

Glossary

Acid Sulphate Soils	Acid sulphate soils are naturally occurring soils that contain elevated levels of metal sulphides. Upon exposure to air and water, for example during excavation or drainage, these soils can generate sulphuric acid. This acidic runoff can result in acidification of soils, groundwater and surface water.
Activity area	Under the Aboriginal Heritage Regulations 2007, an 'activity area' means the area or areas to be used or developed for an activity. Refer to Section 14.2.2 for a definition of the activity area relevant to this Project.
Ambient Noise	The all-encompassing noise associated within a given environment. It is the composite of sounds from many sources, both near and far.
Aquifer	A layer of underground sediments that holds water and allows water to flow through it.
	A rock, gravel or sand layer that holds water and through which water can move.
	A geological formation, group of formations, or part of a formation that stores and/or allows movement of groundwater.
Archaeological site	A collection of tools, bones etc. together in a small area that are the product of human activities.
Archaeology	The methodological process by which archaeologists collect information about the location, distribution and organisation of past human cultures across an area of land.
Artefact scatter	A surface scatter of cultural material. Aboriginal artefact scatters are defined as being the occurrence of five or more items of cultural material within an area of 100 sq. metres (AAV 1993:1j). Artefact scatters are often the only physical remains of places where people have lived, camped, prepared and eaten meals and worked.
Articulated Heavy Vehicle	An articulated vehicle is a vehicle which has a permanent or semi-permanent pivoting joint in its construction, allowing the vehicle to turn more sharply, i.e. Semi-trailer.
Asset	Ecological, social, economic, cultural or heritage features considered important and that have been identified assessing the impacts of the Project.
At grade crossing	A crossing of a rail line and roadway at one level, without an overpass or underpass.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is described using the LA90 descriptor.
Benefit Cost Analysis	Benefit Cost Analysis (BCA) is the tool adopted for assessing the direct benefits and costs of this Project. It aims to express, in monetary terms, all the direct gains and losses (benefits and costs) created by the Project to all members of society, and to combine the gains and losses into a single measure.
Best practice	The combination of techniques, methods, processes or technology used in an industry sector or activity that demonstrably minimises the environmental impact of that industry sector or activity.
Biodiversity	The variety of all life forms – the different plants, animals and micro-organisms, the genes they contain and the ecosystems of which they form a part.

Bioregion	<p>A geographical area defined by ecological criteria.</p> <p>The bioregions and sub-regions are the reporting unit for assessing the status of native ecosystems, their protection in the national reserve system and for use in monitoring and evaluation framework in the Federal Government's current Natural Resource Management initiatives.</p>
Catchment	An area of land where run-off from rainfall goes into one river system.
Chainage	The linear distance as measured from a known starting point.
Clear zones	<p>An area which is kept clear of hazards (or within which unmovable hazards are shielded).</p> <p>A clear zone is within a recovery area beside a traffic lane required for run-off-road vehicles to stop safely or be brought under control.</p>
Complex assessment	A complex assessment undertaken as part of a Cultural Heritage Management Plan means an evaluation of an activity area by means of subsurface testing and excavation with a view to identifying and recording buried Aboriginal cultural heritage.
Construction area	The area defined for the Project that will be directly impacted by construction activities.
Contaminants	Substances that, when present in the environment, have the potential to cause adverse biological effects.
Contaminated land/site	Contamination of land is often a result of current or historical activities that have taken place at a site, or adjacent to it including: industry, mining, agriculture, the storage of chemicals, gas, wastes or liquid fuel, or contamination from surrounding landfill using contaminated soil.
Critically endangered ecological community	A threatened ecological community listed in the <i>Environment Protection and Biodiversity Conservation Act 1999</i> is critically endangered if it is facing an extremely high risk of extinction in the wild in the immediate future.
Critically endangered species	A threatened native species listed in the EPBC Act is critically endangered if it is facing an extremely high risk of extinction in the wild in the immediate future.
dB(A)	Unit used to measure 'A-weighted' sound pressure levels.
Discharge	The outflow drainage of aquifer waters.
Ecological communities	Any naturally occurring group of species inhabiting a common environment, interacting with each other especially through food relationship and relatively independent of other groups. Ecological communities may vary in size, and larger ones may contain smaller ones. In the <i>Environment Protection and Biodiversity Conservation Act 1999</i> they are defined as assemblages of native species that inhabit particular areas in nature.
Ecological Vegetation Classes	One or a number of floristic communities or associations confined to a particular ecological setting (e.g. soil type, topography or climate zones) as defined in Victoria's Native Vegetation Management: A Framework for Action.
Ecology	Study of organisms' relations to one another and their surroundings.
Ecosystem	A dynamic complex of plant, animal, fungal, and micro-organism communities and the associated non-living environment interacting as an ecological unity.

