# Referral of proposed action

## Project title: Mernda Rail Extension Project (MREP)

# 1 Summary of proposed action

1.1 **Short description**

The Mernda Rail Extension Project (MREP) is a proposed new 8 km dual track railway line from the existing South Morang Station to Mernda predominantly within an existing rail reserve. The alignment generally follows the route of the original Whittlesea railway line, which was decommissioned in 1959. New stations are proposed, including a premium station at Mernda, a host station near Marymede Catholic College and provision for a station near Hawkstowe Parade. MREP also includes stabling facilities and a transport interchange at Mernda, car parking at each of the railway stations and the construction of grade separated road crossings at:

- McDonalds Road,
- Plenty Road & Gordons Road,
- Hawkstowe Parade,
- The Parkway, and
- Bridge Inn Road.

A map of the MREP project area is shown on Figure 1. The project area includes:

- Railway infrastructure which is located within the existing rail reserve between South Morang and Mernda;
- A high voltage cable would be installed within the existing operational rail reserve from Epping Substation, through the existing South Morang Tie-Station and up to Hawkstowe to provide extra traction power infrastructure;
- Additional land to provide for car parking at Mernda Station that is currently private freehold land; and
- Temporary construction areas located on public land parcels that provide for construction laydown, temporary construction access and ancillary works associated with drainage improvements and road modifications.

The project is being delivered by the Level Crossing Removal Authority (LXRA) on behalf of the Victorian Government. As part of delivery, the design is subject to ongoing development and refinement, and is being informed by stakeholder and community consultation. The current community consultation process includes consideration of alternative design options for some components of the MREP, including whether parts of the railway line ought to be elevated or below ground level.

The proposed project area (refer to Figure 1) allows for all current options, including potential transport interchange options near the Mernda station that may be considered. It also provides for construction and ancillary works based on conservative footprints established in consultation with a specialist constructability advisor.

1.2 **Latitude and longitude**

The MREP is a linear infrastructure project, with most of the works proposed to be undertaken within the existing disturbed rail reserve.

The coordinates for the MREP are shown in Table 1 (refer Figure 2). An electronic GIS file

detailing the coordinate locations is included in Attachment 1.

