

22. Conclusion

22.1 Summary of Assessments

The duplication of the Western Highway between Ararat and Stawell (the Project) is proposed to improve road safety for all road users, improve freight efficiency, provide adequate and improved rest areas and allow for the possible future bypass of Ararat. These transport objectives form key aspects of Victorian Government transport policies and the VicRoads operating charter as set out in the *Transport Integration Act 2010*.

The EES includes an integrated assessment of the proposed alignment option for the Project, considering a range of environmental, social and economic objectives. For each objective, a set of evaluation criteria was used to establish the degree that the objective could be met in terms of potential project benefits or disbenefits as documented in the Options Assessment Report outlined in Technical Appendix B. This assessment process applied the draft evaluation objectives identified by DPCD in the Scoping Requirements they prepared and issued for this EES.

The EES has assessed the greatest potential impacts of the Project arising from development of the ultimate upgrade (freeway standard), because it involves a larger physical footprint and more significant changes to access arrangements. The traffic and transport, economic and social impact assessments have also considered the interim upgrade (highway standard) because this would be in place for a number of years.

The EES documents the predicted impacts of the Project and recommends measures to reduce these impacts to an acceptable level. This chapter presents the conclusions of the EES with respect to the draft evaluation objectives.

22.1.1 Road Safety, Efficiency and Capacity

To provide for the duplication of the Western Highway between Ararat and Stawell to address safety, efficiency and capacity issues.

The Project would remove a high proportion of existing road safety risks and provide a higher level of road safety overall. A number of specific design features are proposed for optimisation of safety including: increased clear zone widths, provision of central medians to reduce occurrence of head-on collisions, ability for vehicles to safely overtake along the length of the study area, and horizontal and vertical road alignments designed to higher standards. Based on the crash history of the existing road and the crash reduction factors sourced from Austroads for each proposed treatment, it is estimated that the crashes per 100 million km

travelled per year would reduce from 4.24 to 3.04 for the interim upgrade. Hence, the Project is anticipated to substantially reduce the incidence of casualty crashes in the project area.

The Project is expected to provide travel time savings of around two and a half minutes for vehicles travelling along the Western Highway due to the bypass of the township of Great Western; an expected increase of the posted speed limit from 100 km/h to 110km/h, additional overtaking opportunities, improved gradelines and a reduction in the number of intersections. Improved efficiency would benefit all road users including freight, school buses and emergency services.

The Project would increase highway capacity from the current 2,551 vehicles per hour to 5,063 vehicles per hour.

The EES has assessed aspects relevant to this evaluation objective and concludes that the project would deliver significant benefits for road safety, improve transport efficiency and provide the capacity to cater for predicted growth in traffic volumes along the route.

There would be further improvements to both road safety and transport efficiency when the highway is upgraded from the interim to the ultimate access arrangements.

22.1.2 Biodiversity and Habitat

To avoid or minimise effects on flora and fauna species and ecological communities listed under the Flora and Fauna Guarantee Act 1988 (Vic) or the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth), and to comply with requirements under Victoria's Native Vegetation Management – A Framework for Action, 2002.

Flora and fauna assessments were undertaken to inform the Options Assessment process. These included preliminary assessments of native vegetation and habitat values and targeted surveys for EPBC Act and FFG Act listed threatened species. Parts of the study area are considered to be of both National and State conservation significance.

Matters of National Environmental Significance (NES) together with vegetation of Very High and High conservation significance were considered to be of highest conservation value during the Options Assessment process and priority was given to avoiding these values where possible. Efforts were also made to avoid and minimise impacts on State and regionally significant flora and fauna values. However, due to the long linear nature of the Project, it would not be possible to avoid all impacts on flora and fauna values.

