultural Heritage

2. Project – brief outline

Project title: Western Highway Beaufort Bypass														
<p>Project location: (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)</p> <p>The Western Highway Beaufort Bypass (the project) is located on the eastern, northern and western outskirts of the Beaufort township. An investigation corridor which encompasses three preliminary bypass alignments has been identified. The eastern end of the corridor ties in with the already duplicated section of the Western Highway immediately east of Beaufort and the western end ties in with the already approved section of the of the Western Highway duplication west of Beaufort.</p> <p>The AMG coordinates delineating the boundary of the investigation corridor are presented below:</p> <table border="1"> <thead> <tr> <th>Easting</th> <th>Northing</th> </tr> </thead> <tbody> <tr> <td>706829.50</td> <td>5855841.81</td> </tr> <tr> <td>707132.47</td> <td>5856258.25</td> </tr> <tr> <td>707876.25</td> <td>5856003.93</td> </tr> <tr> <td>708456.98</td> <td>5856161.23</td> </tr> <tr> <td>709475.49</td> <td>5857060.92</td> </tr> <tr> <td>710888.42</td> <td>5857430.43</td> </tr> </tbody> </table>	Easting	Northing	706829.50	5855841.81	707132.47	5856258.25	707876.25	5856003.93	708456.98	5856161.23	709475.49	5857060.92	710888.42	5857430.43
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714376.75	5856065.46
714804.99	5854846.53
715936.47	5854553.37
715856.31	5854176.64
714821.64	5854382.59
713789.89	5853952.82
712636.57	5854335.05
712348.75	5855251.13
711855.19	5855818.95
711130.98	5855504.99
710146.59	5855667.24
709993.95	5855930.09
709601.95	5856056.64
709200.72	5855949.59
708630.21	5855661.88
707996.85	5855683.13
707927.51	5855527.14
707628.26	5855631.41
707384.40	5855381.44

Refer Project Overview map (**Figure 1**) which shows the three preliminary bypass alignments within the investigation corridor overlaid on an aerial photograph with contours and waterways.

Short project description (few sentences):

The project involves the reservation of land for the future construction of highway duplication along a new alignment around the town of Beaufort. The bypass alignment would interface with completed sections (Sections 1 & 2) of the Western Highway duplication to the east and west of Beaufort. The project would remove bypass-able traffic from the town and include interchanges to provide connectivity with the township and surrounding facilities. Connections from the existing Western Highway (entry and exit ramps) to the new alignment will also be included within the investigation corridor.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

As the principal road link between Melbourne and Adelaide, the Western Highway serves interstate trade between Victoria and South Australia. It is also the key transport corridor through Victoria's western district, supporting farming, grain production, regional tourism and a range of manufacturing and service activities. The Western Highway is one of Victoria's busiest rural highways and between 5,500 and 23,000 vehicles travel the road each day.

The highway currently passes through the centre of Beaufort, through the urban environment with its corresponding speed restrictions, junctions and road user / pedestrian interactions. The primary purpose of the proposed Beaufort Bypass is to:

- Improve the freight movement and efficiency;
- Improve road safety within the township and arterial road network;
- Improve the access to markets and the competitiveness of local industries; and
- Improve the amenity within the township.

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

Approximately 6,500 vehicles travel along the Western Highway between Ballarat and Stawell each day, 30 percent of these being heavy commercial vehicles.

The overall functionality of the Western Highway is impeded by the obstruction of Beaufort township. The transport network would benefit from the introduction of a bypass at this location. Planning studies and consultation with Council has helped inform suitable routes for the bypass alignment that result in the least amount of disturbance to local flora and fauna, economy, cultural heritage and community, whilst also contributing to the overall objectives of the project.

The Australian Government made a commitment to fund the Western Highway Duplication Project in its former Nation Building Program with an initial contribution of \$404 million on the basis that the Victorian Government would contribute 20% of the total project cost. The Victorian Government included a funding commitment of \$101 million in the Victorian Transport Plan, released in December 2008. However these commitments excluded construction of the Beaufort Bypass. The Beaufort Bypass was to be subject to a separate needs assessment, consultation, planning and funding arrangements.

In 2011, VicRoads undertook a preliminary investigation of alignments around the towns of Ararat and Beaufort to determine the most appropriate start and end points for the Western Highway duplication – Ballarat to Stawell. This investigation allowed VicRoads to identify and document the Western Highway's approach and exit points that could cater for a future bypass of Beaufort.

The newly allocated \$4 million in funding (including \$1 million from the Victorian Government and \$3 million from the Australian Government) will see VicRoads undertake two detailed planning studies - one for Ararat and one for Beaufort. The planning studies aim to confirm a bypass alignment for each town.

The key drivers for the Beaufort Bypass are as follows:

- Delays on the Western Highway increase transport costs and reduce competitiveness of producers in Western Victoria;
- High freight traffic through Beaufort substantially diminishes the liveability and tourist potential of the town; and
- Road safety in Beaufort is compromised by the high freight and commuter traffic levels.

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

The project would include the following components:

- Construction of dual carriageway on a new alignment around the town of Beaufort;
- Construction of interchanges to connect the township of Beaufort to Western Highway (entry and exit ramps at east and west tie-ins);
- Several waterway crossings;
- Overpass of the Beaufort-Ballarat rail line; and
- Intersection treatment of local roads.

The two carriageways would be separated by a central median. The Right-of-Way (ROW, or road reservation) would be approximately 80 m wide for the dual carriageway increasing to approximately 250 m wide at interchanges. The three potential alignments on the figures attached are shown as the ROWs or road reservations.

A series of alignment options have previously been developed for the Beaufort Bypass (Beca, 2012), (**Attachment 1**). The alignment options assessed in the Beca (2012) report include two to the south of Beaufort (B2 and B3) which are not considered feasible due to reasons that are explained in Section 4 of this referral.

The alignment options assessed in the Beca (2012) report to the north of Beaufort (B4-A, B4-B and B5) which are considered feasible, have been encompassed by an investigation corridor and collectively are the subject of this referral.

Note: Whilst the referral references these preliminary Beca alignment options, VicRoads will continue to examine, refine and optimise the alignment designs to achieve the best outcomes against the project objectives and minimise the potential impacts. As a result, the alignment options will continue to change, and may not match the ultimate preferred option. All alignment options will be contained within the investigation corridor and the information contained within this referral should be viewed in this context.

The following descriptions of these alignment options are from east to west. Refer **Figure 1** which shows these alignment options and the project investigation corridor.

Option B4-A (B4-A = B4-A (3.9 km) + B4-C (5.9 km))

This option leaves the Western Highway, travels parallel to the Beaufort-Ballarat rail line before travelling north across the rail line. It then travels immediately east of the sewage treatment plant to a point north of the Beaufort-Lexton Road. It then continues to the north of the town before tying into the Western Highway at a point west of the Red Kangaroo Roadhouse. The total length of this alignment is approximately 9.8 km.

Option B4-B (B4-B = B4-B (3.7 km) + B4-C (5.9 km))

This option is a slight variation to B4-A. It leaves the Western Highway, travels parallel to the Beaufort-Ballarat rail line before travelling north across the rail line at a point more easterly than B4-A. It then travels east of the sewage treatment plant to a point north of the Beaufort-Lexton Road. It then continues to the north of the town before tying into the Western Highway at a point west of the Red Kangaroo Roadhouse. The total length of this alignment is approximately 9.6 km.

Option B5 (B5 = B5-A (1.75 km) + B5-B (8.8 km))

This option leaves the Western Highway, travels parallel to the Beaufort-Ballarat rail line before travelling north and across the rail line. It then continues north of the town, more northerly than option B4 before tying into the Western Highway at the same location as B4 to a point immediately north of the rail line. The total length of this alignment is approximately 10.5 km.

For both options B4-A and B5, the concept designs developed by Beca include on-ramps from the existing Western Highway which run between a point just west of the eastern tie-in and head north before connecting to the bypass alignments. As the final location of the eastern tie-in point or alignment of the Western Highway Duplication east of Beaufort was not known at the time of developing the concept, these on-ramps were designed to work within the extent of the bypass.

Since these concept designs were developed, the location of this section of the Highway Duplication has been approved and acquired. As such, following a review of the on-ramps, it is considered that provision for the on-ramp can be accommodated either within the existing road reserves or with significantly reduced land take. This reduced land take would also reduce the overall environmental and social impacts of those alignment options.

The approach taken in this referral is to present the B4-A and B5 options exclusive of the previously designed on-ramps (Beca, 2012), and to present key data (for example area information) without this infrastructure.

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

Utility services may need to be relocated depending on the alignment route ultimately selected for construction. An Access Strategy would be developed and implemented to ensure that access to properties and local roads is retained through the use of service roads where necessary. Intersection treatments with local roads would be designed appropriate to the traffic volumes.

At this stage of planning, the nature and requirement for utility service relocations, service roads or the modification of intersections with local roads has not been determined. For any services that require relocation, it would be VicRoads' preference to locate them within the proposed ROW. Where this is not possible or preferable (for reasons other than VicRoads' preference) any impacts would be accounted for in the relevant assessments.

Key construction activities:

Key construction activities would involve civil and structural works associated with new pavement, culverts and waterway crossings, rail line crossings, and interchanges. Construction of the new pavement would require excavation, cut and fill as necessary, as well as construction of foundations.