**Table 1: MREP project area coordinates**

| | Location | Longitude | | | Latitude | | |
|---|---|---|---|---|---|---|---|
| | | Degrees | Minutes | Seconds | Degrees | Minutes | Seconds |
| **1** | 20A COOPER STREET EPPING 3076 | 145 | 1 | 52 | -37 | 39 | 10 |
| **2** | 2 DAVISSON STREET EPPING 3076 | 145 | 1 | 48 | -37 | 39 | 7 |
| **3** | 40 COOPER STREET EPPING 3076 | 145 | 1 | 37 | -37 | 39 | 8 |
| **4** | 2/73 GRAND PARADE EPPING 3076 | 145 | 1 | 32 | -37 | 39 | 15 |
| **5** | 25 FERRES BOULEVARD SOUTH MORANG 3752 | 145 | 4 | 8 | -37 | 38 | 47 |
| **6** | 330 MCDONALDS ROAD SOUTH MORANG 3752 | 145 | 4 | 23 | -37 | 38 | 52 |
| **7** | 330 MCDONALDS ROAD SOUTH MORANG 3752 | 145 | 4 | 23 | -37 | 38 | 56 |
| **8** | 3/314 MCDONALDS ROAD SOUTH MORANG 3752 | 145 | 4 | 14 | -37 | 38 | 58 |
| **9** | 372M MCDONALDS ROAD SOUTH MORANG 3752 | 145 | 4 | 50 | -37 | 38 | 52 |
| **10** | 65 WILLIAMSONS ROAD SOUTH MORANG 3752 | 145 | 4 | 54 | -37 | 38 | 48 |
| **11** | 25 DANAHER DRIVE SOUTH MORANG 3752 | 145 | 5 | 2 | -37 | 38 | 54 |
| **12** | 370M MCDONALDS ROAD SOUTH MORANG 3752 | 145 | 5 | 4 | -37 | 38 | 47 |
| **13** | FINDON ROAD SOUTH MORANG 3752 | 145 | 5 | 12 | -37 | 38 | 49 |
| **14** | 18/877 PLENTY ROAD SOUTH MORANG 3752 | 145 | 5 | 20 | -37 | 38 | 51 |
| **15** | 28 OLD PLENTY ROAD SOUTH MORANG 3752 | 145 | 5 | 38 | -37 | 38 | 40 |
| **16** | 7/31 OLD PLENTY ROAD SOUTH MORANG 3752 | 145 | 5 | 32 | -37 | 38 | 33 |
| **17** | PLENTY ROAD SOUTH MORANG 3752 | 145 | 5 | 45 | -37 | 38 | 28 |
| **18** | 15-25 GORDONS ROAD SOUTH MORANG 3752 | 145 | 6 | 8 | -37 | 38 | 18 |
| **19** | 1079 PLENTY ROAD SOUTH MORANG 3752 | 145 | 5 | 45 | -37 | 37 | 52 |
| **20** | 7 HAWKSTOWE PARADE SOUTH MORANG 3752 | 145 | 5 | 54 | -37 | 37 | 23 |
| **21** | 1180P PLENTY ROAD SOUTH MORANG 3752 | 145 | 5 | 46 | -37 | 37 | 18 |
| **22** | 23 CONELLY WAY SOUTH MORANG 3752 | 145 | 6 | 13 | -37 | 37 | 16 |
| **23** | 26W RIVERDALE BOULEVARD SOUTH MORANG 3752 | 145 | 5 | 44 | -37 | 36 | 55 |
| **24** | 2 YERING DRIVE MERNDA 3754 | 145 | 6 | 0 | -37 | 36 | 56 |
| **25** | 37 MANGO CRESCENT MERNDA 3754 | 145 | 6 | 1 | -37 | 36 | 26 |
| **26** | 11E PASSIONFRUIT CRESCENT MERNDA 3754 | 145 | 5 | 55 | -37 | 36 | 20 |
| **27** | 640 BRIDGE INN ROAD MERNDA 3754 | 145 | 6 | 19 | -37 | 36 | 6 |
| **28** | 601 BRIDGE INN ROAD MERNDA 3754 | 145 | 5 | 50 | -37 | 36 | 2 |
| **29** | 1490 PLENTY ROAD MERNDA 3754 | 145 | 6 | 2 | -37 | 35 | 47 |

1.3 **Locality and property description**

The MREP is a proposed new 8 km dual track railway line from the existing South Morang Station to Mernda. The railway infrastructure would be located within an existing disturbed rail reserve that is zoned for railway use (Public Use Zone 4) and owned by VicTrack. In addition to the railway infrastructure, the project area includes:

- A high voltage cable would be installed within the existing operational rail reserve from Epping Substation, through the existing South Morang Tie-Station and up to Hawkstowe to provide extra traction power infrastructure;
- Additional land to provide for car parking at Mernda Station that is currently private freehold land; and
- Temporary construction areas located on public land parcels that provide for construction laydown, temporary construction access and ancillary works associated with drainage improvements and road modifications.

| | | |
|---|---|---|
| 1.4 | **Size of the development footprint or work area (hectares)** | The project area for the MREP is approximately 90 ha. This includes both permanent and temporary works required for the construction of the MREP (refer to Figure 1). |
| 1.5 | **Street address of the site** | The location of the MREP does not have a specific street address. The majority of the MREP is proposed to be constructed within or adjoining existing rail reserve. |

1.6 **Lot description**

The MREP is predominately within the existing rail reserve set aside for the former Whittlesea railway line. Additional land would be required to provide for car parking at Mernda Station. The project area also includes parcels that would provide for temporary construction laydown areas, temporary construction access and for ancillary works associated with drainage improvements and road modifications. A list of land parcels is provided at Table 2.