Environment	For the purpose of the EES, environment incorporates physical, biological, cultural, economic and social aspects.
Environment Effects Statement	A report prepared in accordance with the requirements of the <i>Environment Effects Act 1978</i> investigating the potential environmental, social and economic effects of a proposal.
Fauna	The assemblage of animal species within a defined collection or area.
Floodplain	The relatively smooth valley floors adjacent to and formed by alleviating rivers subject to overflow during flood events.
	A large shallow area of land, lower than an alluvial plain in which streams occasionally overflow their banks, causing active erosion and deposition across the plain.
	Lands subject to overflow during flood events. Often valuable for their ecological assets.
Flora	The assemblage of plant species within a defined collection or area.
FFG-listed species	Any flora and fauna species on the <i>Flora and Fauna Guarantee Act 1988</i> listing of taxa and communities of flora and fauna which are threatened or potentially threatened.
Fluvial	Relating to or occurring in a river.
	A geomorphic process whereby sediments are transported and deposited by flowing river water.
Freehold land	Privately owned land.
Geology	General term referring to all geological materials including surficial geology and consolidated rock. Includes the composition, age and origin of mineral and non-mineral components and their structural characteristics.
Groundwater	All subsurface water, generally occupying the pores and crevices of rock and soil.
Habitat	The place in which an organism lives; comprising its physical structure, such as reef, sediments or water column properties, as well as biological structure, such as the dominant plant types.
	Specific place where plants or animals live.
Heritage Place	Aesthetic, historic, scientific or social value for past, present or future generations.
Hydrology	The science dealing with surface waters and groundwaters of the Earth; their occurrence, circulation and distribution; their chemical and physical properties; and their reaction with the environment.
Indigenous	Existing, growing, or produced naturally in a region.
LA10 (Time)	The arithmetic average of the sound pressure level that is exceeded for 10 percent of the time specified. This is considered representative of the average maximum noise.

'M' road	An 'M' road is a duplicated carriageway which provides the primary road link to sustain economic and regional development. They connect Melbourne with other capital cities and major provincial centres, and they link major centres of production and manufacturing with Victoria's export terminals. They provide consistently high standard driving conditions on divided roads with at least four traffic lanes, sealed shoulders, and delineation and line marking which is easily visible in all weather conditions.
Native Vegetation	Plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses.
Net Gain	The main goal of Victoria's Native Vegetation Management: A Framework for Action is to achieve a reversal, across the entire landscape of the long-term decline in the extent and quality of native vegetation, leading to net gain. Net Gain is achieved when the overall gains in native vegetation are greater than overall losses and where individual losses are avoided where possible.
Overlay	An overlay is a planning provision, but one which is in addition to the zone provision. Overlays ensure that important aspects of the land are recognised (such as areas of significant vegetation or special heritage significance). Overlays indicate the type of development and/or protection that may be appropriate in that area. When land has more than one important aspect, multiple overlays can be applied.
Potable water	Water that is fit for human consumption.
Project area	A corridor defined for the Project extending 1500 metres either side of the road reserve, widened around Buangor to incorporate all alignment options considered.
Public acquisition	Acquiring privately held land for a public purpose by a public authority.
Priority control intersection	The intersection of two or more roads with right of way for traffic managed by signage or line markings rather than traffic signals.
Remediation	Action to return a landform, vegetation, or water body to as near as original condition as practical. Implies making land and water resources useful again after disturbance.
Remnant vegetation	Vegetation remaining after an area has been cleared.
Risk assessment	The chance of something happening that will have an impact; measured in terms of consequences and likelihood.
Sensitive Receptor Category A (noise)	VicRoads policy defines Category A sensitive receptors as residential dwellings, aged person homes, hospitals, motels, caravan parks and other buildings of a residential nature. The noise level objective is 63 dB(A) L10 (12hr), and this is measured between 6 am and midnight.
Sensitive Receptor Category B (noise)	VicRoads policy defines Category B sensitive receptors as schools, kindergartens, libraries and other noise sensitive community buildings. The noise level objective is 63 dB(A) L10 (12hr), and this is measured between 6 am and 6 pm.
Spoil	Dirt or rock removed from its original location and destroying the composition of the soil in the process
Standard assessment	A standard assessment undertaken as part of a Cultural Heritage Management Plan is an evaluation of an activity area by means of a survey with a view to identifying and recording Aboriginal cultural heritage and/or determining the probability that buried Aboriginal cultural heritage may be present.