A new bridge would be constructed for the overpass of the Beaufort-Ballarat rail line. Bridges or culverts would be constructed to cross the waterways intersected. Following the construction of the pavement, minor construction activities would include line marking, installation of signage, landscaping and final clean-up.

Key operational activities:

The completed bypass would be used for the same purpose as the existing highway, facilitating the safe and efficient movement of passenger vehicles and freight on the Western Highway.

Ongoing road maintenance consistent with VicRoads practices and standards, including maintenance of landscape, stormwater drains, road pavement, bridges, electrical assets, road furniture and line markings would be undertaken.

Key decommissioning activities (if applicable):

It is anticipated that the existing Western Highway infrastructure will be retained, albeit in slightly different configurations.

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 would integrate with the overall duplication of the Western Highway in order to provide a continuous section of upgraded highway between Ballarat and Stawell. The Beaufort Bypass would connect Stage 1 and Stage 2 of the Western Highway duplication. Timing for implementation of the Beaufort Bypass has not yet been confirmed and would be determined based on attainment of relevant approvals and future funding availability.

It is not anticipated that the Beaufort Bypass would be constructed in stages.

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

No Yes If yes, please identify related proposals.

Two previous proposals, being adjacent sections of the overall Western Highway Duplication project, as per previous question:

- Section 1B (Burrumbeet to Beaufort)
- Section 2 (Beaufort to Ararat).

To date, funding has only been committed for duplication of the Western Highway from Ballarat up to and including the Buangor Bypass, excluding the Beaufort Bypass.

4. Project alternatives

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

The Alignment Options Report for the Beaufort Bypass (Beca, 2012), (**Attachment 1**) identifies eight potential alignment options. Three of these (B4-A, B4-B and B5) are considered in this referral. Three options (B1, B6 and B7) were identified in the Beca report but not assessed any further for various reasons (including length, cost, lack of connectivity, impacts on growth areas, significant property acquisition and severance). The remaining two (B2 and B3) which bypassed the town to the south were assessed in the Beca (2012) report, but for various reasons are not considered feasible and have been excluded from further investigation.

The following descriptions of these alternative alignment options are from east to west.

Option B2

This option leaves the duplicated Western Highway, travels parallel to the Beaufort-Ballarat rail line before travelling south and across the Western Highway. It then runs to the west of State Forest to a point east of the Beaufort Reservoir. It then turns westward to the south of the town, crosses the Beaufort-Ballarat rail line and ties into the Western Highway at a point west of the Red Kangaroo Roadhouse. The total length of this alignment is approximately 14.7 km.

Option B3

This option follows a similar path to B2 but travels more westerly initially before passing east and south of the Beaufort Reservoir. It then turns westerly to the immediate south of the town, crosses the Beaufort-Ballarat rail line and ties into the Western Highway at a point west of the Red Kangaroo Roadhouse. The total length of this alignment is approximately 12.0 km.

Through preliminary assessment the southern bypass options (B2 and B3 described above) have been shown to have greater impacts on the environment, community and business. The options also score poorly against standard criteria for evaluating alignments against each other with respect to land severance, restriction on town growth and construction costs.

The Pyrenees Shire contributed to the preliminary assessment of options and indicated support for the northern alignment options with a view to preserving land to facilitate expansion to the south of the township to support a growing residential population.

As such, this referral is only for the northern alignment options and associated investigation corridor that is preferred by Council and VicRoads.

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

The three preliminary alignment options (B4-A, B4-B and B5) as presented in this referral are to be investigated further. An investigation corridor has been identified, encompassing the three options, in order that variations to the options to avoid significant impacts may be accommodated.

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:

There are no exclusions.

6. Project implementation

Implementing organisation (ultimately responsible for project, ie. not contractor):

The Roads Corporation (trading as VicRoads)

Implementation timeframe:

VicRoads would initially seek to complete the planning and environmental approvals process and obtain a Planning Scheme Amendment to secure the land for the bypass along what is determined to be the preferred alignment. This process is estimated to take approximately 18 to 24 months.

Implementation timeframes have not been defined and are subject to attainment of approvals and funding. The project would take 2 to 3 years to construct.

Proposed staging (if applicable):

The duplication of the Western Highway immediately to the east of Beaufort (section 1B) was completed in early 2015 and construction of the duplication between Beaufort and Ararat commenced in late 2014. It is not anticipated that the Beaufort Bypass would be constructed in stages.

7. Description of proposed site or area of investigation**Has a preferred site for the project been selected?**

No Yes If no, please describe area for investigation.

If yes, please describe the preferred site in the next items (if practicable).

An investigation corridor encompassing three preliminary alignment options for the Beaufort Bypass has been defined (refer **Figure 1**). It is anticipated that the project would be constructed within this corridor.

The Beaufort Bypass corridor includes an area to the north of the town of Beaufort with two tie-ins to the existing Western Highway; one to the east of Beaufort at a location west of Smith's Lane and the other to the west of Beaufort at a location east of Eurambeen-Streatham Road. The corridor at its widest location extends up to 500m either side of the alignment options in order that variations to avoid significant impacts may be accommodated.

General description of preferred site, (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 & surrounds, showing project footprint):

The following descriptive information applies to the project investigation corridor (refer **Figure 1**).

Beaufort is approximately 160 km west of Melbourne and located within the Pyrenees Shire Council municipality. The project investigation corridor skirts the northern boundary of the town and includes a mixture of private and public land.

Topography / Landform

The topography of the investigation corridor is relatively gentle, characterised by undulating plains and rolling low hills, steepest in the north where the project investigation corridor converges with the Camp Hill State Forest. The township of Beaufort is located approximately 387 m above sea level. No landscapes of regional or State significance have been identified within or near the investigation corridor.

Soil Types / Geology

There is limited information on specific soil properties and characteristics within the investigation corridor at this stage of the project. A desktop geotechnical study (Halcrow, 2011) identified the potential for areas in the eastern part of the investigation corridor to contain floodplain deposits and potential lenses of compressible or soft soil. It did not identify any soil properties which would prevent construction of the project.

A broader study of geology informed the Western Highway Duplication: Burrumbeet to Stawell Cultural Heritage Due Diligence undertaken by Vincent Clark and Assoc (2008). References in this report to the area around Beaufort suggest the possible presence of a number of distinct geological units within the vicinity. These include:

- Basaltic deposits to the east of Beaufort;
- The Beaufort Marine Sandstone unit which occurs on the Cambro-Ordovician marine sandstone around Beaufort;
- The Beaufort Non Marine Sandstone unit, laid down during the Cambro-Ordovician period and mostly prevalent west of Beaufort; and
- The Ararat Marine Siltstone unit, which occurs on Ordovician sediments and is found in small proportions around Beaufort.

The major soils found on the gentler footslopes of undulating rises and plains tend to be reddish, strongly structured and well drained (Chromosols), although soils with a strongly acidic subsoil (Kurosols) can also occur (Baxter & Robinson, 2001, in Vincent Clark and Assoc, 2008).

The Australian Soil Resource Information System mapping tool indicates that the investigation corridor does not intersect areas where acid sulphate soils are predicted to occur.

Drainage / Waterways

The major named waterway within the project investigation corridor is Yam Holes Creek. A number of waterways drain through Beaufort before joining Yam Holes Creek. These include Garibaldi Creek, which is associated with the Beaufort Reservoir to the south of the investigation corridor. There are a large number of smaller waterways and tributaries as well as flood / retention areas (Beca, 2012) within the investigation corridor.

Some parts of the corridor are subject to periodic flooding. These areas are primarily associated with the Yam Holes Creek catchment, and are located in the southern part of the project investigation corridor, either side of the Camp Hill ridge.

Vegetation Cover

Vegetation within the investigation corridor includes both native vegetation and introduced vegetation associated with agricultural activity.

The investigation corridor intersects two Bioregions: *Victorian Volcanic Plains* and *Central Victorian Uplands*. A significant proportion of the investigation corridor is mapped as native vegetation according to extant (2005) Ecological Vegetation Class mapping. Much of this vegetation is classified as Endangered within its respective Bioregion. Camp Hill State Forest is immediately north of the township and is comprised of native forest along a broad ridge overlooking the town centre. Snowgums Bushland Reserve is also within the corridor to the north east of the township.

Species and communities of national, state and regional significance have been recorded within the local area, with some species recorded in the immediate vicinity of the existing Western Highway. These are identified in Section 12 of this referral.

Built Structures

The investigation corridor includes residential dwellings and associated built structures (agricultural buildings, sheds etc), some of which may be impacted by the project depending on the alignment option and final design. Beca report (2012) (**Attachment 1**) indicates that no more than one residential dwelling would need to be acquired for any of the alignment options. A sewerage treatment plant owned and operated by Central Highlands Water is located in the central south eastern part of the investigation corridor. It is not impacted directly by any of the alignment options.

Site area (if known): (hectares)

Route length (for linear infrastructure) (km) **and width** (m)

The investigation corridor covers an area of 1,141 ha. The width of the ROW would be approximately 80 m wide along most of the length increasing to approximately 250 m wide at interchanges.

An estimate of alignment option lengths and the 'land take' required for each option is provided in Section 3 and in the following table. The land take area excluding the on/off ramps that are no longer considered necessary (refer Section 3) has been included here and is referred throughout the document as relevant.