The Project would impact up to 21 Trailing-Hop Bush plants (vulnerable under the EPBC Act, FFG Act listed) which were unable to be avoided during the concept design of the Project. In accordance with SEWPaC guidelines the Project would have a significant impact on Trailing Hop-bush. However in the context of the Project area, it was considered to be a minor impact as the Project would result in removal of less than one percent of the project area population. The impact to Trailing Hop-bush from the Project would be further reduced as individuals of this species would be translocated.

The Project would require the removal of up to 29.92 hectares (ha) of confirmed and 99.94ha of potential hectares of Golden Sun Moth habitat (critically endangered under the EPBC Act, FFG Act listed). In accordance with SEWPaC guidelines the Project would have a significant impact on Golden Sun Moth. However, in the context of the Project area, it was considered to be a moderate impact as the Project would result in removal of greater than 1% of the project area population but less than 1% of the regional area population.

It is expected that the area of impact to Golden Sun Moth habitat and number of Trailing Hop-Bush plants impacted could be reduced through the detailed design phase of the Project.

The Project would also impact upon some State listed species. These are:

- Rising Star Guinea-flower (13 plants) (rare, on DSE advisory list);
- Emerald-lip Greenhood (203 plants) (rare, on DSE advisory list);
- Rosemary Grevillea (37 plants) (rare, on DSE advisory list);
- Barking Owl (FFG Act listed, endangered, on DSE Advisory list);
- Brown Toadlet (FFG Act listed, endangered, on DSE Advisory list);
- Brown Treecreeper (south-eastern ssp.) (near threatened, on DSE Advisory list); and
- Brush-tailed Phascogale (FFG Act listed, Vulnerable, on DSE Advisory list).

It is considered that the impacts on State listed species would be minor as the Project would impact on less than one per cent of the regional populations of these species.

The Project would impact on five EVCs of varying quality and conservation significance. These are:

- Plains Grassy Woodland (endangered in all three bioregions);
- Grassy Woodland (Vulnerable, in Goldfields Bioregion, endangered in Central Victoria Uplands and Wimmera Bioregion);

- Creekline Grassy Woodland (endangered in all three bioregions);
- Grassy Dry Forest (depleted in all three bioregions); and
- Heathy Woodland (depleted in all three bioregions).

The Project would impact on approximately 133 hectares of EVCs (of which approximately 116 are of Very High conservation significance). This is considered to be a moderate impact as it would result in a loss of 0.1 to 1 per cent of the area of EVCs of Very High or High conservation significance within the region and the losses of EVCs are expected to be able to be offset in accordance with Victoria's Native Vegetation Management policy.

Consent from the Minister for Environment and Climate Change is required for the removal of vegetation of 'Very High' conservation significance.

The Project could also result in the loss of up to 882 Large Old Trees (LOTs) within remnant native vegetation patches, 792 of which are of Very High conservation significance. An additional 79 scattered old trees may be removed as a result of the Project.

Mitigation measures including detailed design should reduce the number of LOTs within remnant native vegetation patches and scattered old trees impacted by the Project. It is expected that the actual number of LOTs and scattered old trees impacted would be less than these totals because management measures, including micro-alignment during detailed design and construction planning, would be implemented to minimise the number of LOTs and scattered old trees impacted. It is expected that the impact on LOTs and scattered old trees would be moderate.

VicRoads would be required to obtain offsets for unavoidable losses of native vegetation in accordance with Victoria's Native Vegetation Management – A Framework for Action and the EPBC Act Environmental Offsets Policy. Preliminary investigations indicate that offsets are available and that VicRoads could source appropriate offsets from one or a combination of BushBroker, Trust for Nature, the VicRoads Net Gain Bank and private offset brokers.

VicRoads would source appropriate offsets for matters of NES that would be impacted by the Project upon consulting with SEWPaC on requirements.

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation, the Project would have an acceptable impact upon biodiversity and habitat values.

22.1.3 Catchment Values

To protect catchment values, surface water and groundwater quality, stream flows and floodway capacity, as well as to avoid impacts on protected beneficial uses.