Study area	The area used for a specialist assessment. This may be different to the project area for some studies (i.e. the Groundwater Assessment looks at a wider catchment area). The study area for each assessment is defined in each section of the EES.
Surface waters	All waters whose surface is naturally exposed to the atmosphere, for example, rivers, lakes, reservoirs, streams, seas, estuaries.
Threatened ecological communities	The EPBC Act lists threatened ecological communities as: critically endangered; endangered; or vulnerable.
Threatened species	Any species that is likely to become an endangered species within the foreseeable future, throughout all or a significant part of its range. A species of wildlife or plants listed as 'threatened' in a specific Act (in this EES, the EPBC Act and/or the FFG Act).
Total Dissolved Solids	TDS are used as a measure of salinity (water quality). They include inorganic salts including sodium, potassium, calcium, magnesium, chloride, sulphate, bicarbonate, carbonate and nitrate ions and often a small amount of organic matter dissolved in water.
Victorian Heritage Register	A comprehensive listing of Victoria's most significant historic places, objects and shipwrecks.
Visual amenity	The composite of basic terrain, geological features, hydrological features, vegetation patterns, and land use effects that typify a land unit and influence the visual appeal that the unit may have for visitors.
Water quality	A description of the condition of water in the context of one or more beneficial uses. Usually described in terms of water quality indicators (such as pH, temperature and concentrations of nutrients or contaminants).
Waterway	A general term for any stream, river or watercourse, either flowing or dry. Also includes artificial cuts, canals and channels.
Zone	A zone is a planning provision. Zones reflect the primary character of land (such as residential, industrial or rural), and indicates the type of use and development that may be appropriate in that zone.

Abbreviations

AAQ	Ambient Air Quality
AASS	Actual Acid Sulphate Soils
AAV	Aboriginal Affairs Victoria
ABS	Australian Bureau of Statistics
ADWG	Australian Drinking Water Guidelines
AH Act	Aboriginal Heritage Act 2006
AHD	Australian Height Datum
ALA	Andrew Long and Associates
AMP	Access Management Policy (VicRoads)
AMP1	VicRoads Access Management Policy 1 (Freeway)
AMP3	VicRoads Access Management Policy 3 (Highway)
AQ	Air Quality
AQM	Air Quality Management
ARI	Average Recurrence Interval
ASS	Acid Sulphate Soil
ATHRW	Alluvial Terraces Herb-rich Woodland
AUL	Auxiliary left-turn treatment on the major road, i.e. additional short left-turn only lane
AUR	Auxiliary right-turn treatment on the major road, i.e. shared through and right-turn lane and additional through-lane for overtaking vehicles
AVW	Atlas of Victorian Wildlife
BAL	Basic left-turn treatment on the major road, i.e. shared left-turn and through lane with minor widening of the shoulder
BAR	Basic right-turn treatment on the major road, i.e. shared through and right-turn lane with minor widening of the shoulder
BCA	Benefit Cost Assessment
BCR	Benefit Cost Ratio
BoM	Bureau of Meteorology
BPEM	Best Practice Environmental Management
BPG	Best Practice Guidelines
CALP Act	Catchment and Land Protection Act 1984
CASS	Coastal Acid Sulphate Soils
CCDs	Census Collection Districts
CEMP	Construction Environmental Management Plan
Ch.	Chainage
CHL	Channelised left-turn treatment on the major road, i.e. additional short left-turn only lane separated from through traffic by painted chevrons and island.
CHMP	Cultural Heritage Management Plan
CHR	Channelised right-turn treatment on the major road, i.e. additional short right-turn only lane separated from through traffic by painted chevrons and island.
CHRSP	Central Highlands Regional Strategic Plan