Alignment Option	Approx. length (km)	Approx. Landtake (ha)	Approx. Landtake (ha) (excluding B4-A & B5 on/off ramps)
B4-A	9.8	104	101.7
B4-B	9.6	95.9	95.9
B5	10.5	104.9	99.3

Current land use and development:

The current land use within the project investigation corridor is predominantly agricultural. Throughout the investigation corridor there are also isolated rural-residential properties and some areas of small lot subdivision, extending north of Beaufort toward Trawalla in the east, and Raglan in the north-west.

The central part of the project investigation corridor is characterised by hilly terrain. Prominent natural features within the corridor include the Camp Hill State Forest to the north and the Snowgums Bushland Reserve to the north-east of the Beaufort township (refer **Figure 2**).

The existing land uses and development both within and adjoining the investigation corridor are discussed in more detail throughout this section (Section 7) of this referral.

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The project investigation corridor is located to the north of the existing Western Highway and the township of Beaufort, approximately 50 km west of Ballarat. It extends to the east in between Beaufort-Lexton Road and Trawalla-Waterloo Road, and to the west it terminates between Old Shirley Road and Eurambeen-Streatham Road.

The township of Beaufort adjoins the central southern boundary of the project investigation corridor. Beaufort is the largest town within the Pyrenees Shire, with a population of just over 1,000 people. The town is horizontally bisected by the Western Highway, and as such it currently functions as a highway service centre. The majority of residential development in the Shire is concentrated in the township of Beaufort.

The main regional transport route in addition to the Western Highway is the Ararat - Beaufort rail line, which runs to the north of the existing Western Highway and intersects the south-eastern corner of the investigation corridor.

Commercial activities within the local area are primarily focussed around agriculture, timber plantations and timber processing. The main sawmill and timber processing plant is located just outside of the project investigation corridor, in the area bounded by Racecourse Road, Victoria Street and the railway line.

The Camp Hill State Forest (105 ha), partly covered by the project investigation corridor extends from the northern boundary of Beaufort and continues northwards. The State Forest is managed by the Department of Environment, Land, Water and Planning for both conservation and timber production.

The Snowgums Bushland Reserve (27-ha) (managed by Parks Victoria) is located in the eastern part of the project investigation corridor, between the railway line and Racecourse Road. To the west of the reserve is the Central Highlands Water sewage treatment plant. To the north-west of the reserve, between Racecourse Road and Beaufort-Lexton Road is the Beaufort Motorcycle Track.

There are areas subject to flooding within the project investigation corridor; in particular, the area between Racecourse Road and Beaufort-Lexton Road, as well as the land immediately west of Main Lead Road (near Camp Hill). This land to the west of Main Lead Road contains the Beaufort Main Lead Common recreation area, as well as the Beaufort Trotting Training Track.

These floodplains, in addition to the hilly terrain to the north of the railway line, have informed Council's preference for future residential development to be generally directed toward the south of the Beaufort township. Most of the project investigation corridor has been identified by Council as being unsuitable for extensive small lot rural development.

As the predominant land use within the project investigation corridor is agricultural and most of the area is zoned for farming, the density of residential dwellings is expected to be generally low. Beca report (2012) (**Attachment 1**) indicates that no more than one residential dwelling would

need to be acquired for any of the alignment options. Between 49 and 54 land parcels would be intersected by each alignment, which is a conservative (overestimate) indicator of the number of landowners affected.

Planning context (e.g. strategic planning, zoning & overlays, management plans):

As described previously, the land use within the project investigation corridor is predominantly rural and is classified as Farming Zone. Other zones and overlays that are intercepted by the project alignment options are identified and described below. Maps of the Planning Zones and Planning Overlays associated with the project investigation corridor and the wider project area are presented in **Figure 3** and **4** respectively.

	Description	Alignment		
		B4-A	B4-B	B5
Zones				
Road Zone Category 1	Identifies land for significant existing or future roads.	✓	✓	✓
Farming Zone	Provides for the use of land for agriculture	✓	✓	✓
Public Use Zone Schedule 4	Transport (railway lines).	✓	✓	✓
Public Conservation and Resource Zone	Identifies areas of natural environment and natural processes to be protected for their historic, scientific, landscape, habitat or cultural values, and provides for appropriate resource-based uses.	✓	✓	✓
Rural Conservation Zone	Identifies land to be protected which has no or very low development potential based on land capability analysis of the former Land Conservation Council.	✓	✓	✓
Rural Living Zone	Provides for residential use in a rural environment and for agricultural land uses which do not adversely affect the surrounding amenity.	✓	✓	✓
Overlays				
Restructure Overlay Schedule 27	Identifies old and inappropriate subdivisions which are to be restructured.	✓	✓	✓
Public Acquisition Overlay Schedule 1	Reserves land for a public purpose (i.e. Western Highway upgrade).	✓	✓	✓
Wildfire Management Overlay	Identifies areas of bushfire hazard.	✓	✓	✓
Vegetation Protection Overlay Schedule 1	Identifies areas containing significant remnant vegetation that require protection.	✓	✓	✓
Land Subject to Inundation Overlay	Identifies land in a flood storage or flood fringe area affected by the 1 in 100 year flood or any other area determined by the floodplain management authority.	✓	✓	
Floodway Overlay	Identifies waterways, major floodpaths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding.	✓	✓	

Excluding the on ramps for alignment options B4-A and B5 (refer Section 3) would not change the Planning Zones or Overlays affected by each of these alignments.

Local government area(s):

The project investigation corridor is within the Shire of Pyrenees.

8. Existing environment**Overview of key environmental assets/sensitivities in project area and vicinity**

(cf. general description of project site/investigation corridor under section 7):

The key environmental assets/sensitivities in the investigation corridor and the wider area are:

Land use – The land is predominately used for agricultural purposes, with the majority of the corridor zoned a Farming Zone. Parts of the corridor intersect a Rural Conservation Zone and a Public Conservation and Resource Zone. These zones include the Camp Hill State Forest and Snowgums Bushland Reserve.

Water – the corridor includes a number of waterways and flood prone areas as outlined in Section 7. Consideration of these waterways and drainage lines would be part of the detailed design. Groundwater and hydrological investigations have not been undertaken to date, but would also be undertaken in order to inform project design.

Flora and fauna – the investigation corridor is comprised of a mix of native and introduced vegetation. There are areas of Ecological Vegetation Classes within both public and private land. Flora and fauna species and communities of national, state and regional significance have been recorded within the corridor and the wider local area as identified within a desktop study undertaken by Ecology Partners (2008 and 2014) which reviewed online databases including the Victorian Biodiversity Atlas and the Commonwealth Protected Matters Search Tool. These are identified in Section 12 of this referral.

GHD (2015) also undertook a Rapid Field Assessment of the investigation corridor to further confirm the desktop review. The results of their field assessment are contained within Section 12 of this referral.

Cultural Heritage -

Based on the distribution and frequency of archaeological and heritage sites in the surrounding study area (20 sites within a 10 km radius of the bypass corridor), it is possible that cultural heritage sites exist in areas that have not yet been investigated or defined as sensitive by the Registered Aboriginal Party (RAP), the Office of Aboriginal Affairs Victoria (OAAV) and historic heritage registers.

9. Land availability and control**Is the proposal on, or partly on, Crown land?**

No Yes If yes, please provide details.

The three potential alignments intersect with Crown land to varying extents. The location of Crown land within the investigation corridor is presented within **Figure 2**.

Current land tenure (provide plan, if practicable):

The investigation corridor encompasses mostly privately owned land, but also some Crown land (refer **Figure 2**). The three potential alignments intersect both private and Crown land. A title search has not yet been completed for the project.

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

The land required to develop the preferred alignment option would likely need to be acquired by VicRoads, or ownership transferred to VicRoads where it is Crown land, and be rezoned to Road Zone.

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

As a title search has not yet been completed for the project, the location of all easements is currently unknown.

Existing utility services data was requested from Dial Before You Dig to inform the Beca (2012) report. Plans received from Optus, Telstra and Powercor Australia indicate that services are extensive throughout the urban area of Beaufort and along the approach routes to town including the rail line.

The status of any potential or existing native claims in the area is not known.

10. Required approvals**State and Commonwealth approvals required for project components** (if known):

A preliminary list of potential approvals required for the project has been compiled as follows:

Commonwealth

Due to the potential presence of Matters of National Environmental Significance (MNES) (such as threatened species) within the investigation corridor, approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) may be required.

VicRoads will review and assess the need to submit a referral under the EPBC Act based on further investigation and confirming the presence of MNES for the preferred bypass alignment.

State

A Planning Scheme Amendment to the Pyrenees Planning Scheme would be required under the *Planning and Environment Act 1987* to:

- Apply a Public Acquisition Overlay (PAO) for the ROW in order to facilitate the acquisition of land; and
- Introduce an Incorporated Document within the planning scheme, providing for site specific permit exemptions for the project and detailing approval requirements.

A Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006* is likely to be required as the three potential alignments all intersect areas of cultural heritage sensitivity.

A permit under the *Heritage Act 1995* may be required, subject to the alignment selected and the potential heritage impacts of the proposed works.

Works on Waterways Permits under the *Water Act 1989* would be required for waterway crossings.

A permit to remove protected flora under the *Flora and Fauna Guarantee Act 1988* (FFG Act) and an authorisation under the *Wildlife Act 1975* are also likely to be required.

Have any applications for approval been lodged?

No Yes If yes, please provide details.