The geology in the study area is reflective of the surface geology typically found in the central west region of Victoria. The potential impact of encountering unstable geological units including erosion prone areas or compressible soils during construction was considered to be moderate. Standard construction management approaches and site specific soil erosion management plans would be developed as part of the Project Construction Environmental Management Plan (CEMP) and it is considered that they would adequately manage this impact.

Several features were identified that indicate potential for land contamination. These include: farming/shearing sheds (often associated with sheep dips), railway lines (historic land management practices), the former Great Western Landfill, the presence of pyritic/sulphidic rock (St Arnaud Group) and potentially asbestos bearing rock (Deenicull Schist), areas of disturbed soils (potential sites of buried waste) and historic mining works mine tailings. Based on the review of previous and current land use, the potential impact of localised contamination in the study area is considered moderate.

The areas of greatest concern for soils contamination along the proposed alignment are the locations of the former Great Western Landfill and the potentially asbestos bearing rocks of the Deenicull Schist outcrop. These areas present the greatest potential for impact on both the environment and humans. These risks would however be adequately managed, firstly through the identification of contaminated soils, any ASS soils and spill risks and then by proper management via the Project Construction Environmental Management Plan (CEMP).

The proposed alignment has been located in areas already disturbed by the registered gravel quarries to the north-east of Great Western. The depth of cut required for the Project in this location would be reduced due to quarrying activities to the approximate depth of the proposed alignment.

Groundwater quality in the study area is relatively poor, due to high salinity, with uses generally limited to stock and non-potable domestic purposes. Regional mapping by the Department of Primary Industries (DPI) has identified a number of Groundwater Dependent Ecosystems (GDEs) in the study area that potentially use groundwater to some extent, although they may not necessarily be dependent on it. Limited data is currently available to assess whether or not these GDEs are actually dependent on groundwater, however, the higher

salinity groundwater in much of the study area would not be conducive to plant growth.

A key groundwater issue is the potential to intersect groundwater during construction. The likelihood of this occurring is considered low because most of the Project would be constructed either above the existing grade or would involve shallow cuts. However, groundwater may be unexpectedly encountered at localised areas along the alignment.

The alignment passes through the former Great Western Landfill and existing quarries east of Great Western. The deepest cuts of the Project would occur within these locations to a similar depth that has been excavated for the quarries. The current quarry operator has indicated that groundwater intrusion is not an issue for operations.

The former municipal waste landfill is located in the base of an old quarry and may not have been constructed with an engineered lining system.

The likelihood of intercepting contaminated groundwater was considered to be low because investigations (Golder 2011) suggest that groundwater occurrence is deep and that a cut located in this area is unlikely to intersect groundwater. The waste exhumed by Golder (2011) was dry and showed minimal signs of decomposition, suggesting that the soil cover could be providing a reasonable barrier to limiting rainfall infiltration and thereby reducing leachate generation. Also, landfilling activities ceased in 2000, and given the inferred permeable nature of the underlying geology, any leachate plumes may have migrated away from the site.

As discussed with EPA, the waste material from the area of landfill intersected by the proposed alignment would be relocated. This could result in an overall improvement in the containment and management of the waste material through upgraded storage conditions that meet current EPA regulations.

There is limited development of the groundwater resources in the region therefore further investigation of groundwater depth, flows and quality would be required prior to construction. The program would be characterise the groundwater occurrence to inform the engineering design of the area of large cutting, particularly north-east of Great Western.

Overall, it was considered that the risk to groundwater as a result of construction and operation of the Project would be negligible to low.

The Project crosses four significant watercourses including Concongella Creek (7 crossings), Allanvale Creek, Robinsons Creek and Donald Creek, and 28 minor waterways. Where the proposed alignment deviates from the existing highway to bypass Great Western, there are three new crossings proposed of significant waterways (two of Concongella Creek and one of Allanvale Creek).

Surveys of the waterways were undertaken by Ecology Partners (2012) and no national or State significant aquatic species were identified.

