

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

REFERRAL FORM

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

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

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Environment, Land, Water and Planning (DELWP) before submitting the Referral.

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

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
 - a brief description of potential changes or risks to environmental assets resulting from the project;
 - available information on the likelihood and significance of such changes;
 - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.

- A USB copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB as they will be published on the Department's website.**
- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

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

Postal address

**Minister for Planning
PO Box 500
EAST MELBOURNE VIC 8002**

Couriers

**Minister for Planning
Level 16, 8 Nicholson Street
EAST MELBOURNE VIC 3002**

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	Rail Projects Victoria
Authorised person for proponent:	Evan Tattersall
Position:	Chief Executive Officer
Postal address:	Level 17, 222 Exhibition Street, Melbourne 3000
Email address:	evan.tattersall@railprojects.vic.gov.au
Phone number:	03 9027 5700
Facsimile number:	n/a
Person who prepared Referral:	Karoline Ware
Position:	Director Land, Planning & Environment
Organisation:	Rail Projects Victoria
Postal address:	Level 17, 222 Exhibition Street, Melbourne 3000
Email address:	karoline.ware@railprojects.vic.gov.au
Phone number:	0418 806 414
Facsimile number:	n/a
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	<p>Rail Projects Victoria (RPV) has extensive expertise in rail planning, planning and environmental management.</p> <p>The Aurecon Jacobs Mott MacDonald Joint Venture (AJM JV) provides technical advisory services to RPV, including investigation and assessment of various matters to inform this referral.</p> <p>The following attachments are provided to assist with assessment of the project:</p> <ul style="list-style-type: none"> • Project Area Map Attachment 1 • Bounding Coordinates for Project Attachment 2 • Key Feature Map Attachment 3 • Planning Zones Map Attachment 4 • Planning Overlays Map Attachment 5 • AJM JV, Shepparton Line Upgrade Ecological Impact Assessment (NES-AJM-NES-AWD-REP-XEV-NAP-0000239) Attachment 6 • Historic heritage due diligence assessment Shepparton Line Upgrade Attachment 7 • Shepparton Line Upgrade Operational Rail Noise (NES-AJM-NES-AWD-REP-XAV-NAP-0000260) Attachment 8

2. Project – brief outline

Project title: Shepparton Line Upgrade

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)

The Shepparton Line Upgrade (the Project) is located along the existing railway line between Donnybrook, in Melbourne’s outer northern suburbs and Shepparton.

Refer to **Attachment 1** for detailed maps of the Project area, **Attachment 2** for bounding coordinates of the project and **Attachment 3** for an overall map of the Project showing its regional context.

Short project description (few sentences):

The Project comprises a series of rail and station upgrades to the existing Shepparton railway line between Donnybrook and Shepparton to improve transport services. The rail and station upgrades include platform extensions and minor station works, level crossing upgrades, a new crossing loop and associated works.

The Project also involves the construction of a stabling yard to house two six-car ‘VLocity’ DMU (diesel multiple unit) trains, driver facilities including amenities building, refuelling area, staff car parking and a bypass track connected to the Shepparton line, which will allow trains to access the facility. Options for the stabling yard are still under consideration within the McGill Street industrial area or within the existing Shepparton Railway Station (as shown in **Attachment 1**):

The Project is being delivered by RPV.

3. Project description

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

The Project aims to:

- Improve safety along the Shepparton line by upgrading up to 59 level crossings between Donnybrook and Shepparton.
- Enable V/Locity trains to run to and from Shepparton for the first time.
- Improve both the amenity and reliability of the Shepparton line.

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

The Regional Rail Revival (RRR) program is a joint initiative of the Federal and Victorian State governments and will improve the rail public transport services and amenities for regional communities across every rail corridor in the state. The upgrades include new platforms, enhancements to station amenities, and will improve rail-based public transport services and user safety across the Victorian regional rail network.

The upgrades will provide more frequent and reliable train services that are resilient for future growth of passenger and freight demands. This will allow the regional communities to be better connected to other townships and Melbourne, improving opportunities for regional Victorians to access jobs, education, healthcare, and affordable housing.

RPV is the delivery authority responsible for the planning and implementation of the program on behalf of the State Government of Victoria and is the proponent of the Project under the *Environmental Effects Act 1978*.

As part of the RRR program, the Project has been developed to address capacity constraints on the Shepparton line. Currently, V/Locity trains only run between Melbourne and Seymour. This package will deliver a more reliable train service by enabling V/Locity trains to run to Shepparton. The Project includes upgrades to stations, upgrades at up to 59 level crossings, a new crossing loop and a stabling yard to house two six-car ‘VLocity’ DMU trains.

Construction of the Project will be delivered by RPV (with a Delivery Partner as part of an Alliance) on behalf of the State of Victoria.

Operational responsibility will then be handed over to V/line, who currently has responsibility for operation of the existing Shepparton rail line.

The Project is Stage 2 of three proposed stages to upgrade the Shepparton Line. Stage 1, which is now complete, delivered ten (10) additional train services a week between Melbourne and Shepparton, a minor stabling upgrade at Shepparton station and 29 extra coach services between Shepparton and Seymour.

It is anticipated that a further stage of upgrades will be undertaken in the future to enable additional train services to Shepparton. However, the scope of works and infrastructure included in this package of works is yet to be determined. It may include track and signalling upgrades, as well as discrete sections of new track at certain locations to form additional crossing loops which would facilitate improved reliability and frequency of services.

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

The Project includes platform extensions and minor station upgrades, level crossing upgrades and a new crossing loop. These elements are to occur along the existing railway line in discrete sections between Donnybrook and Shepparton.

The Project also includes a stabling yard to house two six-car 'VLocity' DMU trains, driver facilities including an amenities building, a refuelling area, staff car parking and a bypass track connected to the Shepparton line, which will allow trains to access the facility. Options for the stabling yard are still under consideration in two locations. Private industrial land may need to be acquired by the Project for the stabling yard in Shepparton if the final location is within the McGill Street industrial area, and initial discussions have been held with owners of potential sites within this area.

Maps of the indicative locations of each component is included in **Attachment 1** and a key feature map is included in **Attachment 3**. The main components of the Project are as follows:

Location	Description
Donnybrook to Shepparton	Level crossing upgrades to up to 59 level crossings
Nagambie	Platform extension and minor station upgrades
Murchison East	Crossing loop, platform extension and minor station upgrades
Mooroopna	Platform extension and minor station upgrades
Shepparton	Stabling yard to house two six car 'VLocity' DMU trains and driver facilities

The total Project Area is 495.7 ha. This comprises:

- Approximately 483.8 ha of public land within the rail corridor and road reserves
- Approximately 8.4 ha of private land to be temporarily utilised for laydown areas outside the rail corridor at Murchison East
- Approximately 3.5 ha of private industrial land which may need to be acquired for the stabling yard in the McGill Street industrial area in Shepparton

The total length of the Project is 123.4 km. This comprises:

- 118.0 km of Project outside the Melbourne Strategic Assessment (MSA) area
- 5.4 km of Project within the MSA area

Final siting of the project components within the rail corridor was chosen based on designs that have the least impact on native vegetation.

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

To support safe construction in an operating rail environment, a number of temporary laydown areas are required within and adjacent to the rail corridor. Site selection for the temporary laydown areas prioritised

VicTrack land currently used for railway activities in the existing railway corridor. Other evaluation criteria included accessibility, practicality, safety, land ownership and the potential presence of significant habitat and listed flora and fauna species. As a result of the evaluation process, temporary laydown areas are as follows:

Laydown Area Location	Description
Nagambie Station	Laydown area on VicTrack land between Nash Street and the track.
Murchison East Station	Laydown within VicTrack land. Significant vacant land exists within the Murchison East station area.
Mooroopna Station	Laydown area on VicTrack land between Young Street and the track.
Murchison East Crossing Loop Extension	Laydown area on VicTrack land and provision for small areas of private property adjacent to the track on the east side of the corridor between Pretty John Road and Murchison-Violet Town Road and between the station and Duggans Road.
Level Crossings	Laydown areas will occur within the rail corridor and road reserve at the area surrounding each level crossing.

Laydown areas are shown in **Attachment 1**.

The total area of laydown areas within the rail corridor is 1.8 ha. The total area of laydown areas (all at Murchison East) on private land outside the rail corridor is 8.4 ha.

The laydown areas will be returned to their original purpose unless the landowner specifically requests RPV to leave the area in the condition it was used for by RPV.

Key construction activities:

Construction and other associated activities will occur within the rail corridor and the temporary laydown areas. It is not expected that the entire corridor will be required to support construction activities and the extent of these activities will be refined by the Delivery Partner through the detailed design and construction program development.

The following key construction activities will be undertaken:

- Preparatory works may be undertaken in accordance with the proposed Planning Scheme Amendment (PSA). These works may include:
 - Works to determine the suitability of land, and property condition surveys.
 - Creation and use of construction access points and working platforms.
 - Site establishment works including site fencing and hoarding, site offices, amenities, hardstand and laydown areas temporary car parking.
 - Construction, protection, modification, removal or relocation of utility services, overhead and associated infrastructure.
 - Establishment of environment and traffic controls, including designated 'No Go Zones' and 'Areas of Constraint'.
 - Demolition and removal of building and works to the minimum extent necessary to enable preparatory buildings and works (except where specifically listed under a Heritage Overlay).
 - Removal of native vegetation to the minimum extent necessary to enable preparatory buildings and works.
 - Salvage of heritage material and other management actions required to be undertaken.
- Works to develop a new stabling facility including earthworks to establish levels across the site, build-up of track formation, construction of concrete bunded fuelling areas, construction of a fuel storage facility, installation of track, construction of operational buildings and carparking.
- Works to construct a new crossing loop at Murchison East including vegetation clearing, preparation of temporary laydown areas, establishment of haul roads and temporary site offices/compounds and excavation and construction of rail formation to the desired grade (including reshaping of the site to control surface water flow and construction of main drainage), and for ballasting and tamping new track.
- Extension of the existing platforms at Nagambie, Murchison East and Mooroopna stations. Station works will also include signalling works such as testing and commissioning and the installation of light poles and fencing.

- New car parking involving excavation and capping, installation of stormwater drainage, and works for pavement, kerbs, signage, line marking and landscaping.
- All track works will require signalling works including testing and commissioning.
- Level crossing upgrades will be required at road intersections. Construction activities to include minor civil works to construct foundations, electrical works to install boxes, connect power etc. A small crane will likely be required to install booms. Minor road works will be required to reinstate the surface.
- Associated ancillary infrastructure and road works.
- Localised management of soils, where it is to be disturbed or removed from the project area, will be undertaken in accordance with EPA regulations. Construction within the project area will predominately involve shallow trench excavation for signalling cabling which should not pose a risk to groundwater given the minimal depth of the trenches along the alignment (typical of rail upgrade works).
- Disruption to train services during construction will not be extensive as the works can be undertaken adjacent to the existing rail line. When required, occupation of the existing rail line will occur on weekends and at nights. Occupations will only occur when required on weekends or overnights with works predominantly occurring during normal working hours.
- Site re-establishment and clean up generally consists of removal of unused construction materials and waste, landscaping earthworks and planting. This stage is subject to seasonal and weather conditions and will be undertaken at the first appropriate opportunity following completion of heavy construction activities to remove construction site hazards and prevent re-growth of weeds and undesirable species.

Key operational activities:

The rail and station upgrades are located within the existing rail reserve. The scope of the Project includes operation of the rail and station upgrades following construction. RPV is responsible for delivery of construction of the Project, with operational responsibility then handed over to V/Line. V/Line currently has responsibility for operation of the existing Shepparton rail line and will operate the new infrastructure delivered as part of the Project consistent with its existing practices.

Key decommissioning activities (if applicable):

No infrastructure removal or decommissioning works are required.

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

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

The Project is the second stage of three proposed stages to upgrade the Shepparton Line. Stage 1, which is now complete, delivered ten (10) additional train services a week between Melbourne and Shepparton, a minor stabling upgrade at Shepparton station and 29 extra coach services between Shepparton and Seymour.

In addition to the works described for Stage 2 (this referral), a future stage of works (Stage 3) is anticipated but the scope of works and infrastructure works are yet to be determined. It may include track and signalling upgrades, as well as discrete sections of new track at certain locations to form two additional crossing loops which would facilitate improved reliability and frequency of services. As this future stage is not scoped or funded, it is excluded from this referral as detailed in Section 5 below.

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

No Yes If yes, please identify related proposals.

Stage 1 of the Shepparton line upgrade has previously been completed. The works provided ten (10) additional train services a week between Melbourne and Shepparton, a minor stabling upgrade at Shepparton station and 29 extra coach services between Shepparton and Seymour.

4. Project alternatives

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

The Project will provide more reliable, safe and frequent rail services between Melbourne and Shepparton to address the social and economic drivers identified in Section 3. The current state of operation would not achieve these goals, as upgrades to the existing rail infrastructure, including stations, are required.

Given the Project involves the upgrade of existing linear rail infrastructure, no alternative localities were considered for the main project works, although it should be noted that alternative sitings for works within the rail corridor and alternative designs were considered. The designs chosen are considered to have the least impact on native vegetation and to respond to ecological constraints.

Collaborative, cross-discipline workshops have been held with the aim of avoiding and minimising impacts to the environment through design variations. These workshops have resulted in a significant decrease in the extent of native vegetation required for removal. It is expected that further refinement of the design and construction methodologies will enable reductions in the amount of vegetation required to be cleared.