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

During the planning for the Western Highway Duplication Project in 2011, VicRoads together with the Pyrenees Shire Council undertook a high level investigation of all possible options for the town bypasses. The purpose of these investigations was to determine the start and end points for the duplication project.

During the initial identification and evaluation of alignment options, the project team also consulted with the local offices of the Department of Environment, Land, Water and Planning (formerly the Department of Environment and Primary Industries) and Parks Victoria.

Other agencies consulted:

Other agencies consulted and briefed on the Project are:

Pyrenees Shire,
Parks Victoria,
Regional Development Victoria,
Department of Environment, Land, Water and Planning,
Department of Economic Development, Jobs, Transport and Resources,
Office of Aboriginal Affairs Victoria,
Glenelg Hopkins Catchment Management Authority,
Central Highlands Water.

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):

Construction of the Beaufort Bypass creates a new road corridor around the northern boundary of the township. Inherent with the creation of a new corridor and construction of a highway, there are a range of potential impacts. Based on the information available, as presented in this referral, the key areas of impact that could result in potentially significant effects are described below.

Removal of native vegetation

The area of native vegetation that may need to be removed, depending on the alignment selected and design developed is estimated to be between 36 and 48 hectares. Of this amount, there could be between 5 and 9 hectares of endangered EVCs to be removed depending on the alignment selected and design developed.

Potential impacts to threatened species

VicRoads has undertaken initial field investigations to assess the likelihood of threatened species to occur. The following are extracts summarising the potential impacts to threatened species reported in GHD's Flora, Fauna and Aquatic Assessment (2015) (**Attachment 3**):

A total of 155 flora species were recorded during the stage 1 survey (111 native and 44 exotic species). No species listed as threatened under the Commonwealth EPBC Act, the Victorian FFG Act and/or the Advisory List of Rare or Threatened Plants in Victoria (2014) were observed during the field survey. Eight rare and threatened flora species were considered possible to occur within the investigation corridor based on the presence of suitable habitat.

Nineteen threatened fauna species were identified during the assessments that are considered possible to occur within the investigation corridor. A total of 48 terrestrial fauna species were identified during the site visit (45 native species and three non-native species). Three of the species detected are listed as threatened or near threatened under the Advisory List of Threatened Vertebrate Fauna in Victoria (2013). Five bird species that are members of the Victorian Temperate Woodland Bird Community were detected; two of these are listed as threatened species also. One bird species was detected which is listed under the EPBC Act as Migratory.

A rapid field assessment of waterways was conducted at 45 locations in and adjacent to the investigation corridor. Of the 45 sites assessed, two were considered in good condition, ten were considered in moderate condition whilst the remaining 33 were considered to be in poor condition. Nine aquatic sites were considered to possibly contain habitat for one species of threatened aquatic fish, Dwarf Galaxias.

Further assessment would be required to confirm the extent of potential impacts to threatened species for nominated bypass alignments.

Potential impacts on significant Aboriginal cultural heritage places

Based on the distribution and frequency of archaeological and heritage sites in the wider study area, it is likely that cultural heritage sites exist in areas that have not yet been investigated or defined as sensitive by the RAP or OAAV.

Previous research has highlighted that there is the potential for Aboriginal mortuary (burial) trees or burnt mounds to be present in the investigation corridor, which are both considered to be significant cultural heritage places.

Potential social impacts

The Beaufort Bypass is intended to decrease traffic volumes within Beaufort thereby improving amenity and road safety through reduced traffic / pedestrian interaction. However the bypass during both construction and operation could also result in a range of potential adverse social / economic impacts that are typical of road projects and bypasses due to:

Construction

- Acquisition of properties/dwellings;
- Severance of properties;
- Severance or change of property access arrangements where local roads are intersected by the new alignment;
- Detours
- Acquisition of productive agricultural land; and
- Amenity (noise, visual) impacts on residential dwellings.

Operation

- Redistribution in the mix of passing trade for businesses; and
- Severance or change of property access arrangements where local roads are intersected by the new alignment.

It is not possible to determine the likelihood or extent of these potential impacts accurately at this stage. However from the information available, it is possible to say the following regarding potential social/economic impacts:

As the predominant land use within the project investigation corridor is agricultural and most of the area is zoned for farming, the density of residential dwellings is expected to be generally low. The Beca report (2012) (**Attachment 1**) indicates that no more than one (1) residential dwelling would need to be acquired and no more than three (3) property accesses severed for any of the alignment options.

The following table outlines for each alignment option:

- The number of parcels intersected by each alignment, which is a conservative (overestimate) indicator of the number of landowners affected;
- The approximate land take, that is the total hectares within the ROW for each alignment option; and
- The approximate area of this land take which is within the farming zone, as a crude indicator of potential impact on productive agricultural land.

Alignment Option	Number of parcels intersected	Approx. length (km)	Approx. Land take (ha) (excluding B4-A & B5 on/off ramps)	Approx. area of Land take in Farming Zone (ha) (excluding B4-A & B5 on/off ramps)
B4-A	53	9.8	101.7	76.2
B4-B	49	9.6	95.9	67.9
B5	54	10.5	99.3	77.2

With regards to amenity impacts on residential dwellings (noise, visual) these would need to be assessed once residential dwellings are identified in relation to the preferred alignment. Mitigation of these impacts (e.g. noise barriers and landscaping) is possible and would be implemented to reduce impacts where necessary. It is estimated that the overall reduction in noise and visual impacts on the township will provide large net benefits to the community.

Redistribution in passing trade mix for businesses reliant on traffic is a potential impact of bypasses. Mitigation measures such as signage strategies and improved access connections to the township will attract targeted customers. The improved amenity and safety within the town may in fact attract more customers.

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)

The following reports have been prepared which investigate native vegetation either within or adjacent to the project investigation corridor:

- Ecology and Heritage Partners Pty Ltd 2012a. *Western Highway Project: Section 2, Beaufort to Ararat, Victoria, Impact Assessment Report – Flora, Fauna and Ecological Communities*, Prepared for VicRoads.
- Ecology and Heritage Partners Pty Ltd 2012b. *Western Highway Project: Section 3, Ararat to Stawell, Victoria, Impact Assessment Report – Flora, Fauna and Ecological Communities*. Prepared for VicRoads.
- Ecology Partners Pty Ltd 2010a. *Targeted Flora, Fauna & Aquatic Surveys of the Western Highway Upgrade: Burrumbeet to Beaufort*. Prepared for VicRoads.
- Ecology Partners Pty Ltd 2010b. *Flora, Fauna and Net Gain Assessment of the Proposed Western Highway Duplication, Burrumbeet to Beaufort, Victoria*. Prepared for VicRoads.
- Ecology Partners Pty Ltd 2008. *Desktop Flora and Fauna Assessment of the Western Highway, Burrumbeet to Stawell, Victoria*. Prepared for VicRoads.
- Beca 2012. *Alignment Options Report Beaufort Bypass – Western Highway*. Prepared for VicRoads.
- Ecology and Heritage Partners Pty Ltd 2014. *Environmental Effects Statement Referral for the Beaufort Bypass – Update to Flora and Fauna Information*. Prepared for VicRoads.
- GHD Pty Ltd 2015. *Western Highway Bypass Project - Beaufort Stage 1 - Flora, Fauna and Aquatic Assessment*. Prepared for VicRoads.

This referral draws on the Ecology and Heritage Partners (2014) report (**Attachment 2**) and GHD (2015) report (**Attachment 3**) which includes a desktop assessment of native vegetation extent within the investigation corridor and details species and vegetation communities of conservation significance within the investigation corridor and surrounds. The GHD report goes further and included field assessment of the investigation corridor with mapping of identified and possible vegetation communities. These reports specifically address the bypass investigation corridor and were prepared for the purposes of informing this referral.

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

Based on the land take required for the concept designs presented in the Beca (2012) report the maximum area of native vegetation that may need to be cleared is estimated to be between 36 and 48 hectares.

The more recent VicRoads review of these on-ramps (refer Section 3) indicates that they would not be required, resulting in a reduction in land take area and associated native vegetation clearing. This revision is included in the calculated figures below.

The revised (based on no eastern on-ramps) native vegetation clearing areas are provided in the table below:

Option	Native Vegetation Assessment	Hectares	Totals (ha)
B4-A	Poor	5	46
	Moderate	24	
	Good	17	
B4-B	Poor	7	48
	Moderate	17	
	Good	23	
B5	Poor	5	36
	Moderate	11	
	Good	20	

NOTE: Areas calculated are rounded to nearest number due to the limitations of the mapping

conducted. Further detailed assessment would provide more detail.

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

N/A approx. percent (if applicable)

Unknown at this stage, as the investigation corridor encompasses properties designated for potential forestry. The bypass may also form a strategic fire break for the township. Further consultation is required to confirm these scenarios.

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

NYD Preliminary assessment completed. If assessed, please list.