Existing waterway crossing structures would be upgraded and duplicated with a similar type of crossing structure (for example, a culvert would be replaced with a culvert), retaining or enhancing the ability to convey flood waters and minimise river health impacts.

For locations where there are existing crossings of significant waterways the river health impacts are considered to be minor. This is on the basis that there are existing crossings and the disturbance to the waterways is a relatively small area. Through the mitigation measures proposed for the project, the impacts could be managed.

In two locations where new crossings are proposed and where realignment of Concongella Creek is proposed, the impacts are considered to be moderate. However, with appropriate measures developed through detailed design the consequence could be reduced from moderate to minor.

Construction of the Project would result in changes to floodplain characteristics. There is the potential to impact floodplain function and flow conveyance, particularly during peak events. This is because the existing highway is flood affected, providing some attenuation and diversion of flows. However, the Project seeks to protect the new road from flooding and cause no afflux.

The preliminary modelling indicates that the level of flood protection for the existing road is relatively low and showed that;

- the existing highway causes flood waters to be restricted at a number of waterway crossing locations.
- the modelled 100 year ARI flood extent upstream of the existing highway stretches for several hundred metres and in some locations, property and dwellings would be affected.
- there are a number of crossings where a significant proportion of flood waters currently overtop the existing highway.

The potential flooding impacts can be summarised as follows:

- Potential flooding impacts to Great Western township would be Major (given the township scale affected) but can be reduced to Minor subject to detailed flood modelling and detailed design of the road and waterway crossings.
- Potential flooding impacts to rural properties with dwellings at significant crossing locations would be moderate, but can be reduced to minor subject to detailed flood modelling and detailed design of the road and waterway crossings.

- Potential flooding impacts at rural properties with no dwellings at significant crossing locations would be minor.
- Potential impacts to minor waterway crossings were considered to be minor.

The preliminary flood modelling showed that the Project could be implemented without worsening the flooding impacts at Great Western, however this would require mitigation measures to be implemented to restrict flood waters. Detailed design of the road and waterway crossings, and flood modelling would be required to confirm where and how restricting the flows upstream would benefit Great Western.

The Project would provide opportunities to improve existing conditions of waterway reaches within the vicinity of the works, as well as improve existing fragmentation caused by the existing highway, by redesigning crossings (e.g. by oversizing waterway crossings), and provide water quality treatment outcomes that are better than existing conditions.

Appropriate management responses have been outlined to protect catchment values and avoid impacts associated with potential adverse geological conditions, contaminated soils, acid sulfate soils, asbestos bearing rocks, soil erosion and instability risks. Following implementation of the recommended mitigation measures, most identified risks are considered to be negligible to low, with the exception of potential contamination risk to soil and groundwater from the former Great Western Landfill, and flooding impacts. The residual risks in relation to groundwater and flooding impacts were medium after mitigation measures were applied.

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation, the Project would not significantly impact upon catchment values.

22.1.4 Land Use and Traffic Effects

To avoid or minimise disruption and other adverse effects on infrastructure, land use (including agriculture) and households, as well as road users resulting from construction and operation of the highway duplication.

The proposed alignment utilises the existing road corridor for the majority of the study area and therefore has reduced potential impacts on planning and land use compared with options which deviate significantly from the existing road. The proposed alignment has been designed to minimise impacts on existing land uses by varying the corridor to accommodate either land uses on private property or to avoid significant vegetation where possible. It is expected that there would be limited change to existing agricultural land use patterns or to future planned land uses and developments as a result of the Project.

The Project would have a temporary impact on existing utility service provision and would require consultation with relevant service providers and operators prior to works commencing. This would allow services to be realigned with minimal impact on landowners and farming. Other short-term impacts on land use may arise during construction from noise and dust emissions, traffic disruptions and changes to landscape due to vegetation removal. Noise, dust, traffic and landscape impacts have been investigated through specific studies in this EES and would be managed to an acceptable level through the implementation of the Project CEMP.