**Table 2: MREP land parcels**

| SPI | Plan no | SPI | Plan no | SPI | Plan no | SPI | Plan no |
|---|---|---|---|---|---|---|---|
| 1\TP951000 | TP951000 | 4\PS641263 | PS641263 | 1\TP954577 | TP954577 | R4\PS637706 | PS637706 |
| 3\TP943155 | TP943155 | 3\PS637366 | PS637366 | 3\PS629209 | PS629209 | R3\PS725674 | PS725674 |
| RES1\PS637706 | PS637706 | 2\PS641262 | PS641262 | R3\PS637706 | PS637706 | R2\PS725674 | PS725674 |
| 1\TP424938 | TP424938 | 1\TP954578 | TP954578 | R1\PS715042 | PS715042 | R1\PS725674 | PS725674 |
| 1\PS715042 | PS715042 | 4C~12\PP3183 | | R3\PS635808 | PS635808 | 1\TP900531 | TP900531 |
| R5\PS637706 | PS637706 | RES3\PS618527 | PS618527 | 1\TP435002 | TP435002 | 3\TP561943 | TP561943 |
| 1\TP954502 | TP954502 | 1\TP838429 | TP838429 | S7\PS635808 | PS635808 | 2\TP561943 | TP561943 |
| R1\PS641270 | PS641270 | 2009\PP3183 | | 1\TP954399 | TP954399 | 1\TP561943 | TP561943 |
| 2025\PP3183 | | 1\TP951000 | TP951000 | R1\PS724132 | PS724132 | 2022\PP5283 | |
| 1\PS641262 | PS641262 | RES2\PS649571 | PS649571 | R2\PS724132 | PS724132 | 2013\PP5283 | |
| 1\TP958937 | TP958937 | RES1\PS649571 | PS649571 | 1\PS311856 | PS311856 | 2015\PP5283 | |
| 1\TP958931 | TP958931 | 1\TP845670 | TP845670 | 2\PS640391 | PS640391 | 2014\PP5283 | |
| 1\LP95152 | LP95152 | 1\PS515344 | PS515344 | 1\TP948358 | TP948358 | 2016\PP5283 | |
| 2\LP46162 | LP46162 | 1\LP45327 | LP45327 | 1\TP240597 | TP240597 | 2019\PP5283 | |
| 2\LP95152 | LP95152 | 1\TP899167 | TP899167 | R5\PS724132 | PS724132 | 2011\PP5283 | |
| RES1\PS626476 | PS626476 | 1\PS645799 | PS645799 | R6\PS724132 | PS724132 | 2017\PP5283 | |
| RES7\PS611914 | PS611914 | 11B~2\PP5283 | | 1\PS724132 | PS724132 | 1\TP434834 | TP434834 |
| 1\PS641270 | PS641270 | 2018\PP3955 | | R3\PS724132 | PS724132 | 2012\PP5283 | |
| RES2\PS618523 | PS618523 | 1\PS629209 | PS629209 | RES3\PS637706 | PS637706 | 1\TP950571 | TP950571 |
| RES5\PS618523 | PS618523 | R1\PS640835 | PS640835 | R2\PS637706 | PS637706 | 541\PS721234 | PS721234 |
| 1\TP435100 | TP435100 | 2\TP399292 | TP399292 | R6\PS637706 | PS637706 | 540\PS721234 | PS721234 |
| RES1\PS640835 | PS640835 | 3\TP399292 | TP399292 | RES2\PS724132 | PS724132 | 539\PS721234 | PS721234 |
| 1\PS626476 | PS626476 | 1\TP948359 | TP948359 | RES1\PS648082 | PS648082 | 542\PS721234 | PS721234 |
| 11A~6\PP3183 | | RES1\PS645799 | PS645799 | RES3\PS724132 | PS724132 | 543\PS721234 | PS721234 |
| R3\PS641263 | PS641263 | RES1\PS632819 | PS632819 | R4\PS724132 | PS724132 | 545\PS721234 | PS721234 |
| 1\TP958929 | TP958929 | 1\TP862533 | TP862533 | 1\PS648082 | PS648082 | 1007\PS721234 | PS721234 |
| A\PS544492 | PS544492 | 2\TP948359 | TP948359 | A\PS720086 | PS720086 | R2\PS721234 | PS721234 |
| R1\PS641262 | PS641262 | 2024\PP3955 | | S6\PS635808 | PS635808 | R1\PS721234 | PS721234 |
| 2037\PP3183 | | 1\TP605091 | TP605091 | 1\TP845035 | TP845035 | RES1\PS721234 | PS721234 |
| R2\PS640835 | PS640835 | R1\PS644572 | PS644572 | 2007\PP5283 | | RES2\PS721234 | PS721234 |
| R2\PS641262 | PS641262 | 1\TP957552 | TP957552 | 1\PS645803 | PS645803 | 534\PS721234 | PS721234 |
| 2~14\PP3183 | | 2026\PP3183 | | RES1\PS645803 | PS645803 | 544\PS721234 | PS721234 |
| RES1\PS632820 | PS632820 | 1\PS641264 | PS641264 | 11C~2\PP5283 | | 535\PS721234 | PS721234 |
| R1\PS637706 | PS637706 | 1\TP343329 | TP343329 | 2020\PP5283 | | 546\PS721234 | PS721234 |
| 1\TP951000 | TP951000 | 1\TP954503 | TP954503 | 1\PS645802 | PS645802 | 536\PS721234 | PS721234 |
| R2\PS641263 | PS641263 | R1\PS724133 | PS724133 | RES1\PS645802 | PS645802 | 547\PS721234 | PS721234 |
| R2\PS641264 | PS641264 | R2\PS724133 | PS724133 | 3\TP613415 | TP613415 | 548\PS721234 | PS721234 |
| R1\PS641263 | PS641263 | R1\PS405696 | PS405696 | 2\TP613415 | TP613415 | 549\PS721234 | PS721234 |
| R2\PS641265 | PS641265 | RES1\PS724133 | PS724133 | 1\TP613415 | TP613415 | 550\PS721234 | PS721234 |
| A\PS741142 | PS741142 | R4\PS635808 | PS635808 | R1\PS402093 | PS402093 | 537\PS721234 | PS721234 |
| R3\PS641262 | PS641262 | S3\PS635808 | PS635808 | RES1\PS715042 | PS715042 | 538\PS721234 | PS721234 |
| R4\PS641263 | PS641263 | S5\PS635808 | PS635808 | RES1\PS724132 | PS724132 | RES1\PS645801 | PS645801 |