The following EVCs have been identified as being intercepted by the alignments and/or occurring within the corridor based on desktop review of the extant DSE EVC mapping (Biodiversity Interactive Maps) (**Figures 5 and 6**):

Bioregion:			Intercepted by alignment	Within Corridor
Victorian Volcanic Plain				
Endangered	EVC 55	Plains Grassy Woodland	✓	✓
Endangered	EVC 68	Creekline Grassy Woodland	✓	✓
Endangered	EVC 132	Plains Grassland	✓	✓
Endangered	EVC 691	Aquatic Herbland/Plains Sedgy Wetland Mosaic		✓
Endangered	EVC 896	Grassy Woodland/Heathy Dry Forest Complex	✓	✓
Endangered	EVC 67	Alluvial Terraces Herb-rich Woodland	✓	✓
Least Concern	EVC 20	Heathy Dry Forest		✓
Central Victorian Uplands				
Endangered	EVC 55	Plains Grassy Woodland		✓
Endangered	EVC 68	Creekline Grassy Woodland		✓
Endangered	EVC 896	Grassy Woodland/Heathy Dry Forest Complex	✓	✓
Endangered	EVC 67	Alluvial Terraces Herb-rich Woodland	✓	✓
Vulnerable	EVC 47	Valley Grassy Forest	✓	✓
Least Concern	EVC 20	Heathy Dry Forest	✓	✓

Have potential vegetation offsets been identified as yet?

NYD Yes If yes, please briefly describe.

Once offset requirements under the *Permitted Clearing of Native Vegetation – Biodiversity Assessment Guidelines* (2013) have been identified, VicRoads would develop an offset strategy that details how compliant offsets would be secured to offset the biodiversity impacts of the removal of native vegetation.

In addition, during consultation, stakeholders and property owners have raised the prospect of adjoining properties, or properties containing potential vegetation offsets, being made available to VicRoads for purchase.

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

The maximum extent of native vegetation that may require clearing is an estimated range as the preferred option has not been determined. Regardless of which option is chosen, it is likely that some alignment changes would be made prior to finalisation of design.

NYD = not yet determined

Flora and fauna

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

A desktop flora and fauna assessment was undertaken by Ecology Partners Pty Ltd in 2008 for the Western Highway Duplication Project from Burrumbeet to Stawell. This report included the Beaufort Bypass corridor and identified the locations of previously recorded significant species (both terrestrial and aquatic, where applicable).

An update to this report was prepared (Ecology and Heritage Partners, 2014) (**Attachment 2**) which presents results for the Beaufort Bypass specifically.

VicRoads engaged GHD in 2015 to prepare a report that reviewed the previous desktop studies and then sought to confirm these results through initial field assessment. "Field surveys were conducted by a qualified botanist and zoologist on 5-7 and 10 November 2014, and by a qualified aquatic ecologist on 5 November 2014. GHD undertook field surveys and investigations within the investigation corridor and recorded incidental species sightings, habitat or potential habitat and its quality relating to flora and fauna. This was completed at a high level only for each portion of the investigation corridor visited" (**Attachment 3**).

This referral draws mostly from the GHD (2015) report, with some confirmation of surrounding environmental values from the Ecology and Heritage Partners (2014) report. Refer to Section 12 above for a full list of reports which investigate ecological values within and adjacent to the investigation corridor.

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.
- Indicate which of these have been recorded from the project site or nearby.

A search for threatened flora and fauna species of state and national significance was undertaken within 10 km of the investigation corridor (Victorian Biodiversity Atlas and Protected Matters Search Tool). The full list of results are presented within Ecology and Heritage Partners (2014) – Appendix 2 and Appendix 3.

The detailed assessments undertaken for the highway duplication either side of Beaufort, indicate there is potential for threatened species to be present. These detailed assessments were considered as part of the desktop assessment completed by Ecology and Heritage Partners (2014) when developing a list of potential threatened species (outlined below) for the Beaufort Bypass project investigation corridor. The criteria used for defining the level of significance for species and communities are outlined in Ecology and Heritage Partners (2014) – Appendix 2 and Appendix 3 (**Attachment 2**).

Category	Level of Significance	Species/Communities
Flora	National	<ul style="list-style-type: none"> • Spiny Rice-flower • Button Wrinklewort • Large-headed Fireweed • Ben Major Grevillea • Trailing Hop-bush • White Sunray
	State	<ul style="list-style-type: none"> • Rosemary Grevillea • Wavy Swamp Wallaby-grass • Emerald-lip Greenhood • Yarra Gum • Golden Cowslips
Fauna	National	<ul style="list-style-type: none"> • Growling Grass Frog • Dwarf Galaxias • Yarra Pygmy Perch • Striped Legless Lizard • Southern Brown Bandicoot

		<ul style="list-style-type: none"> • Dwarf Galaxias • Golden Sun Moth
	State	<ul style="list-style-type: none"> • Brown Toadlet • Brown Treecreeper • Powerful Owl • Brush-tailed Phascogale
	Regional	<ul style="list-style-type: none"> • Baillon’s Crake
Communities	National	<ul style="list-style-type: none"> • Natural Temperate Grassland of the Victorian Volcanic Plain • Grassy Eucalypt Woodland of the Victorian Volcanic Plain • White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland • Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
	State	<ul style="list-style-type: none"> • Western (Basalt) Plains Grassland • Victorian Temperature Woodland Bird Community

Refer to **Figure 2** in Ecology and Heritage Partners (2014) for records of the above threatened species in the local area.

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

The following *Flora and Fauna Guarantee Act 1988* (FFG Act) threatening processes are identified by GHD (2015) and Ecology and Heritage Partners (2014) as being potentially relevant to the Beaufort Bypass:

- Habitat fragmentation as a threatening process for fauna in Victoria;
- Increase in sediment input into Victorian rivers and streams due to human activities;
- Invasion of native vegetation by Blackberry *Rubus fruticosus* L. agg.;
- Invasion of native vegetation by ‘environmental weeds’;
- Input of toxic substances into Victorian rivers and streams; and
- Loss of hollow-bearing trees from Victorian native forests.

The extent to which these threatening processes may occur has not yet been determined and would be considered as part of a detailed ecological assessment. VicRoads would aim to avoid and/or minimise the extent of impacts of threatening processes on native species and communities which may be exacerbated by the project.

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

NYD 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.

Refer to **Figure 2** in Ecology and Heritage Partners (2014) for records of threatened species in the local area.

Refer to **Appendix B** and **D** in GHD (2015) for records of threatened, migratory or other significant species and communities identified, or have the potential to be affected by the Project.

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

NYD No Yes If yes, please briefly describe.

Specific mitigation measures for the protection of flora and fauna will be developed once detailed assessments have identified all the sensitivities within the selected alignment.

Standard measures that will be utilised to avoid and minimise impacts on flora and fauna include the following:

- Through design, the road footprint will be located to avoid native vegetation and habitat to the greatest extent possible;
- The identification of 'no-go zones' to avoid all disturbance to any areas of sensitivity during construction, An approval process, to ensure that VicRoads, together with relevant authorities inspect and agree on vegetation that can be removed by the contractor before any vegetation disturbance can commence;
- The presence of a suitably qualified ecologist with the appropriate permits/licenses on site during the removal of vegetation to identify and examine habitat and to identify, capture and relocate fauna found to be within the zone to be cleared;
- Ensure that the induction of all contract staff addresses the identification of all significant environmental issues, including flora and fauna, and informs them of all relevant protective measures and obligations while undertaking construction activities;
- Procedures to ensure that works immediately cease if significant flora or fauna is discovered;
- The treatment and management of declared weeds to avoid their introduction and spread through the site;
- Hygiene procedures for plant and equipment to manage the spread of pathogens; and
- A monitoring/surveillance/audit program to review and assess the adequacy of controls and processes to verify the adequacy of flora and fauna protection.

Importantly the selection of a preferred alignment would consider the need to avoid and minimise removal of native vegetation and habitat. Where removal of native vegetation/habitat cannot be avoided, vegetation offsets would be sought and secured in accordance with the *Permitted Clearing of Native Vegetation – Biodiversity Assessment Guidelines (2013)*.

Specific measures may be recommended to manage potential impacts to threatened species.

Other information/comments? (e.g. accuracy of information)

13. Water environments

<p>Will the project require significant volumes of fresh water (eg. > 1 GI/yr)? <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, indicate approximate volume and likely source.</p>
<p>Will the project discharge waste water or runoff to water environments? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify types of discharges and which environments.</p> <p>Road operation will result in runoff that could impact on water quality. The water environments which may be affected by runoff are expected to include crossings of waterways, flood / retention areas and surrounding land.</p> <p>Construction activities would be managed in accordance with EPA 'best practice' environmental management guidelines for the management of erosion and sediment control and the protection of water quality. This will comply with the requirements of the Environment Protection Act 1970.</p> <p>In order to minimise runoff impacts, the Beaufort Bypass would be designed in accordance with the Urban Stormwater Best Practice Environment Management Guidelines (CSIRO 1999) and the VicRoads Integrated Water Management Guidelines (2013) through the design and application of elements of water sensitive road design principles.</p>
<p>Are any waterways, wetlands, estuaries or marine environments likely to be affected? <input type="checkbox"/> NYD <input 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>The Beaufort Bypass corridor would not affect wetlands, estuaries or marine environments, however the alignment options cross a number of waterways and flood / retention areas. Depending on the alignment selected, there could be up to 22 waterways crossings and two (2) flood / retention area crossings (Beca, 2012) (Attachment 1).</p> <p>The investigation corridor avoids the Beaufort Reservoir to the south of the town.</p> <p>No hydrological investigations have been undertaken as yet.</p>
<p>Are any of these water environments likely to support threatened or migratory species? <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments.</p> <p>Waterways, including Yam Holes Creek (a named waterway) and its tributaries are present within the investigation corridor.</p> <p>Of the 45 sites assessed, nine sites were considered to possibly contain habitat for threatened aquatic species. Based on the aquatic habitats observed, it is considered likely that habitat for Dwarf Galaxias occurs within the investigation corridor (GHD 2015 Figure 10).</p> <p>As such, there is potential for these species to be present in drainage lines within the project investigation corridor; however detailed ecological assessments would be required to make this determination.</p>
<p>Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'? <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please specify.</p> <p>No wetlands listed under the Ramsar Convention or listed in the Directory of Important Wetlands in Australia are anticipated to be impacted by the project.</p> <p>The nearest wetland listed within the Directory of Important Wetlands is Widderin Swamps over 30 km to the south. The nearest wetland listed under the Ramsar Convention is the Western District Lakes more than 65 km to the south east.</p>

Could the project affect streamflows?