cm	Centimetre
CMA	Catchment Management Authority
dB	Decibel
dB(A)	Unit of Measurement for Sound Pressure Level
DO	Dissolved Oxygen
DPCD	Department of Planning and Community Development
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
dse/ha	Dry sheep equivalents per hectare
EE Act	Environmental Effects Act 1978
EES	Environment Effects Statement
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EM Strategy	Environmental Management Strategy
EMS	Environmental Management System
ENMM	Environmental Noise Management Manual
EPA	Environment Protection Authority
EP Act	Environmental Protection Act 1994
EPBC	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
ESO	Environment Significance Overlay
EVCs	Ecological Vegetation Classes
FFG Act	Flora and Fauna Guarantee Act 1988
FIS	Flora Information System
FTE	Full Time Equivalent
GDEs	Groundwater Dependent Ecosystems
GDF	Grassy Dry Forest
GEWVVP	Grassy Eucalypt Woodland of the Victorian Volcanic Plain
GHCMA	Glenelg Hopkins Catchment Management Authority
GIS	Geographic Information System
GMU	Groundwater Management Unit
GoV	Groundwaters of Victoria
GWM	Grampians Wimmera Mallee
HHRW	Hills Herb-rich Woodland
ha	Hectares
Habha	Habitat hectares
HI	Heritage Inventory
HO	Heritage Overlay
HV	Heritage Victoria
HW	Heathy Woodland
ICOMOS	International Council of Monuments and Sites
ILUA	Indigenous Land Use Agreement

ISC	Index of Stream Condition
IWRG	Industrial Waste Resource Guideline
kg	Kilogram
km	Kilometres
km/h	Kilometres per hour
L/s	Litre per second
LACA	Land Acquisition and Compensation Act 1986
LESPS	Local Environment Sustainability Priority Statement
LGA	Local Government Area
LOT	Large Old Tree
LSIO	Land Subject to Inundation Overlay
m	Metres
m ²	Square metres
M	Million
mg/L	Milligrams per litre
mm	Millimetres
µg/m ³	Micro grams per cubic metre
µS/cm	Micro Siemens per centimetre
NEPM	National Environment Protection Measure
NES	National Environmental Significance as defined by the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
NT Act	Native Title Act 1993
NTGVVP	Natural Temperate Grasslands of the Victorian Volcanic Plain
NTU	Nephelometric Turbidity units
PAH	Polycyclic Aromatic Hydrocarbons
PAO	Public Acquisition Overlay
PASS	Potential Acid Sulphate Soils
PEPS	Project Environment Protection Strategy
PGW	Plains Grassy Woodland
PLSG	Professional and Local Services Group
PM _{2.5}	Particulate matter less than 2.5 microns
PM ₁₀	Particulate matter less than 10 microns
PMST	Protected Matters Search Tool
PSA	Planning Scheme Amendment
P&E Act	Planning and Environment Act 1987
PV	Parks Victoria
RAP	Registered Aboriginal Party
RHS	River Health Strategy
RSA	Road Safety Audit
RTA	Roads and Traffic Authority
Section 1	Duplication between Ballarat to Beaufort
Section 2	Duplication between Beaufort to Ararat

Section 3	Duplication between Ararat to Stawell
SEPP	State Environment Protection Policy
SEWPaC	(Department of) Sustainability, Environment, Water, Population and Communities
SIA	Social Impact Assessment
SPPF	State Planning Policy Framework
SS	Suspended Solids
SuMS	Surveillance and Management System
TDS	Total Dissolved Solids
t/ha	Tonnes per hectare
The Project	Western Highway Project
TIA	Transport Integration Act 2010
TMP	Traffic Management Plan
TOS Act	Traditional Owner Settlement Act 2010
TRG	Technical Reference Group
VAHR	Victorian Aboriginal Heritage Register
VBA	Victorian Biodiversity Atlas
VHI	Victorian Heritage Inventory
VHR	Victorian Heritage Register
VLOT	Very Large Old Tree
vpd	Vehicles per Day
vph	Vehicles per Hour
VPO	Vegetation Protection Overlay
VPP	Victoria Planning Provisions
VVP	Victorian Volcanic Plains
WCMA	Wimmera Catchment Management Authority
WHAC	Western Highway Action Committee
WHP	Western Highway Project
WoV	Waters of Victoria