Alternative locations for temporary laydown areas were also considered during the project design phase to facilitate the safe construction of the rail and stations upgrades. Site selection for the laydown areas prioritised VicTrack land and as such most of the laydown areas are within land that is currently used for railway activities in the existing railway corridor. Some small portions of privately-owned agricultural land have been identified for use for laydown areas adjacent to the crossing loop at Murchison East.

The areas have been located to ensure the Delivery Partner can set up multiple work sites to conduct works concurrently, safely and efficiently. Consideration has been given to traffic management requirements; public and community interfaces (particularly around level crossings and stations); and inclement weather in the wet season.

Options for the stabling yard are under consideration in the McGill Street industrial area in Shepparton and within the existing Shepparton Railway Station. A stabling yard in either of these areas is considered to be consistent with the existing surrounding land uses and so would not have any significant amenity effects.

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

No alternatives are under further investigation.

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:

The Victorian Government intends to deliver Stage 3 of the Shepparton Line Upgrade at a later date. The scope of works and infrastructure included for the Stage 3 package of works is yet to be determined. It may include track and signalling upgrades, as well as discrete sections of new track to form two additional crossing loops which would facilitate improved reliability and frequency of services. The scope and design of Stage 3 has not been finalised or planned in any detail, and therefore impacts cannot be assessed at this time. Stage 3 is not required to enable the operational benefits of Stage 2 of the Project and is not anticipated to have significant cumulative effects. These works will be subject to a separate, future approval process.

The Project will require ancillary works to enable the use of temporary laydown areas. At the time of preparing this referral, temporary laydown areas have been selected to ensure that safe construction on an operational rail line can occur. The Delivery Partner will select from the identified temporary laydown areas and the final number and location will be confirmed as the design is further refined and therefore the number of laydown areas used may reduce from the areas identified in this referral. All options for temporary laydown areas have been included in the assessment of environmental effects and this referral.

6. Project implementation

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

The Project is being undertaken by RPV, a division of the Major Transport Infrastructure Authority (MTIA), which is an administrative office established under the *Public Administration Act 2004* in relation to the Department of Transport. RPV is responsible for the planning and delivery of the Project on behalf of the Victorian Government.

Implementation timeframe:

Works for the project are estimated to begin in Q1 2020 and is estimated to be completed by 2022. These timeframes are indicative only and may be subject to change once the Delivery Partner has been selected.

Proposed staging (if applicable):

The staging of construction of the Project will be determined by RPV in consultation with the Delivery Partner. Works may or may not occur concurrently.

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).

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 Project covers a linear area along the existing railway line between Donnybrook, in Melbourne's outer northern suburbs and Shepparton. Refer to **Attachment 1** for detailed maps of the project area.

Landform

The project area between Donnybrook and Seymour traverse the Volcanic Plains closer to Melbourne then transitions into dissected upland and valleys further north. The waterways crossed in this section typically comprise drainage depressions that lack a clearly defined channel.

The Seymour to Shepparton section of the project area traverses the flatter areas of the Goulburn Valley. These flatter areas are part of the Riverine Plain Land System and consist of flat plains sloping towards the north-west. The landforms that comprise these plains are largely fluvial in origin. Erosion and deposition from earlier streams have given the area its general form.

Geology

The geology across the project area varies, but can be summarised as follows:

- Donnybrook to Wallan – this area is typically underlain by Quaternary Newer Volcanics comprising Olivine basalts.
- Wallan to Seymour – this area is typically underlain by Kilmore Siltstone and Humevale Siltstone.
- Seymour to Shepparton – this area is underlain by Quaternary-aged alluvial deposits of the Shepparton Formation. The Shepparton Formation predominantly consists of clay, with significant sand, silt and poorly sorted lenticular gravel.

Waterways

The project area traverses several waterways:

- Major named waterways
 - Goulburn River – The project area traverses the Goulburn River channel and floodplain at three (3) locations, Seymour, Toolamba and Mooroopna. The river at these locations has an anabranching channel form.
 - Broken River – The project area crosses the Broken River and floodplain near its confluence with the Goulburn River. The Broken River at this location has a meandering channel form.
 - Also, while not classified as a natural waterway, it is noted that the project area crosses the East Goulburn Main Channel.
- Minor named waterways
 - Merri Creek – The Project encounters Merri Creek at Wallan and at the Heathcote Junction. The creek at these locations is an ephemeral meandering creek.
 - Whiteheads Creek –The Project encounters Whiteheads Creek at Seymour. The creek at this location is an ephemeral meandering creek.
 - Four Mile Creek –The Project encounters Four Mile Creek at Mangalore. The creek at this location is an ephemeral meandering creek.
 - Eight Mile Creek –The Project encounters Eight Mile Creek at Mangalore. The creek at this location is an ephemeral meandering creek.
 - Hughes Creek –The Project encounters Hughes Creek at Avenel. The creek at this location is a meandering creek.
 - Pranjip Creek –The Project encounters Pranjip Creek at Moorim. The creek at this location is a meandering creek.
- Minor unnamed waterways
 - The project area traverses a series of minor unnamed waterways. These comprise small tributaries and drainage channels. The form of these waterways varies, from a drainage depression to small meandering creeks.

Vegetation Cover

The field assessment identified approximately 267 ha of native vegetation within the area surveyed, comprising approximately 184 ha of native vegetation patches and 559 scattered trees.

Site area (if known):

The project area, as shown in **Attachment 1**, covers approximately 495.7 ha.

Route length (for linear infrastructure): Approximately 123.4 km.

A breakdown of these figures is provided above.

Current land use and development:

The proposed works are largely contained within the existing rail corridor. Some areas of the proposed works slightly extend into other land uses, including agricultural, industrial, urban, public land and road zones.

The land use between Donnybrook and Shepparton changes from emerging residential areas in the south through extensive agricultural areas and regional settlements further north. As such, land uses directly adjacent to the alignment are predominantly used for agricultural, industrial and residential purposes.

Options for the stabling yard are under consideration in the McGill Street industrial area in Shepparton and within the existing Shepparton Railway Station precinct. A stabling yard in either of these areas is considered to be consistent with the existing surrounding land uses and so would not have any significant amenity effects.

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

The Project is located along the existing railway line between Donnybrook, in Melbourne's outer northern suburbs and Shepparton. The townships located along the line north of Donnybrook include Heathcote Junction, Kilmore East, Broadford, Tallarook, Seymour, Mangalore, Nagambie, Murchison East, Arcadia, Toolamba, and Shepparton.

The proposed works are largely contained within the existing rail corridor.

Land uses directly adjacent to the alignment are predominantly for agricultural and industrial purposes with some area adjacent to the alignment being for residential purposes.

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

State Policy Context

The Project is located within five (5) municipalities, the Hume City Council, Whittlesea City Council, Mitchell Shire Council, Strathbogie Shire Council and Greater Shepparton City Council.

RPV has requested the Victorian Minister for Planning to prepare, adopt and approve PSA GC135 to the Hume, Whittlesea, Mitchell, Strathbogie and Greater Shepparton Planning Schemes under the *Planning and Environment Act 1987*. The PSA, if approved, will introduce an Incorporated Document that will regulate the use and development of land for the Project (excluding new stabling yard). The Incorporated Document will include an Environmental Management Framework (EMF), which includes:

- A set of Environmental Management Requirements (EMRs) that must be achieved during the design and construction of the project works to address environmental and amenity effects.
- The process and timing for the preparation of a Construction and Environment Management Plan and any sub-plan that is required by the EMRs.
- Performance monitoring and reporting processes, including auditing to ensure environmental and amenity effects are reduced and managed during construction of the project.

The proposed Incorporated Document will also include native vegetation removal and offset conditions.

Further information regarding the PSA is provided in *Shepparton Line Upgrade Planning Scheme Amendment GC135 Strategic Justification Report and Shepparton Line Upgrade Incorporated Document, October 2019*, which was submitted to the Minister for Planning in August 2019 to support a Ministerial amendment request under section 20(4) of the *Planning and Environment Act 1987*. The approach of submitting the PSA prior to this referral has been taken in compliance with both the *Planning and Environment Act 1987* and the *Environment Effects Act 1978*, and without affecting the decision-making powers of the Minister for Planning under either regime.

An approval approach under the *Planning and Environment Act 1987* will be developed for the stabling yard once a preferred site has been selected.

Transport Integration Act 2010

The *Transport Integration Act 2010* establishes a framework for the provision of an integrated and sustainable transport system in Victoria that seeks to be inclusive, prosperous and environmentally responsible. Transport and interface bodies must have regard to the transport system objectives and decision-making principles set out in the *Transport Integration Act 2010*.

The Project is expected to have a positive impact on the transport system as defined in Section 3 of the Act.

Plan Melbourne 2017-2050

Plan Melbourne 2017-2050 (DELWP, 2017) provides a long-term framework for the future growth and development of metropolitan Melbourne. Plan Melbourne contains policies and strategies that address a wide range of transport, housing, economic development, and the environment across Melbourne. It envisages an integrated transport system connecting people to jobs and services, and goods to markets.

The Project upholds the following directions from Plan Melbourne:

- Direction 7.1: supports investment in regional Victoria to support housing and economic growth; and
- Direction 7.2: seeks to improve transport connections for regional Victoria.

The Project will bring significant social and economic benefits to the Hume region, including better access to higher-income jobs and improved lifestyles through reliable and more frequent travel times.

Connecting Regional Victoria – Victoria’s Regional Network Development Plan

In 2016, the Victorian Government Department of Economic Development, Jobs, Transport and Resources (DEDJTR) (now the Department of Jobs, Precincts and Regions as of 1 January 2019) developed the Regional Network Development Plan, ‘Connecting Regional Victoria’ (the Plan), as a commitment within Victoria’s Regional Statement.

The Plan outlines a medium to long term strategy to deliver a modern commuter-style service and service improvements to the metropolitan growth areas and regional areas. The target sectors include passenger, freight and business travel needs, tailored to each region’s current circumstances and future aspirations.

The Project supports the Plan as it will achieve the following directions prioritised for the Hume region:

- Improve safety at regional level crossings by upgrading level crossings between Donnybrook and Shepparton; and
- Rolling out of V/Locity trains on the Shepparton Line by upgrading stations to accommodate for V/Locity services.

Melbourne Strategic Assessment – Biodiversity Conservation Strategy

The MSA is an agreement between the Commonwealth and Victorian Environment Departments, aimed at streamlining the approvals pathways for developments within the expanded Urban Growth Boundary. Under this agreement, assessment of the majority of biodiversity values listed at a Commonwealth and state level within the area has largely been completed and the required offsets for impacts within the area pre-defined.

The MSA combines the management of both Commonwealth and State matters of environmental significance, implemented through the Biodiversity Conservation Strategy (BCS) (DEPI 2013) and various sub-regional species strategies. Where matters of national environmental significance (MNES) occur within the MSA area, the referral mechanism of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is not triggered and appropriate Habitat Compensation Obligation (HCO) fees are to be paid in advance of the impacting construction activities commencing.

Actions that are either outside the MSA program area, or not associated with urban development inside the MSA program area, are subject to Victoria’s Native Vegetation Permitted Clearing Regulation under Clause 52.17 (or 52.16 in some growth areas) of the Planning Schemes and may also trigger the requirements for a referral under the EPBC Act.

Planning Policy Framework

The Project implements and supports the following policies of the state Planning Policy Framework:

- Clause 11.01-1S (Settlement) and Clause 11.01-1R (Settlement – Hume)
- Clause 12.01-1S (Protection of biodiversity) and Clause 12.01-2S (Native vegetation management)
- Clause 12.03-1S (River corridors, waterways, lakes and wetlands)
- Clause 13 (Environmental Risks and Amenity)
- Clause 15 (Built Environment and Heritage)
- Clause 15.03 (Heritage)
- Clause 18 (Transport), Clause 18.01-1S (Land use and transport planning), Clause 18.01-1S (Public Transport)
- Clause 19 (Infrastructure); Clause 19.03-2S (Infrastructure design and provision)

Local Planning Context

Local Planning Policy Framework

The Project implements and supports the following local planning policies:

Hume Planning Scheme

- Clause 21.07 (Transport Connectivity and Infrastructure)
- Clause 21.08 (Natural Environment and Environmental Risk)

Whittlesea Planning Scheme

- Clause 21.05 (Environmental and Landscape Values)
- Clause 21.08 (Built Environment and Heritage), 22.04 (Heritage Conservation Policy)
- Clause 21.11 (Transport)

Mitchell Planning Scheme

- Clause 21.03 (Environmental and Landscape Values)
- Clause 21.06 (Built Environment and Heritage)

Strathbogie Planning Scheme

- Clause 21.04 (Sustainable Environment)
- Clause 21.07 (Sustainable Infrastructure)

Greater Shepparton Planning Scheme

- Clause 21.05 (Environment)
- Clause 21.07 (Infrastructure)

Zones and Overlays

Most of the proposed works are contained within the existing rail corridor which is generally zoned Public Use Zone 4 (Transport) (PUZ4) within the Hume, Whittlesea, Mitchell, Strathbogie and Greater Shepparton Planning Schemes. Works do extend into areas with other land zonings, including residential, farming, urban flooding, public land, and road zones.

Options for the stabling yard are within the Public Use Zone 4 (Transport) (PUZ4) and Industrial 1 Zone (IN1Z).

An assessment of the zones and overlays for the entire project area has been prepared by AJM JV to support the request for PSA GC135 to the Hume, Whittlesea, Mitchell, Strathbogie and Greater Shepparton. Maps of the planning zones and overlays associated with the project area are included at **Attachment 4** and **Attachment 5**.