NYD No Yes If yes, briefly describe implications for streamflows.

A hydrological assessment would be undertaken on the preferred alignment to determine the potential impacts on streamflows and flooding. This would enable appropriate design measures to be implemented to eliminate any impact on streamflows and/or flood levels.

Dimensions of structures would cater for the 100 year flood stream flows.

Could regional groundwater resources be affected by the project?

NYD No Yes If yes, describe in what way.

A hydro-geological assessment would be undertaken prior to construction to determine the depth and nature of the groundwater table.

Could environmental values (beneficial uses) of water environments be affected?

NYD No Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Hydrological and hydro-geological assessments will be undertaken to determine the potential impacts on surface water and groundwater.

Detailed design, construction methods and environmental management during construction in accordance the previously mentioned guidelines and a project specific Construction Environmental Management Plan would avoid or minimise the likelihood of adverse impacts to waterways and flood / retention areas.

The Fiery Creek Tributaries, Musical Gully & Troy Reservoirs (Beaufort) Water Supply Catchment area to the north west and north of the investigation corridor and are not considered likely to be impacted upon by the project.

Could aquatic, estuarine or marine ecosystems be affected by the project?

NYD No Yes If yes, describe in what way.

The bypass corridor does not fall within an estuarine or marine ecosystem, however there is some potential for impacts to aquatic ecosystems as the alignment options cross multiple waterways and some flood / retention areas (Beca, 2012) (**Attachment 1**). Impacts would be avoided and managed through detailed design, construction methods and environmental management during construction in accordance the previously mentioned guidelines and a project specific Construction Environmental Management Plan.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?

NYD No Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

The bypass corridor does not fall within an estuarine or marine ecosystem, however there is some potential for impacts to aquatic ecosystems as the alignment options cross multiple waterways, some flood / retention areas (Beca, 2012). Impacts would be avoided and managed through detailed design, construction methods and environmental management during construction in accordance the previously mentioned guidelines and a project specific Construction Environmental Management Plan. The potential for extensive or major effects are considered unlikely, however this will be confirmed through further assessment.

Is mitigation of potential effects on water environments proposed?

NYD No Yes If yes, please briefly describe.

At this stage there are no specific mitigation measures proposed, as these would be recommended following hydrological and hydrogeological assessments. However, VicRoads would seek to avoid and minimise impacts on water environments through design, construction methods and management in accordance with previously mentioned guidelines and a project specific Construction Environmental Management Plan.

VicRoads standard environmental management requirements for road construction projects include measures to avoid and minimise impacts on water environments, particularly for the management of erosion and sediment controls and for fuels and chemicals planned (established to comply with EPA 'best practice' environmental guidelines for construction activities).

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

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

No Yes If yes, please attach.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**
 NYD No Yes If yes, provide plan showing footprint relative to overlay.

The investigation corridor does not intersect an Landscape Significance Overlay or an Environmental Significance Overlay

- **Identified as of regional or State significance in a reputable study of landscape values?**
 NYD No Yes If yes, please specify.
- **Within or adjoining land reserved under the *National Parks Act 1975*?**
 NYD No Yes If yes, please specify.
- **Within or adjoining other public land used for conservation or recreational purposes?**
 NYD No Yes If yes, please specify.

Parts of the project investigation corridor intersect with:

- Camp Hill State Forest, located partly on unreserved Crown land and within the Rural Conservation Zone and a Public Conservation and Resource Zone;
- Snowgums Bushland Reserve, located on public land managed by Parks Victoria that is within the Public Conservation and Resource Zone;
- Beaufort Trotting Training Track and Beaufort Main Lead Common to the west of Main Lead Road, located on unreserved Crown land managed by DELWP that is within the Farming Zone; and
- Beaufort Motorcycle Track, Crown land reserved for recreation that is managed by the Shire of Pyrenees and is within the Farming Zone.

The central southern boundary of the project investigation corridor adjoins the Camp Hill Recreation Reserve, which is Crown land reserved for recreation and managed by the Shire of Pyrenees, within the Public Park and Recreation Zone. Jacksons Reservoir is located in Camp Hill Recreation Reserve within a Public Use Zone (Schedule 1 – services and utilities), on Crown land reserved in part for water production and managed by Central Highlands Water.

The location of alignment options in relation to the public land and reserves described above is presented in **Figure 2**.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?

NYD No Yes If yes, please briefly describe.

Landscape values have not yet been assessed.

Is there a potential for effects on landscape values of regional or State importance?

NYD No Yes Please briefly explain response.

No landscape values have been identified as regional or State Significance within the investigation corridor.

Is mitigation of potential landscape effects proposed?

NYD No Yes If yes, please briefly describe.

At this stage there are no specific mitigation measures proposed, as these would be recommended following an assessment of visual and landscape impacts. However, VicRoads would seek to avoid and minimise impacts on landscapes through alignment selection, design and mitigation (e.g. landscaping, vegetation retention etc.).

VicRoads standard environmental management requirements for road construction projects include measures to avoid and minimise impacts on visual and landscape impacts.

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

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.

A desktop geotechnical study (Halcrow, 2011) identified the potential for areas in the eastern part of the investigation corridor to contain floodplain deposits and potential lenses of compressible or soft soil. It did not identify any soil properties which would prevent construction of the project.

VicRoads has successfully completed highway construction including major earthworks either side of Beaufort and the investigation corridor in recent years.

The Australian Soil Resource Information System mapping tool indicates that the corridor does not intersect areas where acid sulphate soils are predicted to occur.

Are there geotechnical hazards that may either affect the project or be affected by it?

NYD No Yes If yes, please briefly describe.

The topography of the investigation corridor is relatively gentle. Large scale landslips are not considered likely to occur. A desktop geotechnical study (Halcrow, 2011) did not identify any geotechnical hazards which would prevent construction of the project within the investigation corridor. Geotechnical investigations would be undertaken to inform design. This would identify whether any geotechnical hazards exist.

Future detailed investigations would also consider the potential for the alignments to interact with historical mining activities and excavations. These detailed investigations would occur during the pre-construction phase on the approved alignment due to expense and amenity disturbance during testing operations.

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.

Construction activities would result in increased traffic within the project investigation corridor. The volume of traffic has not yet been determined, however it is anticipated that the volume of this traffic would be negligible in terms of overall traffic volumes in Beaufort. VicRoads would communicate to the community the need for any temporary road closures or transport detours.

The Beaufort Bypass is intended to decrease traffic volumes within Beaufort and therefore improve road safety through reduced traffic / pedestrian interaction.

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.

There is potential for dust and noise emissions, as well as vibration during the construction of the project. It is anticipated that construction activities may increase noise levels within and surrounding the construction corridor and this may affect residences close to the corridor. These impacts would be managed in accordance with relevant EPA guidelines and a project specific Environmental Management Plan. It is estimated that this may only impact on 12 residential dwellings.

A traffic noise assessment incorporating background noise measurements and modelling would be undertaken for the preferred bypass alignment in order to predict operational noise levels.

The constructed bypass is expected to reduce noise levels and improve amenity for a number residences in the vicinity of the current highway alignment.

The VicRoads Noise Policy would be considered in relation to operational noise impacts along the preferred bypass alignment. A range of noise mitigation measures may be utilised (for example noise mounds, noise barriers and low noise pavement treatments) in order to comply with relevant noise criteria outlined in the Policy.

Alternative access arrangements would be made for residences with driveway access affected by construction activities and/or the preferred bypass alignment.

It is unlikely that operation of the project would result in significant air quality issues. The removal of traffic from the town centre would provide for more efficient movement of vehicles on the road network and a reduction in air emissions.

A landscape and visual impact assessment would be undertaken to consider potential adverse impacts of the preferred bypass alignment from residential dwellings. Mitigation measures would include landscaping and siting of large infrastructure.

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.

The bypass would be expected to reduce the exposure of many residences within the township to traffic noise and vehicle emissions.

Some residences may be affected by construction activities (through increased noise and dust) or during the operational phase of the project (through increased traffic noise exposure). As the predominant land use within the project investigation corridor is agricultural and most of the area is zoned for farming, the density of residential dwellings is expected to be generally low.

No investigations into the potential levels of noise have been undertaken to date. Impacts would be dependent upon the number and proximity of residential dwellings to the preferred bypass

alignment and the mitigation measures employed.

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.

Beca (2012) identified that up to four properties may have access severed as a result of the bypass. The number and location of properties potentially subject to severance would be determined by the alignment selected for the bypass, which cannot be determined at this stage.

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.