The Project is expected to have a positive impact on the future amenity of the township of Great Western by removing heavy vehicles out of town and improving safety for existing and future residents.

Overall, from a transport and land use perspective, it is expected that the Project would result in a benefit for the region and to Victoria, principally in relation to enhancing existing road infrastructure and its associated safety, efficiency and economic benefits at a local and regional level.

It is expected that the Project would provide benefits to road users including:

- Increased capacity, which would enable the highway to accommodate the expected future traffic volumes;
- Travel time savings by a reduction in the number of intersections, provision of continuous overtaking opportunities and removing the need to reduce speed through townships;
- Increased safety by reducing traffic volumes within Great Western township, grade separated intersections for AMP1, improved alignment geometry and treatment of roadside hazards;
- Improved efficiency and safety for freight; and
- The potential to reduce the traffic on local roads due to the Western Highway becoming the preferred route.

The construction of the Project would have short term impacts on the operation of the existing Western Highway, including reduced speed limits on some areas of the highway. Construction of the Project would be staged and traffic management plans would be implemented to reduce these impacts. It is expected that the potential impacts from the construction would be acceptable.

The EES has assessed aspects relevant to this evaluation objective and concludes that overall, the Project would not result in any significant inconsistency with planning policy, any broad change of land use within the project area, nor would it have significant negative impact upon road users or infrastructure.

22.1.5 Amenity and Landscape Effects

To minimise air emissions, noise, landscape, visual and other adverse amenity effects during the construction and operation of the proposed duplicated highway to the extent practicable.

Construction of the Project would generate dust. Air quality impacts from construction are expected to extend beyond the construction corridor, with slightly greater effects noted to the west of the road than to the east due to meteorological behaviour. Construction dust has a predicted maximum impact zone of approximately 520m from the western edge of the construction zone and approximately 470m from the eastern edge of the construction zone. However, impacts from construction dust are expected to be minor to negligible due to the proposed management measures including dust suppression techniques and keeping construction vehicles to well defined haulage routes.

As there are vehicles currently travelling along the existing Western Highway, there are already vehicle emissions in the study area. It is expected that the increase in operational emissions from the Project over those attributable to the current highway would be negligible. As such, the impacts from vehicle emissions during operation of the Project are expected to be negligible.

The assessment found that operational emissions and construction dust are not likely to impact domestic water supplies and all of the assessed air pollutants from vehicles using the road are predicted to be below the Intervention Level for Air Quality Management used in Victoria.

Construction noise impacts would be negligible as work would be undertaken during normal daytime hours. Suitable mitigation measures would be in place for any work undertaken outside these hours, in accordance with the EPA Noise Control Guidelines 2008. Vibration effects during construction on human comfort or structures would be minimal, and precautionary mitigation measures are proposed such as providing prior notice to occupiers, and undertaking a pre-construction inspection of any structures near a works area.

During operation, there are some residences where noise levels would increase due to traffic noise from the proposed alignment, however overall, more dwellings would experience a clearly noticeable reduction (decrease of 5dB(A) or more), than a clearly noticeable increase (increase of 5dB(A) or more). There are some residences along the areas of proposed new alignment where noise levels would be higher than what would have prevailed if the Project did not proceed. Noise attenuation would be considered in accordance with VicRoads – Traffic Noise Reduction Policy 2005 where this is the case.

The majority of the alignment is within the 'Vegetated Highway' landscape character area. It has been established that this landscape character area has a high capacity to visually accommodate change and the Project would not significantly diminish the landscape character of this area with the incorporation of non-standard mitigation, including roadside tree planting and the retention of existing roadside vegetation wherever possible.