Summary

The proposed PSA GC135 will amend the Hume, Whittlesea, Mitchell, Strathbogie and Greater Shepparton Planning Schemes as follows:

- Apply a Specific Controls Overlay (SCO) over the Project Land
- Insert an Incorporated Document into the Planning Schemes to allow for use and development of the land for the Project (excluding new stabling yard)

The Project is supported by the Planning Policy Framework of the local planning schemes and will allow V/Locity trains to run between Melbourne and Shepparton for the first time.

An approval approach under the *Planning and Environment Act 1987* will be developed for the stabling yard once a preferred site has been selected.

Local government area(s):

- Hume City Council
- Whittlesea City Council
- Mitchell Shire Council
- Strathbogie Shire Council
- Greater Shepparton City Council

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity

(cf. general description of project site/study area under section 7):

The Project is predominantly located in the existing VicTrack rail corridor, with some works associated with improvements to or removal of level crossings taking place in the road reserve.

Options for the stabling yard are under consideration in the McGill Street industrial area in Shepparton and within the existing Shepparton Railway Station precinct. A stabling yard in either of these areas is considered to be consistent with the existing surrounding land uses. Given the low sensitivity of receptors in this area, and that the yard will be constructed in accordance with planning and environmental legislation and guidelines, the stabling yard is not anticipated to have significant amenity effects.

Most of the potential temporary laydown areas are in VicTrack land that is currently used for railway activities in the existing railway corridor. Some small portions of privately-owned agricultural land have also been used for laydown areas adjacent to the proposed crossing loop at Murchison East.

The land use between Donnybrook and Shepparton changes from emerging residential areas in the south through to extensive agricultural areas and regional settlements further north. Land uses directly adjacent to the alignment are predominantly used for farming and industrial purposes.

Key environmental assets identified in the project area include:

- Native vegetation
- Matters of National Environmental Significance
- Aboriginal cultural heritage
- Historic heritage
- Waterways

Native Vegetation

Native vegetation in the project area was identified and classified into Ecological Vegetation Classes (EVCs), mapped, and subject to Vegetation Quality Assessment (VQA) to quantify the condition of the EVCs against defined DELWP benchmarks (<https://www.environment.vic.gov.au/biodiversity/bioregions-and-evc-benchmarks#vrv>).

This information enabled the identification of threatened ecological communities (EPBC Act) and Listed Threatened Communities (*Flora and Fauna Guarantee Act 1988*), potential threatened species habitat, and (where relevant), for use in determining mitigative offset requirements for the project.

Native vegetation protected under the P&E Act was mapped in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017) as either a patch, scattered tree or other native vegetation (e.g. time stamped native vegetation within MSA area).

Ecological field assessments identified approximately 267 ha of native vegetation within the area surveyed. This includes:

- 184 ha of native vegetation patches
- 1.8 ha of time stamped native vegetation
- 559 scattered trees.

Attachment 6 provides a complete list and mapping of all EVCs present within the Project area.

Fauna and Flora

EPBC Act Listed Matters of National Environmental Significance

The Protected Matters Search Tool (PMST) was accessed to identify project-relevant MNES and other relevant matters that are required to be protected in accordance with the EPBC Act. A PMST report was generated including a 5 km search buffer of the Project alignment (19 July 2018 for Seymour to Shepparton, and 14 January 2019 Donnybrook to Seymour).

Following assessment of the PMST, vegetation surveys and targeted surveys were undertaken to identify MNES communities, flora and fauna within the project area.

Four (4) threatened communities, five (5) flora species and ten (10) fauna species listed under the EPBC Act were determined to have a moderate to high (or confirmed) likelihood of occurring in the project.

Further information about EPBC Act-listed communities, flora and fauna confirmed or determined likely to occur in the project area is provided in Section 12 of this referral.

Flora and Fauna Guarantee Act 1988 (FFG Act) listed communities, fauna and flora

Two (2) threatened communities, 14 flora species and 25 fauna species listed under the FFG Act were determined to have a moderate to high (or confirmed) likelihood of occurring in the project area.

Further information about FFG Act-listed threatened communities, flora and fauna confirmed or determined likely to occur in the project area is provided in Section 12 of this referral.

Aboriginal cultural heritage

As shown in **Attachment 3**, the project area interfaces with three (3) Registered Aboriginal Parties (RAP), these are:

- Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation
- Taungurung Land and Waters Council (Aboriginal Corporation)
- Yorta Yorta Nation Aboriginal Corporation

Parts of the Project are in areas of cultural heritage sensitivity due to the presence of a five registered cultural heritage places and named waterways as defined in the *Aboriginal Heritage Regulations 2018*. As such, Cultural Heritage Management Plans are being developed for approval by each RAP.

Historic heritage

The results of the historic heritage due diligence is outlined in **Attachment 7**.

There is one (1) site listed on the Victorian Heritage Register (VHR) within the project area:

- VHR H1591 Seymour Railway Station

There are three (3) sites listed on the Victorian Heritage Inventory (VHI) within the project area:

- VHI H7925-0014 Broken River Railway Bridge
- VHI H7924-0094 Mangalore Railway Station
- VHI H7923-0045 Wallan Station Complex

Further information about Aboriginal cultural heritage and historic heritage is provided in Section 15.

Waterways

The project area traverses several waterways:

- Major named waterways
 - Goulburn River
 - Broken River
 - Whilst not classified as natural waterway, the project area crosses the East Goulburn Main Channel
- Minor named waterways
 - Merri Creek
 - Whiteheads Creek
 - Four Mile Creek
 - Eight Mile Creek
 - Hughes Creek
 - Pranjip Creek
- Minor unnamed waterways

Further information about the waterways and drainage lines are provided in Section 13 of this referral.

9. Land availability and control

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

No Yes If yes, please provide details.

All land in the rail corridor is held by VicTrack on behalf of the Victorian Government.

Current land tenure (provide plan, if practicable):

The Project will be predominantly undertaken within the VicTrack rail corridor on land that is managed by V/Line. Roads are managed by either VicRoads or the local Council.

Private industrial land may need to be permanently acquired by the Project for the stabling yard in Shepparton if the final location is within the McGill Street industrial area. Initial discussions have been held with the owners of potential sites within the area. No other private property is expected to be required as the current concept design contains all other permanent project infrastructure within the rail corridor and adjoining roads.

Access and temporary construction activities may be required on the surrounding road network for which VicRoads or the relevant councils are the road management authorities under the *Road Management Act 2004*.

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

VicTrack will retain its 'ownership' of the rail reserve. There are 12 VicTrack leases in the project area and ten (10) privately owned properties. The affected tenants and private land owners have been consulted and access arrangements are being agreed.

The surrounding road network is managed by VicRoads or the relevant Council and approvals will be sought as required under the *Road Management Act 2004* and *Major Transport Projects Facilitation Act 2009*.

The use of temporary laydown areas within privately owned land, if required, will be negotiated with the relevant landowner or obtained under the *Major Transport Projects Facilitation Act 2009* and *Land Acquisition and Compensation Act 1986*.

As stated above, private industrial land may need to be acquired depending on the chosen area for the stabling yard and initial discussions have been held with potentially impacted landowners.

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

The project area does not intersect with any known native title claims.

The project area interfaces with the following infrastructure:

- Existing roads (at grade separated rail crossings)
- Easements for overhead power transmission lines
- Drains, culverts and overland flow paths
- ARTC rail line (north east line) between Donnybrook and Mangalore, on the eastern side of the corridor
- Utilities.

10. Required approvals

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

Commonwealth

Mitigation measures will be put in place via an Environmental Management Framework (to be approved by the Minister for Planning) to establish No-Go Zones to avoid potential impacts to all threatened ecological communities and species protected under the EPBC Act that occur within the project area.

Through the implementation of these mitigation measures and No-Go Zones, the project works are not expected to impact any of the threatened ecological communities or species protected under the EPBC Act that occur within the project area.

RPV met with the Department of the Environment and Energy (DoEE) on 12 September 2019 to discuss and confirm its approach to the avoidance of species protected under the EPBC Act.

State

The Project affects land in Hume City Council, Whittlesea City Council, Mitchell Shire Council, Strathbogie Shire Council and Greater Shepparton City Council and in proximity to the railway corridor. A PSA (GC135) will be sought to allow for the use and development of land for the Project (excluding stabling) under the Hume, Whittlesea, Mitchell, Strathbogie and Greater Shepparton Planning Schemes. This approach will introduce a project-specific planning tool, an Incorporated Document, into these Planning Schemes that allows planning controls for the Project to be addressed in a streamlined and timely manner. The proposed Incorporated Document will include requirements to develop an Environmental Management Framework (EMF) with Environmental Management Requirements (EMRs) and require

offsetting of native vegetation removal in accordance with the *Guidelines for removal, destruction or lopping of native vegetation* (DELWP 2017).

In the absence of the PSA, several planning permit triggers, across five planning schemes, for use and development within the project area (including temporary laydown areas) would apply.

Further information regarding the PSA is provided in *Shepparton Line Upgrade Planning Scheme Amendment GC135 Strategic Justification Report and Shepparton Line Upgrade Incorporated Document, October 2019*, which was submitted to the Minister for Planning in August 2019 to support a Ministerial amendment request under section 20(4) of the *Planning and Environment Act 1987*. The approach of submitting the PSA prior to this referral has been taken in compliance with both the *Planning and Environment Act 1987* and the *Environment Effects Act 1978*, and without affecting the decision-making powers of the Minister for Planning under either regime.

In addition, the delivery of the Project requires approvals/consents in accordance with the following:

Legislation	Authority	Approval/Permit/Licence	Requirement/Applicability
<i>Aboriginal Heritage Act 2006</i>	Relevant Registered Aboriginal Party (RAP)	Three (3) Cultural Heritage Management Plans (CHMPs)	Approval of Cultural Heritage Management Plans, which are currently under preparation, by the relevant three RAPs.
<i>Flora and Fauna Guarantee Act 1988</i>	DELWP	Permit(s) to take	Permits are required under the Act for clearance of FFG Act-listed species.
<i>Heritage Act 2017</i>	Heritage Victoria	Consents/permits	Consent to carry out works to a site listed on the Victorian Heritage Register and/or Inventory under the Act, if required.
<i>Road Management Act 2004</i>	VicRoads	Road Opening Permit Works within and the occupation of roads	Permit to conduct works on or in a roadway including a Traffic Management Plan.

Any secondary approvals required will be obtained by the delivery partner.

Have any applications for approval been lodged?

No Yes If yes, please provide details.

A request to amend the Hume, Whittlesea, Mitchell, Strathbogie and Greater Shepparton Planning Schemes to include an Incorporated Document into Clause 45.12 SCO of each planning scheme via section 20(4) of the *Planning and Environment Act 1987* has been lodged with the Minister for Planning (Amendment GC135).

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

Consultation has been undertaken with the following approval agencies:

- Hume City Council
- City of Whittlesea Council
- Mitchell Shire Council
- Strathbogie Shire Council
- Greater Shepparton City Council
- Country Fire Authority
- Department of Transport
- Department of Environment, Land, Water and Planning
- Heritage Victoria
- Goulburn Broken Catchment Management Authority
- Registered Aboriginal Parties
 - Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation
 - Taungurung Land and Waters Council (Aboriginal Corporation)

- Yorta Yorta Nation Aboriginal Corporation
- Environment Protection Authority
- VicRoads
- VicTrack
- Yarra Valley Water.

V/Line were also consulted as the lessee of the VicTrack land.

Further information is provided in Section 20 of this referral.

Other agencies consulted:

n/a

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):

A number of technical investigations have been undertaken by specialist consultants to address the potential impacts of the Project. Whilst an overview is provided below, a more detailed summary of the key studies is presented in subsequent sections of this referral.

Removal of native vegetation

Desktop and field investigations were undertaken to determine the extent of native vegetation within the project area, and the potential for listed flora and fauna species to occur within the rail corridor, potential stabling locations and temporary laydown areas.

Ecological field assessments identified approximately 267 ha of native vegetation within the area surveyed, primarily associated with watercourses and trackside vegetation. This includes:

- 184 ha of native vegetation patches
- 1.8 ha of time stamped native vegetation
- 559 scattered trees.

A variety of exercises including collaborative, cross-discipline workshops have been held with the aim of avoiding and minimising impacts to native vegetation. Through these exercises the amount of native vegetation (EVCs) protected under the P&E Act proposed to be removed was reduced to 24.04 ha.

A list of EVCs potentially affected within the project area is provided in Section 12.

It is expected that further refinement of the design and construction methodologies by the delivery partner will enable reductions in the amount of vegetation required to be cleared. Mitigation measures and best practice construction methodologies will also be implemented so the potential for further adverse effects are minimised.

The Project proposes to remove 14.22 ha of native vegetation from an area of endangered ecological vegetation class, and 12.47 ha of native vegetation from an area of very high conservation significance, neither of which is authorised under an approved Forest Management Plan or Fire Protection Plan.

Potential effects on EPBC Act-listed threatened communities and species

Several communities and flora and fauna species of Commonwealth significance have a moderate to high likelihood of occurrence (or confirmed) within the project area. These include:

- Four (4) threatened communities listed under the EPBC Act.
- Five (5) threatened flora species listed under the EPBC Act.
- Ten (10) threatened fauna species listed under the EPBC Act.

A complete list of EPBC Act-listed communities and species within the project area is provided in Section 12 of this referral.

Whilst the project area includes four threatened ecological communities and provides suitable habitat for several EPBC Act-listed species, the design of the Project has been able to avoid potential impacts through the implementation of No-Go Zones and other mitigation measures (such as pre-clearance surveys for flora and fauna) which will be enshrined through the EMF for the Project.