The investigation corridor includes areas currently used for agricultural purposes. It would be necessary to acquire agricultural land in order to construct the project. The current agricultural activities practiced on land to be acquired would be displaced. An estimate of the potential loss of agricultural land has been made by calculating the area of land zoned for farming for each alignment option as follows:

Alignment Option	Approx. Land take (ha) (excluding B4-A & B5 on/off ramps)	Approx. area of Land take in Farming Zone (ha) (excluding B4-A & B5 on/off ramps)
B4-A	101.7	76.2
B4-B	95.9	67.9
B5	99.3	77.2

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.

The bypass would displace some agricultural land and associated agricultural activity/production. Adverse impacts to landowners may include reduced income associated with a loss of productive land and changed accessibility.

Is mitigation of potential social effects proposed?

NYD No Yes If yes, please briefly describe.

At this stage there are no specific mitigation measures proposed, as these would be recommended following an assessment of the impacts. However, VicRoads would seek to avoid and minimise social impacts through alignment selection, design and mitigation (e.g. landscaping, vegetation retention, access restoration, noise walls, etc.).

VicRoads standard environmental management requirements for road construction projects include measures to avoid and minimise social impacts.

Other information/comments? (e.g. 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.

Initial consultation in relation to cultural heritage for the project has been undertaken to date with relevant parties. No significant or critical sites were identified during this process.

Relevant organisations for consultation purposes have been identified as:

- Registered Aboriginal Party Wathaurung Aboriginal Corporation; and
- Office of Aboriginal Affairs Victoria.

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)

In 2008 Dr Vincent Clark & Associates conducted a cultural heritage due diligence investigation, in order to identify the Aboriginal and historical archaeological values of the investigation corridor associated with the potential duplication of the Western Highway from Burrumbeet to Stawell (approximately 100 km in length). The study was a desktop assessment and included an opportunistic field investigation that provided the following recommendations applicable to the current bypass alignment corridor:

Recommendation 1

Based on the distribution and frequency of archaeological and heritage sites in the investigation corridor, it is likely that cultural heritage sites exist in areas that have not yet been investigated or defined as sensitive by the (Office) of Aboriginal Affairs Victoria (OAAV).

Recommendation 2

Sections of the investigation corridor have not been previously investigated for cultural heritage, and given the findings of investigations within and adjacent to the investigation corridor, it is likely that Aboriginal sites exist but are not yet recorded. Accordingly, it is recommended that the CHMP incorporate those areas that have not been defined as areas of Aboriginal cultural heritage sensitivity.

Recommendation 3

There are a number of previously recorded historical archaeological sites within the investigation corridor, and a field inspection of the investigation corridor indicated that there are historic sites that have not yet been recorded. Assessment of these sites should be conducted prior to works commencing. Under the requirements of the Victorian *Heritage Act 1995*, work must stop immediately if any previously unrecorded historic archaeological sites are identified during any development works, and the discovery must be reported to Heritage Victoria.

In 2012 Andrew Long and Associates undertook a cultural heritage GAP analysis, Options and Impact Assessment of Aboriginal and historic cultural heritage for the Western Highway Project between Beaufort and Ararat (Section 2) EES. This study did not include the proposed bypass alignment options but did include the sections that intersect with the Western Highway at the western end of the bypass corridor.

CHMPs have been conducted in sections of the corridor area. Light (2011) conducted a desktop and complex assessment CHMPs (#12146 and #11437) for Beaufort Sewerage Project parallel to Lexton Road. Both assessments resulted in the identification of Aboriginal cultural heritage places. Chandler and Albrecht conducted a CHMP (#11468) for the Western Highway Duplication Project: Burrumbeet to Beaufort. The CHMP intersects with the eastern end of the bypass alignment options where the Western Hwy crosses a tributary of Yam Holes Creek. St George et al. conducted a CHMP (#12708) for Western Highway Duplication Stage 1: Beaufort To Fiery Creek. The CHMP intersects with the eastern end of the bypass alignment options along the Western Highway. Both assessments resulted in the identification of Aboriginal cultural heritage places.

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

There are five VAHR artefact scatters associated with the Yam Holes Creek area of cultural sensitivity in the east of the investigation corridor. None of the alignment option footprints intersect with these sites:

7523-0246	Racecourse Road 5
7523-0243	Racecourse Road 2
7523-0244	Racecourse Road 3
7523-0245	Racecourse Road 4
7523-0247	Racecourse Road 1

There is one registered VAHR low density artefact scatter with a large extent associated with 21 components in the far west of the investigation corridor. The site intersects at the point of which all alignment options merge.

7523-0322 Western Highway Eurambeen 8

- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby

There are two registered areas of cultural sensitivity within the investigation corridor that intersect with all alignment option footprints. These are associated with Yam Holes Creek (reg.23 under *Aboriginal Heritage Regulations 2007*) and registered Aboriginal heritage place 7523-0322 (reg.22).

- Sites or areas of sensitivity identified by representatives of Indigenous organisations

N/A

Heritage site information is presented in **Figure 9**.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

NYD No Yes If yes, please list.

There are five Victorian Heritage Inventory places within the bypass alignment corridor.

One site intersects with the alignment option B5.

- H7523-0071 Nil Desperandum Mine Feature site comprises of two mullock heaps associated with gold mining, the largest being c. 4 m high, a diffuse brick scatter and a sludge pond.

Four are outside the alignment option footprints to the south west of option B4-A:

- H7523-0072 Race Course Road Shallow Workings consist of shallow 1-2 m wide gold mining shafts that cover an area of 17,180m².
- H7523-0074 Race Course road Mullock Feature 1 comprises of five low lying mullock heaps extending in a north-south direction. The heaps have mature trees growing out of them
- H7523-0075 All Nations Extended Mine Feature comprises of two large mullock heaps, gold mine shaft, a brick battery stand and associated features.
- H7523-0077 Beaufort Mine is a deep lead mining site that was established during the late 19th century and in use up to the early 20th century.

Heritage site information is presented in **Figure 9**.

Is mitigation of potential cultural heritage effects proposed?

NYD No Yes If yes, please briefly describe.

VicRoads would mitigate potential impacts on cultural heritage through avoidance (alignment refinement) and through implementation of approved works as documented within a CHMP.

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

The information derived from the following register searches is accurate as of Friday 29 August 2014.

- Victorian Aboriginal Heritage Register;
- Victorian Heritage Register;
- Victorian heritage Inventory;
- Commonwealth Heritage Lists; and
- Pyrenees Planning Scheme Heritage Overlays.

Historic Heritage

Please refer to the Clarke (2008) recommendations listed under previous investigations.

A ground truthing survey of previously registered heritage places would be undertaken. The extent of previously registered places requires examination and their significance rating assessed. Unregistered Aboriginal and historic places identified during survey require documentation where possible and recommendations made for further assessment.

Primary source research for land use history would be undertaken prior to targeted ground truthing surveys. Consultation meetings with Council and historical societies similar to that undertaken for the Western Highway Project would be held. The objective of this consultation is to present the existing historical research, seek feedback on this research and identify any additional sites that could potentially be impacted by the proposed bypass extensions.

Aboriginal Cultural Heritage

Based on the distribution and frequency of archaeological and heritage sites in the wider study, it is likely that cultural heritage sites exist in areas that have not yet been investigated or defined as sensitive by the RAP or OAAV.

Previous research has highlighted that there is the potential for Aboriginal mortuary (burial) trees or burnt mounds to be present in the investigation corridor. Both are considered to be significant cultural heritage places.

A mortuary tree is a secondary 'burial' or 'abandonment' of the remains of a deceased person (or persons), which has undergone one or more stages of treatment to de-flesh the skeleton (or skeletons). Mortuary trees are classified as 'burial' places, for which there are special provisions in the *Aboriginal Heritage Act 2006*, and there is enhanced protection of burials by prohibiting the granting of any cultural heritage permit (CHP) with respect to Aboriginal human remains (s37).

During the EES for Section 2 of the Western Highway Project, Mortuary Trees were nominated as potentially present in the study area. Following extensive investigation, no mortuary trees were discovered and all impacts to sensitive cultural heritage site were managed by a CHMP.

Burnt mounds also typically occur in areas with little surface slope. Burnt mounds are difficult to locate as they are only marginally elevated above natural surface level. They indicate that the location of occupational sites that were repeatedly re-visited over many years. One indicator for the location of burnt mounds is the proximity to water courses and more specifically the confluences of water courses. A survey of the area would be required to assess the likely potential for burnt mounds to be present in the investigation corridor. Potential impacts to burnt mounds could however be managed through a CHMP.

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- Electricity network. If possible, estimate power requirement/output
- Natural gas network. If possible, estimate gas requirement/output
- Generated on-site. If possible, estimate power capacity/output
- Other. Please describe.

Please add any relevant additional information.

Fossil fuels, such as diesel, petrol, oil and hydraulic fluids, would be consumed during construction by a variety of vehicles, as well as plant and equipment. The quantity of fossil fuels to be consumed has not been quantified at this stage.

The completed bypass would not consume or generate energy.

What are the main forms of waste that would be generated by the project facility?

- Wastewater. Describe briefly.
- Solid chemical wastes. Describe briefly.
- Excavated material. Describe briefly.
- Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

Wastewater from rainwater runoff or dewatering activities may be generated during construction. Wastewater would be managed in accordance with a project specific Construction Environmental Management Plan.