Key areas where the landscape character is likely to be diminished include the Great Western Bypass, where the alignment deviates from the existing Western Highway corridor and where new road elements such as overpasses and ramps are inserted upon 'Vegetated Rural' or 'Rural' landscape character types. In addition, the proposed duplication of the existing Western Highway adjacent to Sisters Rocks would result in a moderate visual impact upon this area, which is of high landscape sensitivity. With careful non-standard mitigation, including the sensitive design of road infrastructure and planting characteristic of the locality, the visual impact upon these character types would be reduced.

By utilising the existing Western Highway alignment through the majority of its length, the proposed alignment reduces its visual impact upon dwellings, landscape character, townships, natural and cultural visual values. In areas where impacts are unavoidable, suitable mitigation measures can be incorporated to reduce the impacts and risks to acceptable levels.

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation the Project would not significantly impact upon amenity and landscape.

22.1.6 Social Effects

To protect residents' well-being and minimise any dislocation of residents or severance of communities, to the extent practicable.

There are strong social linkages within communities in the study area, with most residents having lived at the same address for more than five years. The study area also has several places of local and regional social value.

The effect of the Project upon social values is expected to be low and there are not likely to be any significant consequences from the Project with respect to settlement patterns, the distribution of residents, demographic characteristics, patterns of community interaction, or places of cultural, recreational or aesthetic value.

There may be a reduction in amenity during construction and operation resulting in a moderate impact upon some residents, although the amenity and safety of the Great Western township would be improved by removing through-traffic. In addition, there is a minor impact in terms of dislocation and

disruption to access for some residents, as one dwelling would be acquired and demolished. However, overall, it is considered that the Project would have a low social impact when compared with other similar transport infrastructure upgrade projects.

A number of actions to respond to potential impacts at both the individual landowner and wider community level have been recommended, including further community engagement through the detailed design and construction phases. VicRoads would compensate owners of dwellings and land that are acquired in accordance with the *Land Acquisition and Compensation Act 1986*.

The EES has assessed aspects relevant to this evaluation objective and concludes that, with mitigation, the Project would not result in significant social impacts.

22.1.7 Economic Effects

To provide net economic benefits for the State, having regard to road user benefits, direct costs, and indirect costs including with respect to other land uses and economic activities.

The local economy is based primarily on agriculture and tourism. An economic impact assessment has been conducted taking into account impacts on both agricultural and non-agricultural businesses, with respect to land severance, the Benefit Cost Ratio outcome, employment opportunities, and effects on tourism and other non-agricultural industry in the area.

The operation of the Project would result in significant economic benefits totalling around \$140.7M over a 30 year operating life due to vehicle operating cost savings, travel time savings, crash cost savings, externality savings and residual savings.

The construction of the Project would result in the loss of agricultural facilities and infrastructure valued at approximately \$1 million over a 30 year timeframe. The Project would also result in the loss of agricultural land and severance of properties with an economic impact on agricultural businesses estimated to be approximately \$1.3 million over a 30 year timeframe. VicRoads would compensate eligible landholders in accordance with the *Land Acquisition and Compensation Act 1986*.

It is expected that the Project may disrupt access to non-agricultural businesses during construction resulting in a revenue loss estimated to be less than \$100,000 over a three year period. VicRoads would work with businesses to optimise construction schedules to reduce this impact.

The loss of passing trade for businesses has also been estimated to be in the range of \$100,000 to

\$1 million over a 30 year timeframe, most significantly in Great Western, as a result of the bypass. Signage would be installed for any business areas affected by reduction in passing trade and existing signage would be maintained in areas of interest for tourists.

During construction, the Project is expected to generate approximately 1,500 Full Time Equivalent (FTE) jobs with flow on effects (sourcing of goods and services and expenditure by workers and their families) generating around 2,800 FTE jobs.

It is also expected that the Project would enhance connections for the region's industries with the Port of Melbourne and enable a more efficient movement of people which is expected to create a positive outcome for the region's tourism industry.

The EES has assessed aspects relevant to this evaluation objective and concludes that, overall the negative economic impacts of the Project are expected to be low and the economic benefits of the Project are expected to be moderate.