Potential effects on FFG Act listed threatened communities and species

Several communities and flora and fauna species of state significance have a moderate to high likelihood of occurrence (or confirmed) within the project area, which is predominately public land and therefore subject to the FFG Act. These include:

- Two (2) threatened communities listed under the FFG Act.
- 14 threatened flora species listed under the FFG Act.
- 25 threatened fauna species listed under the FFG Act.

A complete list of FFG Act listed communities and species within the project area is provided in Section 12 of this referral.

Where impacts to FFG Act listed threatened communities cannot be avoided, these impacts will be offset in accordance with the conditions of the Incorporated Document for the project, as these communities correspond to P&E Act protected native vegetation (refer Table 5.1 of **Attachment 6**). Further, a permit to take for FFG Act listed communities will be sought.

Where impacts to FFG Act listed threatened flora and fauna cannot be avoided, the delivery partner will be required to apply for permits to remove these species under the FFG Act.

Additional mitigation measures are detailed in Section 12 below. With these mitigations implemented, no significant effects on listed flora or fauna species or long-term loss of a significant proportion of a threatened species is expected.

Potential effects on surface water

The project area traverses several waterways including Goulburn River, Broken River, the East Goulburn Main Channel, Merri Creek, Whiteheads Creek, Four Mile Creek, Eight Mile Creek, Hughes Creek, Pranjip Creek and several minor unnamed waterways.

Whilst these waterways occur within the project area, no works are proposed to occur within any waterways. To further minimise potential impacts to waterways, best practice environmental management, in accordance with EPA Victoria construction guidelines (Publications 275, 480 and 960), and mitigation measures will be implemented for works in the vicinity of waterways and wetlands.

Provided these measures to avoid and minimise/mitigate impacts are implemented, no long-term change to the ecological character of a wetland or significant effects on the health or biodiversity of aquatic, estuarine or marine ecosystems is expected.

Potential effects on Aboriginal cultural heritage places

Parts of the Project are in areas of cultural heritage sensitivity due to the presence of five registered cultural heritage places and named waterways as defined in the *Aboriginal Heritage Regulations 2007*. As such, Cultural Heritage Management Plans are being developed for approval by each RAP.

Each CHMP will include measures to avoid or protect Aboriginal places from inadvertent damage and salvage requirements where impacts cannot be avoided.

All works will be undertaken in accordance with these CHMPs to minimise potential effects to areas of Aboriginal cultural heritage and as such no effects are expected.

Potential effects on historical heritage places

There is one (1) site listed on the Victorian Heritage Register and three (3) sites listed on the Victorian Heritage Inventory within the project area. These heritage values will be protected through compliance with the relevant heritage permits and consents under the *Heritage Act 2017* and therefore extensive or major effects on cultural heritage places listed on the Heritage Register or the Archaeological Inventory is not expected.

Potential effects of construction

Impacts associated with a Project of this type may typically include, but not be limited to:

- Noise and Vibration
- Dust
- Traffic congestion
- Spillage
- Sedimentation and Erosion

These impacts will be avoided, reduced or managed through best practice environmental management methods. Any impacts associated with the construction of the Project are expected to be of a temporary nature and localised.

Potential indirect effects were considered as part of the assessment, however none were identified.

Environmental Management

An EMF will be prepared by RPV in consultation with relevant stakeholders to provide a transparent and integrated approach to managing the planning, environmental and heritage aspects of design and construction of the works. The EMF will outline clear accountabilities for the delivery and monitoring of the

Project's EMRs which are a suite of performance-based outcomes that apply to the design and construction of the Project.

As part of the Project EMRs, the Delivery Partner must:

- Undertake and maintain an Environmental Risk Assessment (ERA) in accordance with ISO 31000: 2009 *Risk management – principles and guidelines* (or later revision). The ERA must identify site specific environmental, social, heritage, traffic and business risks associated with the design and construction of the works.
- Prepare and implement a Construction Environmental Management Plan (CEMP). The CEMP is to be informed by the ERA and specific management and mitigation measures must be developed to reduce the risks identified.

These environmental management documents aim to make sure that environmental effects and hazards are appropriately managed in a consistent manner across the Project and acceptable environmental outcomes are achieved.

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)

Ecology of the project area, including native vegetation, fauna and flora, is summarised below. A detailed description of survey methods and results is provided in **Attachment 6**.

Desktop and field investigations were undertaken to determine the extent of native vegetation, and the potential for listed flora and fauna species to occur within the rail corridor, potential stabling locations and temporary laydown areas.

Desktop Assessment

The Desktop Assessment reviewed databases and documents, referenced below, to provide information on native vegetation, threatened ecological communities, and threatened flora and fauna species and their habitats previously identified or modelled to occur within the project area.

Biodiversity Database Searches

Commonwealth

Areas within the Melbourne Strategic Assessment (MSA) area

The following MSA datasets were reviewed:

- Time Stamped Native Vegetation
- Habitat Compensation Obligations
- Conservation Area boundary

5.4km of the project area falls within the MSA.

Areas outside of the Melbourne Strategic Assessment area

Most of the project area falls outside of the MSA area (118km out of the 123.4km in total) and as such, the EPBC Act applies in relation to the protection of MNES.

The Protected Matters Search Tool, administered by the Commonwealth Department of Energy and the Environment (DoEE), was accessed to identify project-relevant MNES, and other relevant matters that are required to be protected in accordance with the EPBC Act.

State

The following biodiversity information sources were considered in preparing the Desktop Assessment:

- Victorian Biodiversity Atlas
- Ecological Vegetation Classes (EVCs)

- Sites of Biological Significance
- Planning Overlays

Literature Review

A review of relevant literature was conducted of previously prepared reports and publications that were publicly available or supplied by the client. The outcomes are incorporated into the interpretation of the results in this document.

Available aerial imagery was also considered at each phase of this assessment.

Field Assessments

The aim of the Field Assessment was to verify and update the findings of the Desktop Assessment and identify the presence of other relevant ecological values.

A high-level field reconnaissance activity was initially conducted to ascertain an indicative extent and condition of ecological values present and to determine the need for season-dependent targeted surveys to detect specific threatened species and the suitability of available habitats within the project area.

Native vegetation in the project area was identified and classified into EVCs, mapped, and subject to Vegetation Quality Assessment to quantify the condition of the EVCs against defined benchmarks. This information enables the identification of threatened ecological communities (EPBC Act) and Listed Threatened Communities (FFG Act), potential threatened species habitat, and (where relevant), for use in determining mitigative offset requirements for the Project.

Ecology field assessments for native vegetation were conducted by AJM JV ecologists as per the schedule presented below. All assessments were undertaken by qualified and experienced ecologists.

Assessment Type and Purpose	Timing
<u>Terrestrial ecology reconnaissance</u> A high-level field reconnaissance activity was initially conducted to ascertain an indicative extent and condition of ecological values present and to determine the need for season-dependent targeted surveys to detect specific threatened species and the suitability of available habitats within the project area.	July 2018 to August 2018 Two teams of two qualified ecologists (four in total), over a total of 6 days for the project area.
<u>Vegetation assessment</u> Undertake a vegetation assessment including the following tasks: <ul style="list-style-type: none"> • Mapping of native vegetation • Vegetation Quality Assessment (habitat hectares) • Verification of time stamped native vegetation in MSA area • Identification and extent mapping of FFG Act Communities • Identification of EPBC Act threatened ecological communities in accordance with the community-specific listing advice, and extent mapping • Identification and assessment of potential habitat for threatened flora and fauna that may occur in the project area • Identification and mapping of threatened flora and fauna species observed opportunistically during the above tasks 	October 2019 to June 2019 Generally teams of two qualified ecologists surveying the entirety of the project area.

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

NYD

Native vegetation class	Extent within the project area	Extent of removal
Native vegetation protected under the P&E Act	267.28 ha (Figure includes 184.08 ha native vegetation patches, 1.82 ha of time-stamped native vegetation and 559 scattered trees)	24.04 ha (Figure includes 20.91 ha of native vegetation patches, 0.17 ha of time-stamped native vegetation and 91 scattered trees)
Native vegetation of 'very high conservation significance'	113.09 ha (of total 267.28 ha present)	12.47 ha (of total 24.04 ha impacted)

It is expected that further refinement of the design and construction methodologies will enable reductions in the amount of vegetation required to be cleared.

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

N/A approx. percent (if applicable)

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

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

The project is anticipated to require the removal of native vegetation from the following Ecological Vegetation Classes:

Bioregion	EVC	Bioregional Conservation Status	Extent of Vegetation with Project Area (Ha)	Extent of Vegetation to be Removed (Ha)
VVP	83: Swampy Riparian Woodland	Vulnerable	3.61	0.02
	821: Tall Marsh	Vulnerable	1.31	0.21
CVU	23: Herb-rich Foothill Forest	Depleted	2.90	0.07
	47: Valley Grassy Forest	Vulnerable	3.28	0.83
	55: Plains Grassy Woodland	Endangered	24.43	2.20
	56: Floodplain Riparian Woodland	Endangered	5.23	0.21
	61: Box Ironbark Forest	Vulnerable	7.47	0.62
	68: Creekline Grassy Woodland	Endangered	0.64	0.18
	83: Swampy Riparian Woodland	Endangered	1.14	0.24
	127: Valley Heathy Forest-	Vulnerable	4.18	0.42
	132: Plains Grassland	Endangered	0.09	0.02
	175: Grassy Woodland	Endangered	16.22	5.13
	292: Red Gum Swamp	Endangered	0.17	0.03
Victorian Riverina	55: Plains Grassy Woodland	Endangered	47.76	5.92
	56: Floodplain Riparian Woodland	Vulnerable	18.81	0.99
	125: Plains Grassy Wetland	Endangered	2.80	0.19
	132: Plains Grassland	Endangered	0.37	0.01
	175: Grassy Woodland	Endangered	4.42	0.15
	292: Red Gum Swamp	Vulnerable	7.94	0.99
	803: Plains Woodland	Endangered	20.44	2.46
Total				20.91

Note there are other EVCs present within the project area which are not expected to be affected by the project. **Attachment 6** provides a complete list and mapping of all EVCs present within the Project area.

Have potential vegetation offsets been identified as yet?

NYD Yes If yes, please briefly describe.

Offsets will be sought where the removal of native vegetation cannot be avoided in accordance with relevant policy and guidelines. A summary of the offset targets as relevant to the current vegetation removal extent is as follows:

Offset Criterion	Offset Requirement
General Offset Amount	11.881 general habitat units
Vicinity	Goulburn Broken, Port Phillip and Westernport Catchment Management Authority or Greater Shepparton City, Mitchell Shire, Strathbogie Shire Council
Minimum strategic biodiversity score	0.412
Large trees	169 (includes 91 scattered trees and 78 canopy trees)

This offset target is derived from a scenario test using surveyed habitat hectare scores recorded by an accredited assessor (rather than using modelled condition data). An official offset target will need to be approved by DELWP following the finalisation of the extent of vegetation removal. The Incorporated Document includes conditions which require the offsetting of vegetation removal in accordance with *Guidelines for removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017).

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

The extent of vegetation loss was calculated by overlaying the project impact footprint with the mapped native vegetation. As the design is still subject to alteration and refinement, and because this document is intended to inform mitigation measures to avoid potential impacts, the final extent of potential impacts is subject to refinement. The current understanding of the project impact footprint was determined by allowing a 5 m construction corridor in CSR works areas, and applying polygons approximating the likely works area around civil works areas.

The extent of vegetation loss was assessed in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017). Scattered trees were considered lost when greater than 10% of the Tree Protection Zone (TPZ) was impacted. The TPZ was calculated as 12x the Diameter at Breast Height (DBH) (cm). Patches were considered to be impacted when the project impact footprint intersected either a patch boundary, or the TPZ of a canopy tree within a patch by more than 10%.

Where a patch of wooded vegetation was determined to be impacted, the extent of impact to the patch was determined using the ‘accurate mapping’ method (DELWP, 2018; further information provided in Section 4.3.2 of **Attachment 6**). To undertake the ‘accurate mapping’ method, aerial imagery was overlaid with the project impact footprint, and native vegetation mapping, including patches, canopy trees and their associated tree protection zones. Aerial imagery was used to trace the drip-line of any trees determine to be affected by project impact footprint, thus defining the portion of the patch that was impacted.

NYD = not yet determined

Flora and fauna

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

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

The following desktop and field investigations were undertaken to identify existing flora and fauna.

Desktop Assessment

The Desktop Assessment was undertaken as described above in the Native Vegetation section.

Field Assessments

A high-level field reconnaissance activity was initially conducted to ascertain an indicative extent and condition of ecological values present and to determine the need for season-dependent targeted surveys to detect specific threatened species and the suitability of available habitats within the project area.

Where potential impacts to suitable habitat were identified, the need for further assessment was considered. Targeted surveys undertaken were considered necessary to detect the presence of threatened species such that direct impact could be avoided, minimised, or suitably mitigated (or offset).

Ecology field assessments and surveys were conducted by AJM JV ecologists as per the schedule presented in the table below. All assessments were undertaken by qualified and experienced ecologists.