1.7 **Local Government Area and Council contact (if known)**

The MREP is located wholly within the municipality of the City of Whittlesea.

The relevant Council officer contact for the project is the Project Manager, Mernda Rail Extension Project.

1.8 **Time frame**

The proposed timeframes for construction and operation of the MREP are:

- Jan-June 2016
  - Community consultation
  - Refining design development
  - Commence procurement process
- July-Dec 2016
  - Ongoing community consultation
  - Completion of procurement process
  - Obtain statutory approvals
- 2017 – Commence construction
- 2018 – Continue construction
- 2019
  - Conclude construction
  - Commence operation.

| | | | |
|---|---|---|---|
| 1.9 | **Alternatives to proposed action**<br>Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed? | ✓ | No |
| | | | Yes, you must also complete section 2.2 |
| 1.10 | **Alternative time frames etc**<br>Does the proposed action include alternative time frames, locations or activities? | ✓ | No |
| | | | Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant). |
| 1.11 | **State assessment**<br>Is the action subject to a state or territory environmental impact assessment? | | No |
| | | ✓ | Yes, you must also complete Section 2.5 |
| 1.12 | **Component of larger action**<br>Is the proposed action a component of a larger action? | ✓ | No |
| | | | Yes, you must also complete Section 2.7 |
| 1.13 | **Related actions/proposals**<br>Is the proposed action related to other actions or proposals in the region (if known)? | ✓ | No |
| | | | Yes, provide details: |
| 1.14 | **Australian Government funding**<br>Has the person proposing to take the action received any Australian Government grant funding to undertake this project? | ✓ | No |
| | | | Yes, provide details: |
| 1.15 | **Great Barrier Reef Marine Park**<br>Is the proposed action inside the Great Barrier Reef Marine Park? | ✓ | No |
| | | | Yes, you must also complete Section 3.1 (h), 3.2 (e) |