Waste in the form of excavated material may be generated by the project, however the final volume cannot be determined until project investigations and designs are completed. Stockpiles would be managed in accordance with a project specific Construction Environmental Management Plan.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

- Less than 50,000 tonnes of CO₂ equivalent per annum
- Between 50,000 and 100,000 tonnes of CO₂ equivalent per annum
- Between 100,000 and 200,000 tonnes of CO₂ equivalent per annum
- More than 200,000 tonnes of CO₂ equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

The operation of the bypass would not directly generate large volumes of greenhouse gas emissions. The implementation of the project would reduce travel time and improve the efficiency of road users. This is expected to result in a reduction in CO₂ emissions.

17. Other environmental issues

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

- No Yes If yes, briefly describe.

None identified.

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

Preliminary identification of the major environmental and social constraints has been undertaken as part of the Beca (2012) (**Attachment 1**) alignment options assessment. As a result of this

initial assessment VicRoads has identified an investigation corridor. Further site specific investigations and consultation are proposed in order to better understand and avoid potential adverse effects associated with the project. This would allow a preferred alignment to be determined.

✘ Design: Please describe briefly

Concept and detailed designs are yet to be developed, however environmental and other issues would be considered as part of the design processes in order to avoid and minimise adverse effects. Design optimisation would be informed by the results of a range of site specific investigations.

In order to minimise environmental effects, detailed design will consider the following:

- Avoidance/minimisation of impacts on significant native vegetation and fauna habitat
- Alternative long span bridging options;
- Noise mitigation and attenuation measures;
- Landscape and urban design measures; and
- Water sensitive road design.

✘ Environmental management: Please describe briefly.

VicRoads has a well-established environmental management system for managing the potential environmental impacts of major road projects.

VicRoads aims to achieve a high standard of environmental performance through a strong organisational commitment to the protection of the environment, supported by a systematic approach and a process of continual improvement.

The details of the systems and processes for management of environmental issues are described in VicRoads Environmental Risk Management Guidelines (2012). VicRoads approach to environmental management is modelled on the ISO 14001 Environmental Management System (EMS). The VicRoads EMS specifies environmental management processes for construction, operation and maintenance of the road network managed by VicRoads.

Key components of the system for the delivery of a construction contract are:

- VicRoads Project Environment Protection Strategy (PEPS);
- VicRoads contract specification;
- Contractor's Environmental Management Plan (EMP); and
- Monitoring, surveillance and auditing of contractor activities.

Further details for each of these are provided below.

VicRoads Project Environment Protection Strategy

The Project Environment Protection Strategy (PEPS) is prepared prior to any construction works being undertaken for the Project. The PEPS seeks to document all environmental requirements and its key objectives are to:

- Guide the Project team in the design and construction phases of the Project;
- Protect the environment during construction and operation; and
- Enhance, where possible, the environment in the immediate vicinity of the Project.

The PEPS consolidates procedures and responses to specific environmental issues into one document to identify:

- Environmental performance objectives;
- Key roles and responsibilities;
- Environmental issues specific to the detailed design, construction and operation of the project;
- Potential impacts on the environment and proposed measures and objectives for minimising or avoiding these impacts through design, construction and operation;
- Processes for identifying further issues and protection actions throughout design and construction, involving for example, risk assessment reviews, auditing and surveillance; and
- Conditions of planning and environmental approvals to be met during project implementation.

VicRoads Contract Specification

VicRoads standard environmental clauses provided in Contract Specifications have been developed from best industry practice, legislative requirements and VicRoads knowledge gained through the delivery of road projects. Clauses address the management requirements for all elements of the environment including water quality, air quality, biodiversity (flora and fauna), community (for the impacts of noise and vibration) and Cultural Heritage.

The standard contractual requirements are further customised to ensure that all environmental commitments, risks and objectives specific to the project (as identified in the PEPS) are adequately addressed by the environmental clauses.

Contractor's Environmental Management Plan

The contractor is required to prepare, implement and maintain an Environmental Management Plan (EMP) that will meet the requirements of the Contract Specification and VicRoads PEPS. A review of the EMP will ensure that it contains adequate controls/processes to avoid and/or mitigate environmental impacts associated with construction activities and complies with the requirements of the Contract Specification.

The EMP would include:

- An outline of the regulatory framework, including a list of required approvals;
- Identification of environmental conditions and issues, particularly where there are sensitive areas;
- Identification of the environmental risks to be managed and the management measures and methodologies to be taken to meet the project delivery standards;
- Contingency measures to be adopted if significant environmental risks are either identified through the risk assessment process or otherwise encountered during the project; and
- Management measures to meet the performance objectives specified in the Contract Specification.

Monitoring, surveillance and auditing of contractor activities

Contractors are required to undertake monitoring and audits for construction activities, including works undertaken by subcontractors employed on their behalf to verify compliance with the contract Specification and their Environmental Management Plan.

In addition to the contractor auditing and monitoring of the works, VicRoads also conducts its own surveillance and auditing to assess the contractor's compliance with the EMP and the requirements of the Contract Specifications through:

- Observation of project activities on a day-to-day basis;
- Periodic risk based surveillance of the effectiveness of environmental controls and processes implemented on site; and
- Audit of the implementation and effectiveness of the EMP and the effectiveness of the controls and processes implemented on site.

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.

No activities in the vicinity of the project investigation corridor with the potential for cumulative environmental effects have been identified.

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.

Has a program for future environmental studies been developed?

No Yes If yes, briefly describe.

VicRoads will engage specialists to undertake the necessary investigations to inform design and obtain approvals. It is currently anticipated that the following investigations may be required:

- Traffic and Transport;
- Land Use Planning;
- Landscape and Visual;
- Targeted Flora and Fauna;
- Cultural Heritage;
- Noise (targeted, with modelling undertaken during pre-construction phase on approved alignment);
- Hydrology and Hydraulics;
- Geotechnical, including Groundwater and Salinity (desktop review only, with material testing to occur during pre-construction phase)

Consultation program

Has a consultation program conducted to date for the project?

No Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

The Beaufort Bypass was the subject of community consultation as part of the Western Highway Duplication Project (sections 1 and 2). The highway duplication project required alignments and bypass tie-in points to be identified. This consultation was initiated in 2009 and was continuous until completion of planning for sections 1 & 2 in 2013.

In 2011, VicRoads undertook a preliminary investigation of alignments around the towns of Ararat and Beaufort to determine the most appropriate start and end points for the Western Highway duplication – Ballarat to Stawell. This investigation allowed VicRoads to identify and document the Western Highway’s approach and exit points that could cater for a future bypass of Ararat and Beaufort. The Beaufort preliminary investigation was undertaken in consultation with the Pyrenees Shire Council. VicRoads held a community information session in 2011 regarding the outcomes of this investigation.

VicRoads is aware that council undertook its own consultation activities during 2013 to inform the community of its preferred alignment for a future bypass.

Meetings with directly affected landowners and a stakeholder workshop occurred in late 2014, with all agencies noted in Section 10 invited.

“Drop In’ sessions were conducted recently on the 11 & 12 February 2015 in Beaufort, to facilitate the introduction of the investigation corridor and explain the opportunity for community involvement in the Project. Over 150 people attended the sessions across two days.

Has a program for future consultation been developed?

NYD No Yes If yes, briefly describe.

VicRoads has developed a Communications Plan and Program for the bypass planning study. The main objectives of the Plan are to identify the key stakeholders, engage landowners to understand potential impacts, create opportunities for the community to provide input into the

planning study, and disseminate information to all parties as the planning process progresses.

VicRoads plans to engage with impacted landowners, key stakeholders and the wider community. Consultation activities will include face-to-face meetings, stakeholder briefings and workshops, information sessions, the distribution of communication materials and media. Consultation sessions will provide an opportunity to obtain feedback on the proposed alignment options. During the consultation, VicRoads would seek feedback on known constraints within the investigation corridor. This would assist with project investigations and design.

References

- Beca (2012) *Alignment Options Report Beaufort Bypass – Western Highway*
- CPG (2009) *Western Highway Duplication Ballarat to Stawell – Traffic Analysis*
- Ecology Partners (2008) *Desktop Flora and Fauna Assessment of the Western Highway, Burrumbeet to Stawell.*
- Ecology and Heritage Partners (2014) *Environmental Effects Statement for the Beaufort Bypass – update to flora and fauna information*
- Halcrow (2011) *Beaufort Bypass Geotechnical Desktop Study*
- VicRoads (2013) *Integrated Water Management Guidelines*. June 2013.
- Vincent Clark and Associates (2008) *Western Highway Duplication: Burrumbeet to Stawell. Cultural Heritage Due Diligence*

Figures

Figure 1 – Project Overview

Figure 2 – Crown Land and Reserves

Figure 3 – Planning Zones

Figure 4 – Planning Overlays

Figure 5 – Ecological Vegetation Classes (2005)

Figure 6 – Ecological Vegetation Classes by Conservation Status

Figure 7 – Heritage

Attachments

1. Beca (2012) *Alignment Options Report Beaufort Bypass – Western Highway*
2. Ecology and Heritage Partners (2014) *Environmental Effects Statement for the Beaufort Bypass – update to flora and fauna information*
3. GHD (2015) *Western Highway Bypass Project -Beaufort Stage 1 -Flora, Fauna and Aquatic Assessment*

Authorised person for proponent:

I, Ewen Nevett, Regional Director - Western Region, confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature  _____

Date 20 May 2015

Person who prepared this referral:

I, Sam Brown, Acting Team Leader Integrated Transport and Land Use, confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature  _____

Date 20 May 2015