Assessment Type and Purpose	Timing
<p><u>Terrestrial ecology reconnaissance</u></p> <p>Verification of desktop assessment results pertaining to native vegetation and fauna habitats.</p>	July and August (Winter), 2018
<p><u>Aquatic ecology and geomorphology reconnaissance</u></p> <p>Verification of desktop assessment results pertaining to:</p> <ul style="list-style-type: none"> • Aquatic fauna habitats and aquatic fauna species. • Geomorphologic systems and functioning associated with the project area. 	October and November 2018 (Spring)
<p><u>Striped Legless Lizard</u></p> <p>Three (3) transects of 50 tiles each were established in suitable habitat within the Project Area, approximately 1.3 km north of the Seymour Railway Station.</p> <p>The survey was conducted in accordance with the Commonwealth EPBC Act Survey Guidelines for Australia's Threatened Reptiles (2011).</p> <p>The survey method used is also considered appropriate for the detection of the Pink-tailed Worm Lizard. This species was not the primary target of these surveys due to there being no VBA records of this species within 5km of the project area.</p>	<p>September – December (weekly checks) (Spring and Summer)</p> <p>January – February (fortnightly checks) (Summer)</p>
<p><u>Swift Parrot</u></p> <p>Habitat surveys were conducted to identify areas of potential constraint to the Project.</p> <p>The survey to detect Swift Parrots was conducted in accordance with the methods detailed in the Commonwealth EPBC Act Survey Guidelines for Australia's Threatened Birds (2010).</p> <p>As part of the vegetation assessment, large tracts of eucalptys were surveyed across the project area. It is considered that Swift Parrot may forage in these locations during their migratory period.</p>	August (Winter)
<p><u>Targeted aquatic surveys (fish, crustaceans)</u></p> <p>The survey was conducted in accordance with the Commonwealth EPBC Act Survey Guidelines for Australia's Threatened fish (2004).</p>	Pranjip Creek - 29 January 2019 (Summer)

Field-verified areas of suitable habitat were the focus of targeted surveys. Targeted assessments were completed in accordance with the relevant Significant Impact Guidelines where available.

None of the targeted species were identified during the surveys.

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.

Threatened Communities

Four (4) threatened communities listed under the EPBC Act and two (2) threatened communities listed under the FFG Act were found to occur within the project area:

Threatened Community	Conservation Status	Total Extent within Project Area	Location
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	EPBC – Endangered	37.23 ha; entirely outside of the MSA area	Various locations within the rail corridor on the Victorian Riverina and the Central Victorian Uplands bioregions. This community does not occur within the MSA area.
Natural Temperate Grassland of the Victorian Volcanic Plain	EPBC – Critically Endangered	0.49 ha; entirely within the MSA area	Occurring only within the MSA area in the Donnybrook works area.
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	EPBC – Critically Endangered	2.65 ha outside of the MSA area 1.34 ha within the MSA area	Occurs at the southern extent of the Wallan works area and north of Toolamba. Also occurs within the Melbourne Strategic Assessment at the southern extent of the Wallan works area.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	EPBC – Critically Endangered	0.83 ha; entirely outside the MSA area	Occurs at two (2) locations in the Central Victorian Uplands bioregion at the Broadford south crossing and south of Tallarook.
Western (Basalt) Plains Grassland	FFG – Listed	0.49 ha	Occurs only within the Melbourne Strategic Assessment area in the Donnybrook works area.
Victorian Temperate Woodland Bird Community	FFG – Listed	30.63 ha	Various locations within the rail corridor on the Victorian Riverina and the Central Victorian Uplands bioregions.

Potential effects to threatened communities

Habitat compensation obligations will be met for the EPBC Act-listed communities time-stamped within the MSA area in accordance with the Biodiversity Conservation Strategy.

EPBC Act-listed communities outside of the MSA area will be designated as No-Go Zones to avoid impacts during construction. Mapping of EPBC-listed threatened communities and corresponding No-Go Zones are provided in **Attachment 6**.

No EPBC-listed threatened ecological communities are expected to be affected by the project.

Areas of FFG Act-listed communities Victorian Temperate Woodland Bird Community (30.63 ha) and Western (Basalt) Plains Grassland (0.49 ha) listed in the table above were designated Priority Avoid areas (refer mapping in **Attachment 6**) and were prioritised for avoidance as design progressed. 3.87 ha of Victorian Temperate Woodland Bird Community and 0.06 ha of Western (Basalt) Plains Grassland is expected to be removed for the project where design could not avoid these communities. A permit to take will be obtained prior to the removal of these communities.

Further information about mitigation measures for threatened communities is provided in the mitigation section of this referral.

Threatened Flora

Five (5) threatened flora species listed under the EPBC Act and 14 listed under the FFG Act were determined to have a moderate to high (or confirmed) likelihood of occurring in the project area:

Flora Species	Conservation Status	Likelihood of Presence	Functional Group
Curly Sedge <i>Carex tasmanica</i>	EPBC – Vulnerable FFG – Listed	Moderate: May be present around areas with heavy and wet clayey soils	Wetland flora
Matted Flax-lily <i>Dianella amoena</i>	EPBC – Endangered FFG – Listed	Confirmed present: Outside the MSA area within the Wallan level crossing project area	Grassland/woodland flora
Basalt Peppercross <i>Lepidium hyssopifolium</i>	EPBC – Critically Endangered FFG – Listed	Moderate: Within the Donnybrook works area in MSA area	Grassland/woodland flora
Swamp Fireweed <i>Senecio psilocarpus</i>	EPBC – Vulnerable FFG – Listed	Moderate: May be present in herb rich, winter wet swamps on clay or peat soils	Wetland flora
Swamp Everlasting <i>Xerochrysum palustre</i>	EPBC – Vulnerable FFG – Listed	Confirmed present: Outside the MSA area at the southern extent of the Wallan level crossing project area	Wetland flora
Buloke <i>Allocasuarina luehmannii</i>	FFG – Listed	Moderate: May be present in areas of Plains Grassy Woodland and Plains Woodland	Woodland flora
Water Shield <i>Brasenia schreberi</i>	FFG – Listed	Moderate: May be present in areas of Red Gum Swamp, Riverine Swampy Forest, Riverine Swampy Woodland and Plains Grassy Wetland	Wetland flora
Cut-leaf Burr-daisy <i>Calotis anthemoides</i>	FFG – Listed	Moderate: May be present in areas of Plains Woodland	Woodland flora
Small Milkwort <i>Comesperma polygaloides</i>	FFG – Listed	High: May be present in areas of Plains Grassy Woodland	Woodland flora
Pale Swamp Everlasting <i>Coronidium gunnianum</i>	FFG – Listed	High: May be present in areas identified as the Seasonal Herbaceous Wetlands of the Temperate Lowland Plains threatened community	Wetland flora
Small Scurf Pea <i>Cullen Parvum</i>	FFG – Listed	Moderate: May be present in areas of Plains Woodland and Plains Grassy Woodland	Woodland flora
Tough Scurf Pea <i>Cullen tanax</i>	FFG – Listed	Moderate: May be present within areas of Grassland and Grassy Woodland	Grassland/woodland flora
Swamp Diuris <i>Diuris palustris</i>	FFG – Listed	Moderate:	Grassland/woodland flora

		May be present within swampy depressions within areas of Grassland and Grassy Woodland	
Large-flower Crane's-bill <i>Geranium</i> sp. 1	FFG – Listed	Moderate: May be present within areas of Grassland and Grassy Woodland	Grassland flora

Potential effects to threatened flora

EPBC Act Listed-Flora Species

Wetland flora - Curly Sedge, Swamp Fireweed, Swamp Everlasting

Several threatened wetland species have a moderate to high likelihood of occurring within the project area. These species are likely to be restricted to larger, higher quality areas of wetland vegetation and waterways.

Swamp Everlasting was present within high quality wetland patches south of Wallan, with Curly Sedge and Swamp Fireweed having a moderate likelihood of occurring within these high-quality wetlands.

These wetlands have been classified as the EPBC Act-listed threatened ecological community, Seasonal Herbaceous Wetlands of the Temperate Lowland Plains. One patch of this community was found in the northern portion of the project area near Mooroopna. These patches were the only areas likely to support threatened wetland flora species and as such, has been classified as No-Go Zones (refer mapping in **Attachment 6**).

Outside of these areas, wetland habitat within the project area was restricted to smaller, fragmented and generally degraded wetlands (including DELWP mapped wetlands), which were considered unlikely to support threatened wetland flora species. Impacts to wetland flora outside No-Go Zones is therefore considered unlikely.

Matted Flax-lily

Matted Flax-lily has previously been recorded south of Wallan station and was confirmed to be present in this area during detailed vegetation assessment in patches of Swampy Riparian Woodland and Plains Grassy Wetland. These areas are all designated No-Go Zones (refer mapping in **Attachment 6**).

Whilst no other individuals were observed in the project area, it cannot be discounted that additional individuals persist in the vicinity of the Wallan works area, as this species is known to persist in areas of non-native vegetation, does not flower every year and is also known to die-back which can make it difficult to detect. To mitigate potential impacts, prior to commencing works within the Wallan works area, targeted Matted Flax-lily surveys will be undertaken between November and February within the proposed works area. Any individuals found will be avoided through the establishment of No-Go Zones.

Basalt Peppergrass

Basalt Peppergrass had a moderate likelihood of occurring within the project area at Donnybrook (in the MSA area). Any impacts to MNES will be accounted for through the payment of HCOs.

FFG Act-Listed Flora Species

No FFG Act-listed (only) flora species were observed during vegetation assessments. However, areas of high quality habitat where these species are moderately to highly likely to occur are present in the project area. Efforts have been made to avoid high quality habitat where these species are moderately to highly likely to occur, including:

- EPBC Act-listed woodlands and wetlands are to be avoided
- Minimisation of impacts on other high quality native vegetation with very high conservation significance and FFG Act-listed communities which were included as Priority Avoid areas (refer to **Attachment 6**).

The likelihood of removing flora listed as threatened under the FFG Act is considered as low.

Threatened Fauna

Ten (10) threatened fauna species listed under the EPBC Act and 25 listed on the FFG Act were determined to have a moderate to high likelihood of occurring within the project area:

Fauna Species	Conservation Status	Likelihood of Presence	Functional Group
Regent Honeyeater <i>Anthochaera phrygia</i>	EPBC – Critically Endangered FFG – Listed	High: Likely to utilise areas of box-ironbark forest and woodland vegetation within the project area	Terrestrial avifauna
Pink-tailed Worm Lizard <i>Aprasia parapulchella</i>	EPBC – Vulnerable FFG – Listed	Moderate: Potential to occur in native grasslands and grassy woodland within the project area	Terrestrial fauna (grassland/grassy woodland)
Silver Perch <i>Bidyanus bidyanus</i>	EPBC – Critically Endangered FFG – Listed	High: Likely to occur in the Goulburn and Broken Rivers Low likelihood of occurring in smaller tributaries	Aquatic fauna
Striped Legless Lizard <i>Delma impar</i>	EPBC – Vulnerable FFG – Listed	Moderate: Initially considered for potential to occur in native grasslands of the Victorian Volcanic Plain bioregion and native grasslands north of Seymour, however, presence of this species was considered unlikely in these areas following undertaking targeted surveys. The species is considered to have a moderate likelihood of presence in areas of suitable habitat in the vicinity of Kilmore East (patches 811, 814, and 815) which were added to scope following undertaking targeted surveys. The species is also considered to have a moderate likelihood of occurring within the MSA area in remnant grasslands to the south of the Merri Creek crossing in the south of the project area at Donnybrook.	Grassland specialist fauna
Painted Honeyeater <i>Grantiella picta</i>	EPBC – Vulnerable FFG – Listed	High: Likely to occur in areas of box-ironbark forest and woodland vegetation within the project area	Terrestrial avifauna
Swift Parrot <i>Lathamus discolor</i>	EPBC – Critically Endangered FFG – Listed	High: Likely to occur in areas of eucalypt forest/woodland	Terrestrial avifauna
Growling Grass Frog <i>Litoria raniformis</i>	EPBC – Vulnerable FFG – Listed	High: Likely occur in waterways that intersect the project area, particularly in the south of the project area within the Victorian Volcanic Plain bioregion The project area intersects with a conservation area for this	Aquatic fauna

		species within the Melbourne Strategic Assessment	
Trout Cod <i>Maccullochella macquariensis</i>	EPBC – Endangered FFG – Listed	High: Likely to occur in the Goulburn and Broken Rivers Low likelihood of occurring in smaller tributaries	Aquatic fauna
Murray Cod <i>Maccullochella peelii</i>	EPBC – Vulnerable FFG – Listed	High: Likely to occur in the Goulburn and Broken Rivers Low likelihood of occurring in smaller tributaries	Aquatic fauna
Grey-headed Flying-fox <i>Pteropus poliocephalus</i>	EPBC – Vulnerable FFG – Listed	High: Likely to occur in the Goulburn and Broken Rivers Low likelihood of occurring in smaller tributaries	N/A
Intermediate Egret <i>Ardea intermedia</i>	FFG – Listed	Moderate: May be present in wetlands and waterways	Wetland avifauna
Bush Stone-curlew <i>Burhinus grallarius</i>	FFG – Listed	High: May be present in grassy woodlands across the corridor	Terrestrial birds
Speckled Warbler <i>Chthonicola sagittatus</i>	FFG – Listed	Moderate: May be present in Woodland habitat types across the corridor	Terrestrial avifauna
Murray Spiny Crayfish <i>Euastacus armatus</i>	FFG – Listed	Moderate Moderate likelihood of occurrence in waterways within the project area	Aquatic fauna
Diamond Dove <i>Geopelia cuneata</i>	FFG – Listed	Moderate May be present in Woodland habitat types across the corridor	Terrestrial avifauna
Square-tailed Kite <i>Lophoictinia isura</i>	FFG – Listed	Moderate May be present in wooded habitats across the corridor	Terrestrial avifauna
Hooded Robin <i>Melanodryas cucullata</i>	FFG – Listed	Moderate May be present in wooded habitats across the corridor	Terrestrial avifauna
Murray River Rainbowfish <i>Melanotaenia fluviatilis</i>	FFG – Listed	Moderate Moderate likelihood of occurrence in waterways within the project area	Aquatic fauna
Barking Owl <i>Ninox connivens</i>	FFG – Listed	Moderate May utilise wooded habitat across the corridor, particularly	Terrestrial avifauna

		where hollow-bearing trees are present	
Powerful Owl <i>Ninox strenua</i>	FFG – Listed	Moderate May be present within hollow-bearing timbered areas, particularly woodland fringe supporting hunting behaviours.	Terrestrial avifauna
Squirrel Glider <i>Petaurus norfolcensis</i>	FFG – Listed	Moderate May utilise wooded habitat within the corridor, particularly where hollow bearing trees are present	Arboreal mammals
Brush-tailed Phascogale <i>Phascogale tapoatafa</i>	FFG – Listed	Moderate May utilise wooded habitat across the corridor, particularly where hollow-bearing trees are present	Arboreal mammals
Grey-crowned Babbler <i>Pomatostomus temporalis</i>	FFG – Listed	Moderate May utilise wooded habitat across the corridor, particularly where hollow-bearing trees are present	Terrestrial avifauna
Diamond Firetail <i>Stagonopleura guttata</i>	FFG – Listed	Moderate May utilise wooded habitat across the corridor, particularly where hollow-bearing trees are present	Terrestrial avifauna
Freshwater Catfish <i>Tandanus tandanus</i>	FFG – Listed	Moderate Moderate likelihood of occurrence in waterways within the project area	Aquatic fauna

Potential effects to threatened fauna

Terrestrial avifauna

Woodlands are highly likely to be utilised by threatened avifauna. This includes migratory birds such as the Swift Parrot which would utilise the habitat on a regular but sporadic basis to travel between its breeding and over-wintering habitat, as well as the more permanent residents (including all other terrestrial avifauna species).