22.1.8 Cultural Heritage

To protect Aboriginal and non-Aboriginal cultural heritage.

In accordance with Section 49 of the *Aboriginal Heritage Act 2006*, a Cultural Heritage Management Plan (CHMP) is required for the Project. A CHMP will include management recommendations which detail the approach to managing potential impacts on Aboriginal cultural heritage.

A standard assessment under the provisions of the *Aboriginal Heritage Act 2006* has been undertaken to assess the impact of the Project on Aboriginal Cultural Heritage places. A complex assessment and final CHMP will be completed subsequent to the EES process and submitted to Aboriginal Affairs Victoria (AAV) for evaluation and approval.

The study area contains ten identified Aboriginal cultural heritage places. The proposed alignment would directly encounter six registered Aboriginal cultural heritage places: three of which are of minor significance (artefact scatters) and three of moderate significance (scarred trees). The proposed alignment has been designed to avoid Sisters Rocks and minimise the extent of change to culturally sensitive views towards the Black Ranges.

The locality also has the potential for the presence of Aboriginal mortuary trees (a significant type of Aboriginal place where human remains and grave goods have been placed within the hollow of a tree trunk or branch). A mortuary tree assessment was carried out for the project, however no mortuary trees with human remains were found. The CHMP would include management recommendations which detail the approach to managing potential impacts on Aboriginal cultural heritage sites.

In the unlikely event human remains are discovered during construction of the Project, there are contingency measures in accordance with Section 18 (2) (b) of the *Aboriginal Heritage Act 2006* that are required to be met.

Contingencies would also be included in the CHMP to account for any other previously unidentified Aboriginal sites that may be encountered during construction.

As a result of the Project, 13 historical heritage sites have been identified and assessed as potentially being impacted by the proposed alignment. All 13 sites are of local historic significance and are listed with the Heritage Inventory (HI). Two sites (Great Western Lead Mine site and Sisters Rocks Graffiti Site) are listed as historic sites on Crown land by the Department of Sustainability and Environment (DSE). Four of the 13 sites have been registered as a result of the Project. Consent would be obtained from Heritage Victoria to impact the heritage listed sites prior to commencing construction. Due to the small number of locally significant sites requiring removal or relocation, the overall impact to Non-Aboriginal (historical) cultural heritage has been assessed as moderate.

Contingency measures have been developed to manage the unexpected discovery of previously unregistered and unassessed historical cultural heritage sites and features during construction works.

The EES has assessed aspects relevant to this evaluation objective and concludes that with mitigation, the Project would not significantly impact upon cultural heritage values.

22.1.9 Environmental Management Framework

To provide a transparent framework with clear accountabilities for managing environmental effects and hazards associated with the project in order to achieve acceptable environmental outcomes.

The EES provides an Environmental Management Framework (EMF) which includes recommendations for the detailed design, construction and operational phases of the Project.

The EMF addresses the matters specified in the EES Scoping Requirements, with clear accountabilities for managing potential environmental impacts.

VicRoads would incorporate all relevant measures from the EMF and any other measures identified through the Minister for Planning's assessment and conditions of subsequent statutory approvals into the contract specifications for detailed design and construction. Construction contractor(s) appointed by VicRoads, would incorporate these measures into a CEMP(s) for the Project.

VicRoads would implement measures contained within the EMF that are not relevant to the CEMP, such as compensation for land acquisition and vegetation offsets and would be ultimately responsible for the implementation of the EMF.

The EMF provides a proposed program for evaluating environmental outcomes, reviewing and revising the EMP, as well as the auditing and reporting of performance. The EMF specifies key roles and responsibilities for the construction and operation phases of the Project to provide for transparency and accountability in management and monitoring of outcomes.

22.1.10 Sustainable Transport Outcomes

Overall, to identify an alignment and concept design for the Western Highway Duplication from Ararat to Stawell that would achieve a sustainable balance of economic, environmental and social outcomes.