# 2 Detailed description of proposed action

### 2.1 Description of proposed action

The MREP is a proposed new 8 km dual track railway line from South Morang to Mernda predominantly within an existing rail reserve. It would include two new railway stations, with provision for a third station, together with associated car parking and a new stabling facility that would initially accommodate up to three trains with potential for up to eight trains in the longer term (refer to Figure 1).

The MREP has been designed to maximise the use of an existing rail reserve, with the proposed rail works and permanent infrastructure located predominantly within the area previously disturbed by the former Whittlesea rail line. The Whittlesea rail line opened in 1889. Freight activities on the line ceased in 1955, and passengers service ceased in 1959. The rail infrastructure between Epping and Whittlesea remained in place until the majority of it was removed in the early 1970s. The current zoning and ownership of the reserve (which remains with VicTrack) both reflect this history. The environment within the rail reserve remains substantially modified due to its past use as an active rail line, and remnants of the former rail infrastructure are still present, including ballast, cuttings through volcanic rock, a series of bridge culverts and associated rail infrastructure.

**Project Components**
The following key components of the MREP are described below:

- New railway tracks;
- Five grade separated road crossings;
- Two new stations (and future proofing at a third location) and associated car parking;
- Stabling facilities; and
- Additional infrastructure.

*New railway tracks*
From the existing South Morang Station the railway heads north-east for approximately 2 km towards the proposed station near Marymede Catholic College. The railway then heads north for approximately 5.5 km, crossing Plenty Road, Hawkstowe Parade, and The Parkway towards the Mernda township and the proposed Mernda station, south of Bridge Inn Road. The alignment then extends 500 m north of Bridge Inn Road where a stabling yard is proposed (refer to Figure 1).

The key features of the new railway tracks include:

- Two broad gauge tracks, one northbound and one southbound
- Single track access to the stabling facilities;
- A design that supports an operating speed of 115km/h except through the curve near Marymede Catholic College, where the speed would be limited to 80km/h; and
- A single 3.5 metre wide vehicle access track along the alignment.

Rail systems including track, signalling, communications and overhead line electrification that would tie in to existing rail systems currently terminating at South Morang Station.

The vertical alignment design of the tracks takes into consideration:

- Existing and planned future utility crossings and overland stormwater flow paths;
- Optimisation of the vertical track alignment to minimise cut where shallow bedrock is prevalent and also seeking to achieve a cut/fill balance;
- The hydrological regime of the area including overland stormwater flow paths and the depth of the groundwater table; and

- The desirable operational objective of locating new stations at a higher height datum than arrival and departure tracks (to optimise braking and acceleration efficiency into and out of stations).

*Grade separations*
The locations of the major grade separations (aligning road and rail at different heights to avoid conflict with the different modes of transport) are:

- McDonalds Road,
- Plenty Road & Gordons Road,
- Hawkstowe Parade,
- The Parkway, and
- Bridge Inn Road.

The design also provides for grade separated pedestrian and bicycle crossings at the Yan Yean Pipe Track and Lakes Boulevard.

*Stations*
A new premium station is proposed at Mernda and a host station near Marymede Catholic College, with provision for a host station near Hawkstowe Parade (refer to Figure 1).

Mernda Station
The design for the premium station at Mernda is in cut and includes rail under Bridge Inn Road. The alternative design is on structure, and includes rail over Bridge Inn Road.