Woodland vegetation throughout the project area provide varying degrees of habitat quality for avifauna species. Targeted surveys conducted in suitable box-ironbark habitat in the project area between Seymour and Murchison East did not detect the presence of Swift Parrot. The surveys conducted in August aimed to observe individuals as they migrated south to their breeding habitat in Tasmania. However, individuals may not have been observed due to season variation in migration patterns. The optimal survey period is between March – July.

Avoidance and general construction measures have been proposed to reduce effects on potential foraging habitat within this project area for all terrestrial avifauna (including Swift Parrot), such as avoidance of all EPBC Act-listed woodland communities and minimisation of impacts to other higher quality woodlands such as FFG Act-listed Victorian Temperate Woodland Bird Community and woodlands of very high conservation significance. The likelihood of impact to this species is therefore considered to be low.

Further information is provided in **Attachment 6**.

Aquatic fauna

Major waterways within the project area were considered important habitat for all threatened fish species, and presence of threatened aquatic fauna was assumed. However, as all waterways, waterbodies, wetlands and drains will be avoided through either attaching cabling to existing bridge structures or

underboring cabling at culverts, with management of sedimentation and erosion required under the CEMP, the likelihood of impacts to aquatic fauna is considered low.

Works at Merri Creek, Donnybrook intersect a Growling Grass Frog Conservation Area (No. 34) including an 'area of strategic importance'. This area is shown in mapping provided in **Attachment 6**. A permit to undertake works in a conservation area will be obtained for these works from DELWP, including demonstration of environmental management to protect this area of strategic importance.

Grassland specialist fauna

Potential habitat for Striped Legless Lizard and Pink-tailed Worm Lizard exists within the project area. Targeted surveys did not record the presence of either species, so the likelihood of occurrence was modified from high to moderate as both are cryptic in nature and difficult to detect. Both have the potential to occur in native grasslands and grassy woodland north of Seymour, and in areas of suitable habitat across three areas of suitable habitat near Kilmore East. Works in these areas will be supervised by an appropriately qualified fauna spotter to mitigate the risk to these species. If either species is identified, the area of habitat will be avoided by construction.

Grey-headed Flying-fox

This species has no permanent colonies within the project area, and as such is only expected to utilise the project area for nocturnal foraging. The ability of this species to disperse large distances means that it has access to food resources across the broader landscape. The likelihood of impact to this species is therefore considered to be low.

Wetland Avifauna

Large wetlands within the project area (those classified as Seasonal Herbaceous Wetlands of the Temperate Lowland Plains) and watercourses within the project area form potential foraging habitat for this species. As all EPBC Act-listed wetlands and watercourses will be avoided, the likelihood of impact to this species is considered to be low.

Arboreal and Semi-arboreal Mammals

The Squirrel Glider and the Brush-tailed Phascogale are assumed present in the broader landscape surrounding the project area (hence no targeted surveys were conducted), although there are relatively few recent records within 5 km of the project area. Nonetheless, these species are known to utilise linear fragments of habitat and thus it is considered that these species have a moderate likelihood of utilising woodland habitat within the project area, particularly where larger tracts of woodland where hollow bearing trees are present.

Avoidance and general construction measures have been proposed to reduce effects on potential habitat within this project area for these species, such as avoidance of all EPBC Act-listed woodland communities and minimisation of impacts to other higher quality woodlands such as FFG Act-listed Victorian Temperate Woodland Bird Community and woodlands of very high conservation significance. The likelihood of impact to this species is therefore considered to be low.

Migratory Species

Twenty (20) migratory birds listed under the EPBC Act have been identified as having the potential to occur within a 5 km radius of the project area. Migratory species listed as threatened are discussed above. Other migratory species may sporadically forage within wetlands and woodlands within the project area, however impacts to high quality habitat for these species has been mitigated through avoidance of all EPBC Act-listed communities and minimisation of impacts to other higher quality vegetation such as FFG Act-listed Victorian Temperate Woodland Bird Community and woodlands of very high conservation significance.

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

Of the Potentially Threatening Processes listed under the *Flora and Fauna Guarantee Act 1988*, threatening processes relevant to the Project relate to the clearing of native vegetation and include:

- Habitat fragmentation as a threatening process for fauna in Victoria
- Invasion of native vegetation by Blackberry *Rubus fruticosus L. agg.*
- Invasion of native vegetation by 'environmental weeds'
- The spread of *Phytophthora cinnamomi* from infected sites into parks and reserves, including roadsides, under the control of a state or local government authority.

Habitat within the rail corridor has been modified due to its long use as an active rail line and intermittent maintenance clearing of vegetation throughout the corridor. Native vegetation within the project area varies greatly and comprises small, degraded patches that are already highly fragmented in some areas and other areas of high-quality vegetation. Due to presence of high-quality vegetation patches, there is the potential that the vegetation provides habitat for listed fauna species, even though targeted assessments did not detect any listed fauna species and that the project area is highly disturbed.

Habitat adjacent to the rail corridor is highly disturbed, fragmented, clear of native vegetation and used mainly for agricultural purposes.

Mitigation measures will be put in place to prevent the spread of environmental weeds and *Phytophthora cinnamomic* into parks and reserves. These measures are discussed below.

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.

Potential effects to species and communities listed under the EPBC Act and FFG Act is discussed above.

Further information about mitigation measures proposed to mitigate potential effects on native vegetation, flora and fauna is provided below.

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

NYD No Yes If yes, please briefly describe.

Avoidance and minimisation of native vegetation

Measures have been taken to avoid and minimise impacts to native vegetation. Where vegetation removal cannot be avoided entirely, lower quality patches are preferentially lost in favour of retaining high quality vegetation. High quality areas have been designated as No-Go Zones or Priority Avoid Areas and are mapped in **Attachment 6**.

This approach has resulted in the minimisation of overall native vegetation removal and substantial avoidance of potential habitat for threatened flora and fauna with a moderate to high likelihood to occur within the project area. This potential habitat includes:

- EPBC Act-listed woodlands and wetlands are to be No-Go Zones.
- Minimisation of impacts on other high quality native vegetation with very high conservation significance and FFG Act-listed communities which were included as Priority Avoid areas.

A variety of exercises including collaborative, cross-discipline workshops have been held with the aim of avoiding and minimising impacts to native vegetation. These workshops and the resulting reduction in vegetation removal are detailed as follows:

Avoid and Minimise Exercise	Date	Description	Project Vegetation Removal Extent (ha)
Terrestrial ecology reconnaissance	September-October 2018	High-level constraints mapping undertaken to assist in avoiding high quality ecological values in the early stages of design	Unknown
↓			
Vegetation mapping	November 2018 – May 2019	Detailed vegetation mapping undertaken to allow vegetation avoidance in the design process	267.28
↓			

Avoid and minimise workshop	23 January 2019	Planning and determining appropriate avoid and minimise activities	267.28
↓			
Avoid and minimise workshop	27 February 2019	Planning and determining appropriate avoid and minimise activities	267.28
↓			
Avoid and minimise workshop	6 May 2019	Discussing and implementing design changes aimed at avoidance and minimisation	80
↓			
Avoid and minimise workshop	7 May 2019	Discussing and implementing design changes aimed at avoidance and minimisation	52.20
↓			
Updated combined services route (CSR) alignment, determined vegetation	09 July 2019	Adjustments to CSR alignment made aimed at avoidance and minimisation. Loss calculation determined by manually examining all patch boundaries and tree protection zones along alignment rather than a buffer per previous assessments	24.04

A CEMP, informed by the ERA and the EMF, will be developed to minimise potential impacts to indigenous flora and fauna species by the implementation of several mitigation measures. These may include:

- Techniques Toolbox - A variety of techniques should be considered during the finalisation of detailed design and construction methodology to ensure avoidance and minimisation of disturbance to ecological values.
- Implementation of No-Go Zones and tree protection zones
- Pre-clearance surveys
- Measures to retain fauna habitat
- Access track to be revegetated as soon as possible following construction
- Fauna salvage and protection measures
- Installation of artificial hollows
- Appropriate 'Permit to Take' under the FFG Act to be obtained prior to removal
- General Construction Measures including weed management and erosion and sediment control
- Avoid disturbance to waterways through attaching cabling to rail bridge

Implementation of No-Go Zones

No-Go Zones are to be fenced with high-visibility mesh bunting or temporary construction fencing (including erosion fencing if necessary). The area is to be signed as a No-Go Zone. The erection of the fencing is to be supervised by a qualified and experienced ecologist, approved by the Principal, and is to be maintained for the duration of the works. Fencing will be inspected weekly and if damage is identified it must be repaired the same day. These areas will be clearly marked on all maps and construction drawings as a No-Go Zones. These mitigation measure will form part of the CEMP.

Best-practice environmental management will also be employed to prevent impacts via means other than direct removal including erosion, sedimentation and introduction of weeds or pest species.

Measures to retain fauna habitat

Measures to minimise potential habitat fragmentation impacts include:

- Where possible large old trees, particularly those comprising hollows, are to be retained and unimpacted.

- Where fragmentation of habitat is required to enable vehicle access for construction purposes only, access track to be revegetated as soon as possible following construction.

Given the disturbed and already fragmented nature of the project area, and the mitigation measures to be implemented, it is unlikely that habitat will be further fragmented by the project works.

Invasion of weed species and spread of disease

The CEMP will ensure appropriate biosecurity protocols are implemented to prevent the spread and establishment of pest and diseases as a result proposed works. Through the implementation of measures to be detailed in the CEMP it is considered unlikely the Project will result in an increase in the extent of environmental weeds or *Phytophthora cinnamomi*.

Additional details on the proposed mitigation measures can be found within **Attachment 6**.

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

n/a

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 GI/yr)?

NYD No Yes If yes, indicate approximate volume and likely source.

Construction and operation of the Project will not require significant volumes of freshwater.

Will the project discharge waste water or runoff to water environments?

NYD No Yes If yes, specify types of discharges and which environments.

Construction of the Project will not require significant discharge of wastewater or runoff to water environments. If required, pre-cast components will be utilised to avoid on-site pouring where construction is occurring at or in proximity to waterways.

A CEMP will be developed by the Delivery Partner which will manage:

- Requirements of any Works on Waterways Permits and State Environment Protection Policy (SEPP) (Waters)
- Guidelines and practices such as the EPA Publication 480, *Environmental Guidelines for Major Construction Sites* in particular:
 - Erosion and sediment control
 - Management of contaminated stormwater
 - Procedures for working in waterways and floodplains.

Operation of the Project will not result in discharge of wastewater to the environment. Runoff from impermeable areas, such as car parks and building roofs, will be managed through Water Sensitive Urban Design.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

NYD No Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

Whilst several waterways occur within the project area, no works are proposed to occur within any waterways. Where rail bridges are present over waterways and waterbodies, disturbance to waterways and waterbodies will be avoided through attaching cabling to rail bridge instead of excavation. Culverts crossing perennial waterways will be avoided through underboring cabling instead of excavation.

To further minimise potential impacts to waterways, best practice environmental management for erosion and sediment control, in accordance with EPA Victoria construction guidelines (Publications 275, 480 and 960) and additional mitigation measures to be outlined in the CEMP will be implemented for works in the vicinity of waterways and wetlands to further minimise potentials impacts to waterways, wetlands, estuaries or marine environments.

Are any of these water environments likely to support threatened or migratory species?

NYD No Yes If yes, specify which water environments.

A targeted survey of aquatic fauna was conducted at the rail intersection with Pranjip Creek. None of the targeted threatened fish species - Silver Perch, Trout Cod and Murray Cod - were identified during the targeted surveys conducted for this Project.

Targeted surveys of the major tributaries, including the Goulburn and Broken Rivers, were not undertaken as they are likely to contain the above threatened fish species and therefore presence has been assumed, noting that no works are proposed to occur within waterways.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

NYD No Yes If yes, please specify.

No Wetlands of International Importance (Ramsar wetlands) were identified as being potentially affected by the Project.

Could the project affect streamflows?