Throughout the EES process and when developing alignment options, VicRoads has sought to balance potential environmental, social and economic outcomes.

The EES documents the multi-criteria assessment of alignment options undertaken to select the proposed alignment. Assessment of relevant aspects and consultation with affected landowners and the local community informed the assessment of options and selection of the proposed alignment.

The Project would deliver significant benefits for road safety, improve transport efficiency and provide capacity to allow for predicted growth in traffic volumes along the route. Improved road safety and reduced travel times would benefit all road users including freight, public transport and emergency services.

During construction, the Project would benefit the economy by generating employment both directly and through flow on effects. The Project would result in longer term benefits for the economy and tourism in the area by allowing more efficient movement of people and goods to and through the area. It would deliver benefits for Great Western in particular due to the diversion of freight and other heavy vehicles out of the town centre, thereby improving the safety and amenity of the town. It is also expected that the Project would enhance connections between local industries and the Port of Melbourne.

Through selection and refinement of the proposed alignment, impacts on the following values have been avoided or minimised:

- matters of National Environmental Significance and vegetation of Very High and High conservation significance;
- Ararat Regional Park;

- Great Western Lead Bushland Reserve;
- The vegetation in Crown land south of Robsons Road;
- existing dams adjacent to the existing highway near Armstrong and Delahoy Road;
- vineyards south of Petticoat Gully Road and south of St Ethels Road;
- an historic homestead south of Delahoy Road;
- Sisters Rocks;
- roadside vegetation (DSE reserve) north of Churchill Crossing Road; and
- access arrangements to Great Western and properties.

Impacts associated with the proposed alignment, as identified in the EES, would be avoided, minimised, mitigated and offset through detailed design and construction management, and where land acquisition is required, through payment of compensation to landowners.

22.2 Conclusion

The Project has been developed to meet the Project objectives of improving road safety and transport efficiency. The proposed alignment option avoids significant impacts where possible, and minimises adverse impacts overall.

Construction impacts identified are typical of this type of project, and would be managed to minimise effects on the environment, landowners and the local community. VicRoads would compensate eligible landholders in accordance with the *Land Acquisition and Compensation Act 1986*. Native vegetation losses would be offset by protecting and managing areas of native vegetation and vegetation communities in accordance with Commonwealth and State policies.

Impacts during the operational phase would be generally limited to visual, traffic noise and access impacts. Visual impacts would abate over time as additional vegetation is established in the road reserves. Overall, it is predicted that more dwellings would experience a clearly noticeable reduction in traffic noise, than those that would experience a clear increase. Mitigation measures may be implemented to reduce traffic noise at dwellings; however there are no residences where the predicted increase in noise is sufficient to trigger requirements in the VicRoads – Traffic Noise Reduction Policy 2005.

The Project would deliver significant benefits to road safety and future transport efficiency and with the careful balance and management of impacts to the environment and communities, the Project is considered to deliver a net community benefit.

22.3 Next Steps

Following public exhibition of the EES and associated draft Planning Scheme Amendment documentation, it is expected that an independent Inquiry Panel will be appointed by the Minister for Planning to assess the environmental impacts of the proposed duplication of the Western Highway from Ararat to Stawell.

Following assessment and determination of the EES by relevant State and Commonwealth departments, it is expected that the Victorian Minister for Planning will exercise his powers under section 20(4) of the *Planning and Environment Act 1987* to be the

Planning Authority for the Planning Scheme Amendments. These are required to implement a Public Acquisition Overlay over land required for the duplication of the Western Highway, and address the associated planning approvals required.

Upon publishing notice of Planning Scheme Amendments in the Victorian Government Gazette, VicRoads would then be able to commence the land acquisition and compensation process.

Other approvals required for the Project would need to be obtained prior to commencement of construction; however the opportunity for comments from the community will be during the EES process.