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

No works are proposed to occur within any waterways.

Could regional groundwater resources be affected by the project?

NYD No Yes If yes, describe in what way.

The Project does not involve deep excavation at station upgrades (platform extensions), crossing loop extension at Murchison East and new stabling facilities and impacts to groundwater are therefore not expected.

Shallow trench excavation for signalling cabling should not pose a risk to groundwater given the minimal depth of the trenches along the alignment (typical of rail upgrade works). Groundwater interaction with surface water bodies (if any) is not likely to be impacted. Adequate mitigation measures for the prevention of construction works impacting surface water bodies will lower any risks of surface water-groundwater migration should any spills occur.

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)

No works are proposed to occur within any waterways. Best practice environmental management for erosion and sediment control, in accordance with EPA Victoria construction guidelines (Publications 275, 480 and 960) will be implemented for works in the vicinity of waterways and wetlands.

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

NYD No Yes If yes, describe in what way.

No works are proposed to occur within any waterways. Best practice environmental management for erosion and sediment control, in accordance with EPA Victoria construction guidelines (Publications 275, 480 and 960) will be implemented for works in the vicinity of waterways and wetlands.

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

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

No works are proposed to occur within any waterways. Best practice environmental management for erosion and sediment control, in accordance with EPA Victoria construction guidelines (Publications 275, 480 and 960) will be implemented for works in the vicinity of waterways and wetlands.

Is mitigation of potential effects on water environments proposed?

NYD No Yes If yes, please briefly describe.

Whilst no works are proposed to occur within waterways, the CEMP to be developed by the delivery partner will manage construction activities in accordance with EPA policies and may include:

- Control measures required to ensure sediments, and other refuse associated with rail construction, is disposed of in an appropriate manner and should not affect the water quality of adjacent waterways.
- Best practice environmental management for erosion and sediment control, in accordance with EPA Victoria construction guidelines (Publications 275, 480 and 960) will be implemented for works in the vicinity of waterways and wetlands.
- Avoid disturbance to waterways through attaching cabling to rail bridge, where present.
- For culverts crossing perennial waterways and drains where water is present in the channel, cabling should be passed through a bored tunnel underneath the channel. Entry and exit bores to be located to avoid impacting banks and associated riparian vegetation.
- For culverts crossing seasonally dry streams or drains undertake trenching works only if impacts to native vegetation can be avoided and undertake works during dry periods when there is no water present within the stream or drain, provided the structural integrity of the channel bank is not compromised.

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 following Environmental Significance Overlays intercept the Project land:

- **Hume**
 - Environmental Significance Overlay Schedule 10 (Rural Conservation Area) (ESO10)
- **Whittlesea**
 - Environmental Significance Overlay Schedule 3 (Merri Creek and Environs) (ESO3)
 - Environmental Significance Overlay Schedule 4 (Rural Conservation Area) (ESO4)
- **Mitchell**
 - Environmental Significance Overlay Schedule 3 (Watercourse Conservation) (ESO3)

Vegetation removal within these overlays has been addressed by the *Shepparton Line Upgrade Incorporated Document, October 2019* and the EMF.

A plan of the these ESOs in relation to the Project land can be found in **Attachment 5**.

- **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.

The project area intersects

- A Public Conservation and Resource Zone (PCRZ) under the Greater Shepparton Planning Scheme when crossing Goulburn River just before Toolamba
- A Public Park and Recreation Zone (PPRZ) under the Greater Shepparton Planning Scheme at the corner of Victoria Park in Shepparton, near the station.

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

NYD No Yes If yes, please briefly describe.

Vegetation clearing is proposed to be undertaken at locations along the rail alignment in areas that are dominated by agricultural land use. These areas have historically been cleared and as such the clearing for the Project it is not expected to impact on the landscape values of the area.

The scope of works for the Project does not include the alteration of landforms.

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

NYD No Yes Please briefly explain response.

There are no identified landscape values of regional or State significance in or adjacent to the project area.

The scope of works does not include the construction of new stations, removal of any level crossings, grade separation works, and construction of premium structures. The scope of works includes digging shallow trenches for combined services routes (CSR) and installation of signalling equipment; extending platforms on existing stations and extending an existing crossing loop to enable trains to pass each other. All of these works will occur within the rail corridor.

Options for the stabling yard are under consideration in the McGill Street industrial area in Shepparton and within the existing Shepparton Railway Station precinct. A stabling yard in either of these areas is considered to be consistent with the existing surrounding land uses. Given the low sensitivity of receptors in this area, and that the yard will be constructed in accordance with planning and environmental legislation and guidelines, the stabling yard is not anticipated to have significant amenity effects.

Is mitigation of potential landscape effects proposed?

NYD No Yes If yes, please briefly describe.

The Project is not expected to impact the visual setting and landscape character of the project area or the surrounding land.

To reduce any potential impacts caused by vegetation clearing, options will be explored with the aim of minimising the amount of vegetation that is cleared and to retain mature trees where possible.

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

n/a

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.

There is a low probability of acid sulphate soil occurrence along the project alignment. The CSIRO ASRIS database indicates that soils in the vicinity of the project area are classified as having an extremely low probability of occurrence of ASS (1 to 5%).

Extensive earthworks and significant structures are not proposed for the Project and as such impacts to land stability and erodible soils are not expected.

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

NYD No Yes If yes, please briefly describe.

Extensive earthworks and significant structures are not proposed for the Project, therefore potential geotechnical hazards are not expected to impact on or be impacted by the Project.

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

n/a

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.

Road traffic generation during the construction phase of the Project will be typical of construction of a linear project and will occur over a period of 30 months. Construction vehicles for the Project will access the rail corridor at discrete locations via the existing road network or existing access tracks. As a rural area, the local roads carry reduced volumes traffic and where possible, the Project will utilise these roads.

No significant earthworks to occur as part of the scope of works, thus the amount of truck traffic will not be significant. A Traffic Management Plan will be prepared as per requirements under the Environmental Management Framework in consultation with local councils. Temporary road diversions or closures and mobilisation of heavy equipment to and from the site will occur and will be managed under the Traffic Management Plan.

Construction of components such as the crossing loop extension, stabling yard and station upgrades will occur at discrete locations and will not generally require any rail shut downs during standard operational hours. Where this is required, replacement bus services will be arranged.

Maintenance during operation will be as per the current situation. The Project is intended to encourage a reduction in car use by commuters in the region once operation commences.

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.

Visual amenity

Construction activities for the Project will predominantly be in the existing railway corridor, where routine railway maintenance and other rail activities are currently undertaken. The construction activities will be short term and localised within the project area and therefore will not cause extensive or major, long term changes in amenity of residents.

Options for the stabling yard are under consideration in the McGill Street industrial area in Shepparton the existing Shepparton Railway Station precinct. A stabling yard in either of these areas is considered to be consistent with the existing surrounding land uses, which have also been publicly identified by Shepparton City Council as appropriate areas for train stabling. Given the low sensitivity of receptors in this area, and that the yard will be constructed in accordance with planning and environmental legislation and guidelines, the stabling yard is not anticipated to have significant amenity effects.

It is expected that construction works will predominantly be undertaken during normal working hours. Lighting for works at night (if needed) may occur to ensure the safety of workers and the community and are likely to be of a short-term and localised within the project area.

During operation, there are not expected to be any extensive or major changes to visual amenity as the Project consists of works in and adjacent to an existing operating rail corridor.

Air quality

Dust from earth moving activities and odour from mechanical plant may occur during construction but are not expected to be significant or to have extensive or major effects on the amenity of residents. Impacts

from construction activities will only occur in a specific location for a limited period as construction of the Project moves along the alignment upgrade.

The proposed Incorporated Document includes a requirement to prepare an EMF and a CEMP. During construction of the Project, the Delivery Partner will be required to undertake construction works in accordance with a CEMP, informed by the ERA and the EMF, and associated sub-plans.

During operation, there are not expected to be any extensive or major changes to existing air emissions. While the Project will increase service frequency, the main objective of the Project is to increase service reliability rather than add a large number of new services. As such, emissions of the Project will not affect the amenity of residents.

Construction Noise

Construction noise from the rail and station upgrades will be short-term as construction moves along the alignment. It is expected that construction work will predominantly be undertaken during normal working hours as required by EPA Noise Control Guidelines Publication 1254. Normal working hours are 7am to 6pm Monday to Friday and 7am to 1pm Saturday.

The proposed Incorporated Document includes a requirement to prepare an EMF and a CEMP. During construction of the Project, the Delivery Partner will be required to undertake construction works in accordance with the CEMP, informed by the ERA and the EMF, and associated sub-plans. Works will be undertaken in accordance with relevant guidance and best practice methodology. Therefore, there are not expected to be any extensive or major changes in existing noise conditions during the construction of the Project or any significant effects from construction noise on the amenity of residents.

Railway Noise Assessment

An assessment of the operational rail noise impact for the non-stabling aspects of the Project was undertaken in accordance with the *Passenger Rail Infrastructure Noise Policy* (PRINP) is provided in **Attachment 8**. Given that this assessment did not predict any exceedances to the PRINP Investigation Thresholds for the Project, noise is not considered to be a significant impact for the Project.

The stabling yard is not anticipated to have a significant environmental impact in terms of operational noise. An assessment was undertaken in accordance with *Noise from Industry in Regional Victoria* (NIRV), which is an EPA guideline designed to deal with industrial noise in regional settings. The assessment measured the existing noise environment, determined the Recommended Maximum Noise Levels (RMNLs) at Noise Sensitive Areas, and predicted the noise emissions of the stabling yard using a 3D computational noise model. Of 300 receptors assessed, no exceedances of the RMNLs were predicted for the southern option within the McGill Street industrial area. Two exceedances were predicted for the northern option within the McGill Street industrial area, being two houses on the same property. The assessment determined that these two exceedances could be adequately mitigated through standard noise mitigation measures. The industrial nature of surrounding land uses, and the relatively small size of the stabling yard (being intended to house two Vlocity trains of six cars each) reflect the findings of the assessment that the anticipated noise impact of the stabling yard would not be significant.

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 potential dust, water, noise and air emissions expected during construction will be typical of a construction project and managed in accordance with applicable regulatory requirements and the CEMP and relevant sub-plans.

The use, storage and management of chemical hazards will be undertaken in accordance with relevant regulations, standards and best practice guidance to avoid any exposure to the health and safety of the community and environment.

During construction of the Project, the Delivery Partner will be required to undertake construction works in accordance with the EMF. This will include the requirement to develop and implement a CEMP and associated sub-plans. This will include waste and spoil management prepared in accordance with relevant regulations, standards and best practice guidance and may include:

- Spill kits available on site with all personnel instructed in their use

- Any containers storing hydrocarbons or chemicals will be stored on bunded pallets or in fully bunded areas at all time
- Refuelling of mobile plant and equipment should be undertaken, where feasible, on designated hardstand areas or provided with temporary bunding to contain any spills
- Work instructions shall be prepared and issued to cover tasks and activities which may involve the discharge of hazardous materials (eg. oil change of engines, gear boxes, high voltage transformers, etc). The instructions shall specifically address:
 - The appropriate method for discharging these materials
 - Actions to be taken in the event of unplanned discharge to drains and waterways.

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.

Works will not displace any residences as no residential properties are required for acquisition.

Construction activities will not cause any severance of residential access to community resources as the Project will predominantly be in an existing railway corridor.

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 Project is predominantly located within the existing VicTrack rail corridor, with some works associated with improvements to or removal of level crossings taking place in the road reserve.

Site selection for the laydown areas prioritised VicTrack land and as such a majority of the laydown areas are within land that is currently used for railway activities in the existing railway corridor. Some small portions of privately-owned agricultural land have also been used for laydown areas. The occupation of these areas will only be temporary and therefore it is not anticipated that non-residential land use activities will be displaced as a result of the Project.

Private industrial land may need to be permanently acquired by the Project for the stabling yard in Shepparton if the final location is within the McGill Street industrial area. Initial discussions have been held with the owners of potential sites within the area. A number of vacant sites are located in the McGill Street industrial area and priority will be given to utilising these vacant areas subject to operational considerations.

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.

Any changes to non-residential land use activities as a result of the Project will be temporary and will not cause any adverse effects to local resident, communities, social groups or industries.

Is mitigation of potential social effects proposed?

NYD No Yes If yes, please briefly describe.

The upgrades will provide more frequent and reliable train services that are resilient for future growth of passenger and freight demands. This will allow the regional communities to be better connected to other townships and Melbourne, improving opportunities for regional Victorians to access jobs, education, healthcare, and affordable housing.

To investigate potential social effects and to inform design and planning controls for the Project a program of community and stakeholder engagement has been undertaken by RPV. A detailed community engagement framework outlining activities over the life of the Project has been developed to guide the program, this has included:

- A program of engagement with key stakeholders, local residents, businesses and public transport users to seek feedback from stakeholders, local residents, businesses and train passengers on the concept design for the upgrade, planning and environmental matters associated with construction and how to minimise impacts.
- Early engagement with regulatory stakeholders, local councils, RAPs, key institutions and community groups along the project alignment to brief them on the project design and development.

- Attending local community events and hosting pop-up sessions to provide further information, answer questions and gather feedback.
- Surveys to gather feedback on travel behaviours, communication preferences and issues and topics of interest.
- Information posters and fact sheets to stations along the project alignment to keep train users up-to-date on the Project.
- Presentations to local councils, peak bodies and stakeholder groups.
- Engagement with landowners throughout the planning, design and delivery of the Project.

RPV will continue its stakeholder and community program as design develops and then into construction.

The environmental impacts of the Project will also be managed through a CEMP, informed by the ERA and the EMF, and associated sub-plans. These documents will address the potential social effects which may include:

- Development and implementation of a Community and Stakeholder Engagement Plan.
- Air quality in accordance with EPA Publication 480, *Environmental Guidelines for Major Construction Sites* (EPA 1996).
- Airborne noise and vibration impacts may include measures to:
 - limit night works, restrict works to normal construction hours (as far as practicable),
 - notify residences in advance of works
 - provide residents with a contact number for complaints / comments.
- Traffic operations and disruptions through the preparation of Traffic Management Plan(s)

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

n/a

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.

As part of the cultural heritage management plans process consultation has occurred with the following Registered Aboriginal Parties (RAP):

- Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation
- Taungurung Land and Waters Council (Aboriginal Corporation)
- Yorta Yorta Nation Aboriginal Corporation

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)

Three CHMPs are currently being prepared for the Project (one per RAP above). These CHMPs are anticipated to be completed and lodged with the respective RAPs in late 2019 / early 2020.

Desktop Assessment

At the commencement of each CHMP, Biosis, on behalf of RPV, submitted the appropriate notifications to the Victorian Aboriginal Heritage Register (VAHR).

A Desktop Assessment or relevant background information was undertaken in compliance with Aboriginal Victoria's relevant practice notes and guidelines and in accordance with the *Aboriginal Heritage Regulations 2018*.

Standard Assessment

The Standard Assessment is a ground survey of the entire project area to identify surface Aboriginal cultural heritage material and confirm landforms of archaeological potential. The Standard Assessments complied with Aboriginal Victoria's relevant practice notes and guidelines and were in accordance with the *Aboriginal Heritage Regulations 2018*.

Complex Assessment

Complex Assessments included the following tasks:

- Targeted subsurface testing
- Sampling subsurface testing
- Record subsurface conditions, including stratigraphy and disturbance
- Record Aboriginal places.
- Compare the results with the prediction model

Is any Aboriginal cultural heritage known from the project area?

NYD No Yes If yes, briefly describe:

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

Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation

A search of the VAHR found four (4) previously recorded Aboriginal places that lie within the project area. Additionally, there are 16 previously recorded Aboriginal places recorded within 200 m of the project area.

Taungurung Land and Waters Council (Aboriginal Corporation)

A search of the VAHR found no previously recorded Aboriginal places located within the project area. There is a total of seven (7) previously recorded Aboriginal places within 200 m of the project area, with three (3) Aboriginal places located within 50 m of the project area.

Yorta Yorta Nation Aboriginal Corporation

A search of the VAHR found one (1) previously recorded Aboriginal place within the project area. A further 12 Aboriginal places have been identified within 200 m of the project area.

Three CHMPs are being prepared for the whole project, as the project crosses the Wurundjeri, Taungurung and Yorta Yorta RAP areas.

Salvage of cultural significant artefacts found during the complex assessments will be undertaken prior to the commencement of construction works. The conditions of the approved Cultural Heritage Management Plans will form part of the CEMP and compliance monitored during the project by the MMRA as the sponsor.

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 is one (1) site listed on the VHR within the project area:

- VHR H1591 Seymour Railway Station

There are three (3) sites listed on the VHI within the project area:

- VHI H7925-0014 Broken River Railway Bridge
- VHI H7924-0094 Mangalore Railway Station
- VHI H7923-0045 Wallan Station Complex

Is mitigation of potential cultural heritage effects proposed?

NYD No Yes If yes, please briefly describe.

Potential impacts to heritage will be managed through a CEMP, informed by the ERA and the EMF. Requirements during construction may include, but not be limited to:

- Compliance with any applicable CHMPs approved under the *Aboriginal Heritage Act 2006* and prepared in accordance with the *Aboriginal Heritage Regulations 2018*.
- Cultural heritage protection zones designated in a CHMP or a permit granted under the *Aboriginal Heritage Act 2006*, must be clearly delineated from construction activity by a highly visible, fence/barrier with signage.
- Obtaining VHI Consents to Damage under Section 124 of the *Heritage Act 2017* prior to any site establishment or construction works that may directly or indirectly affect a site listed under the VHI.
- Protective barrier fencing must be erected around all VHI and VHR sites within or intersecting the project boundary prior to any site establishment or construction works

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

n/a

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.

Some energy use will occur during the construction phase resulting from the use of vehicles and equipment, such as generators.

The infrastructure associated with the Project are inert. Electricity use from trains during operation will be attributed to the operation of the broader rail network rather than the Project.

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 will be managed in accordance with the CEMP.

The main form of waste from construction would be excavated soil. In the first instance, design would seek to minimise the amount of existing material to be excavated in order to minimise cost, construction time and disturbance. Opportunities would be investigated during construction to maximise the reuse of excavated materials. Spoil will be managed in accordance with the CEMP or relevant sub-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.

Total annual operational GHG emissions are conservatively estimated to be 7,621 tCO₂-e p.a.

17. Other environmental issues

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

- No Yes If yes, briefly describe.

18. Environmental management

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

- Siting: Please describe briefly

The proposed siting of the Project is primarily located within the existing rail corridor which is already disturbed and appropriately zoned. This presents significant advantages such as:

- Minimising the potential impacts to native vegetation and Aboriginal cultural heritage by utilising an area already disturbed by the rail use.
- Avoiding residential and commercial land acquisition by utilising the existing VicTrack corridor.
- Supporting the orderly use and development of land by utilising land that is already used for the purpose of a railway.

Site selection for the potential temporary laydown areas prioritised VicTrack land currently used for railway activities in the existing railway corridor. Where there were no suitable sites within the rail corridor, potential temporary laydown areas were evaluated using a set of criteria including desktop ecological assessments which assessed the potential presence of significant habitat and listed flora and fauna species.

Other evaluation criteria included accessibility, practicality, safety, land ownership and the potential presence of significant habitat and listed flora and fauna species.

As a result of the evaluation process, temporary laydown areas are predominantly located in land that is currently used for railway activities in the existing railway corridor with some small portions of privately-owned agricultural land also being used.

- Design: Please describe briefly

A variety of exercises including collaborative, cross-discipline workshops have been held with the aim of avoiding and minimising impacts to the environment through design variations. These workshops have resulted in a significant decrease in the extent of native vegetation required for removal.

Where ecological field assessments, completed by qualified and experienced ecologists, identified areas comprising threatened species or potential habitat for threatened species, these areas were identified in the design as No-Go Zones or Priority Avoid areas. Project engineers confirmed through the design process that activities planned for sites with known ecological constraints identified had been configured to achieve avoidance of all No-Go Zones and most Priority Avoid areas.

As part of delivery, the design of the Project is subject to ongoing development and refinement to avoid potential impacts and is being informed by stakeholder and community consultation.

Environmental management: Please describe briefly.

Environmental management will be an integral part of the detailed design, construction and operation of the Project.

The Incorporated Document requires the preparation of an EMF. An EMF will be developed by RPV that outlines clear accountabilities for the delivery and monitoring of the implementation of the Project EMRs. The EMRs will be a suite of performance-based standards/outcomes that will be developed based on the outcomes of environmental assessments undertaken for the Project. The EMRs will apply to the design and construction of the Project and may cover:

- Aboriginal cultural heritage
- Contaminated land
- Ecology
- Historical heritage
- Noise and vibration
- Surface water.

The Project will be delivered in accordance with the EMRs, and this will be required through Project contracts between the State of Victoria and the Delivery Partner.

Roles and responsibilities for implementation of the EMRs will lie with both RPV, as the Project Owner, and the Delivery Partner. The EMRs will specify the responsibilities of the Project Owner and the Delivery Partner.

Demonstration of compliance with the relevant EMRs and applicable management plans will be a key performance indicator for the Delivery Partner. Compliance with the EMRs will be enforced by RPV, as Project Owner, through the contractual arrangements for design and delivery of the Project, and monitored by way of periodic audits.

The EMF and EMRs will be given statutory weight through the provisions of the Incorporated Document that is proposed as the primary planning control for the Project. RPV proposes that the EMF will be prepared by RPV, in conjunction with the Delivery Partner, based environmental assessments. The process for finalising the EMF and EMRs would include consultation with relevant councils and will be approved by the Victorian Minister for Planning. The EMF will also set out the process and timeframe for the preparation of a CEMP and any sub-plans required by the EMRs.

The CEMP will be developed by the Delivery Partner and be informed by an Environmental Risk Assessment (ERA). The Delivery Partner will undertake and maintain an ERA in accordance with ISO 31000: 2009 *Risk management – principles and guidelines* (or later revision). The ERA will identify site specific environmental, social, heritage, traffic and business risks associated with the design and construction of the works. Specific management and mitigation measures must be developed to reduce these risks and are to be included in the CEMP and its sub-plans.

The CEMP will also include requirements for monitoring, reporting and auditing.

Other: Please describe briefly

19. Other activities

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

NYD No Yes If yes, briefly describe.

20. Investigation program

Study program

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

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

Has a program for future environmental studies been developed?

No Yes If yes, briefly describe.

It is expected that an intrusive site investigation to assess potential contamination will be undertaken by the Delivery Partner prior to the commencement of construction.

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.

A program of community and stakeholder engagement has been undertaken by RPV to investigate potential social effects and to inform design and planning controls for the Project. A detailed community engagement framework outlining activities over the life of the Project has been developed to guide the program. This framework captures RPV's commitment to meaningful consultation with stakeholders and communities to capture issues and gather input into both the Project's design and the construction methodology to deliver it.

In setting the foundation for engagement, the Project adopted the following principles:

- Early involvement – initiating community and stakeholder involvement as early as possible so they can help shape elements of each project, including the communication and community engagement processes.
- Transparency and clarity – informing the community and stakeholders where and to what extent they can influence a decision and where they cannot.
- Adequate time – to provide the community and stakeholders with the opportunity to participate as fully as possible within the timeframe established.
- Genuine approach – valuing the knowledge, skills and experience of community and stakeholder contributions to the development of the various RRR projects.
- Flexibility – acknowledging the right of the community and stakeholders to access and receive information in a way that suits their individual needs.
- Inclusiveness – the promotion of a two-way dialogue process (where appropriate and without raising unrealistic expectations).
- Mutual respect – acknowledging the right of each stakeholder and community member to have a say and to be heard.
- Reputation management – protecting and enhancing the reputation of RPV and project partners.
- Interface management – consistent communication with other RPV and regional projects.

A program of engagement with key stakeholders, local residents, businesses and public transport users commenced in mid-2018 and continued through until July 2019 to seek feedback from stakeholders, local residents, businesses and train passengers on the concept design for the upgrade, planning and environmental matters associated with construction and how we could minimise impacts.

In initiating consultation on the Project, a range of channels were established to enable direct communications and facilitate timely information and updates to interested stakeholders and community members. These channels included an 1800-information line, email address and website content. Specific materials, including maps and fact sheets were also developed to provide introductory information about the Project.

Early engagement was initiated with regulatory stakeholders, local councils, RAPs, key institutions and community groups along the project alignment to brief them on the project design and development. Since May 2019, RPV has been engaging communities along the project alignment to raise awareness of the Project including sending a letter to approximately 900 properties adjacent to the rail line. In addition, more

than 660 subscribers received regular e-newsletter updates about project progress and opportunities for them to get involved and have their say on the proposed Project.

In delivering open engagement, RPV visited communities along the Project's proposed alignment, attending local community events and hosting pop-up sessions to provide further information, answer questions and gather feedback. Surveys were also developed to gather feedback on travel behaviours, communication preferences and issues and topics of interest. Surveys were made available online and in hardcopy at community events and pop-up sessions.

To support interactions, the Project has provided information posters and fact sheets to stations along the project alignment to keep train users up-to-date on the Project. Presentations have also been given to local councils, peak bodies and stakeholder groups.

As part of the planning process with regards to the temporary laydown areas in private land, directly affected landowners have been identified and are currently being engaged about potential access to their land/property. Engagement will include phone calls and 1:1 meetings with affected landowners along the project corridor. Where concerns are raised by landowners, this feedback will be considered in refining the temporary laydown areas. Engagement will continue with landowners throughout the planning, design and delivery of the Project.

Specific stakeholder consultation has been undertaken and is ongoing with the following parties:

- Hume City Council
- City of Whittlesea Council
- Mitchell Shire Council
- Strathbogie Shire Council
- Greater Shepparton City Council
- Country Fire Authority
- Department of Transport
- Department of Environment, Land, Water and Planning
- Heritage Victoria
- Goulburn Broken Catchment Management Authority
- Registered Aboriginal Parties
 - Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation
 - Taungurung Land and Waters Council (Aboriginal Corporation)
 - Yorta Yorta Nation Aboriginal Corporation
- Environment Protection Authority
- VicRoads
- VicTrack
- Yarra Valley Water.

Has a program for future consultation been developed?

NYD No Yes If yes, briefly describe.

RPV will continue its stakeholder and community program as design develops and then into construction. This will include:

- Ongoing meetings with key stakeholders
- One on one meetings with owners or occupiers of properties affected or adjacent to the Project
- Regular community updates
- Community pop up events and information sessions
- Online materials

The Delivery Partner will be required to develop and implement a Community and Stakeholder Engagement Plan that includes:

- Regular community updates
- Face to face engagement with stakeholders
- Clear processes for informing stakeholders, road users, transport users, residents and businesses of upcoming works and potential disruption
- Complaints resolution process.

Authorised person for proponent:

I, Peter Wilkinson.....(full name),

Director Development + Delivery.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature 

Date 17/9/19.

Person who prepared this referral:

I, Karoline Ware.....(full name),

Director, Land, Planning & Environment.....(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature 

Date 17 Oct 2019