The design provides a station building with two 170 m long platforms capable of being extended to up to 240 m, located either side of the station building. It includes landscaped forecourts, kiss and ride and transport interchange facilities. The station carpark would accommodate parking for approximately 1000 commuter vehicles. The design is cognisant of the proposed Mernda town centre and is aligned with Mernda town centre's proposed Main Street.

Station near Marymede Catholic College
The host station would be constructed primarily at-grade with commuter parking to the west. The existing topography elevates the at-grade station slightly above Williamsons Road levels. The station entrance and forecourt are oriented towards Williamsons Road and the unnamed access road from the southeast. The car park would accommodate parking for approximately 500 commuter vehicles.

Station near Hawkstowe Parade
The MREP provides for possible future construction of a host station near Hawkstowe Parade. The design is in cut and positioned at the junction of Hawkstowe Parade and Plenty Road. The alternative design is on structure and positioned north of Hawkstowe Parade.

The associated carpark would accommodate parking for approximately 100 commuter vehicles. The station footprint is located within the MREP project area.

*Stabling facilities*
The proposed stabling yard is located north of Bridge Inn Road. Platform access from the stabling to Mernda Station would be provided via a single track running approximately 500 m via a grade separation at Bridge Inn Road, to a turnout at the northern end of the Mernda Station platforms (refer Figure 1).

The track configuration enables trains to enter service from either platform at Mernda Station. This location provides stabling initially for three x 6 car train sets (164 m long trains), with provision for a further three x 6 car trains in the medium term and a further two x 6 car train sets in the longer term.

*Additional infrastructure*
Shared use path

The MREP would enable walking and cycling linkages including connectivity to stations. While a full shared use path within the rail reserve would not be provided, the project would interface with the broader pedestrian and cycling network and facilitate shared use path crossings across the reserve where required (via pedestrian overpass or underpass).

Traction power
A high voltage cable would be installed within the existing operational rail reserve from Epping Substation, through the existing South Morang Tie-Station and up to Hawkstowe, to provide extra traction power infrastructure.

**Construction activities**
Key construction phase activities are:

- Major civil works and preparation of track alignment – clearing of vegetation within the alignment in permitted areas, and rough grading and preparation of construction roads to provide access to work sites. The main civil works would involve use of heavy machinery for rock breaking, excavation, rock removal and piling. Access routes would utilise existing access tracks/ roads to the extent practicable. Bulk earthworks would be undertaken to widen the existing rail formation. The site area would be established in accordance with environmental controls as specified in the Environment Management Plan (EMP) and procedures, including those relating to vegetation removal, sediment controls, and stockpiling and storage areas.
- Services, structures and stations – once the major civil works are complete, the placement of trenched services, drainage structures and signalling base structures, location cases and station foundations and buildings can commence. The use of pre-fabricated building elements, including sub-stations and ancillary buildings would be considered in order to assist rapid development of the station precincts.
- Track formation – the placement of the track formation, ballast, sleepers and rail would commence once in ground services are complete. Given the length of the alignment, specialist track laying machinery could be used to reduce construction duration.
- Signalling and systems – signalling cabling and fittings are susceptible to damage and would be primarily fitted once civil and track works are largely complete to reduce the risk of damage and rework.
- Commissioning and handover – site commissioning activities would allow for the conduct of driver training and start-up of station operations.
- Site remediation – site remediation 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 would 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.

**Operation and maintenance**
On completion of the project, key operation and maintenance phase activities will include:

- Operation – monitoring, controlling and operation of the asset in accordance with the network requirements.
- Maintenance – routine inspection and monitoring of the condition of assets, planned routine maintenance and refurbishment work, and unplanned intervention and repair of the asset.

#### 2.2 Alternatives to taking the proposed action

The MREP is located within an existing rail reserve zoned for railway use, already in the ownership of VicTrack and already disturbed by nearly a century of rail related activities. Using an existing railway line presents significant advantages over any available alternative by:

- Minimising ecological impacts by utilising an area largely disturbed by the former railway use;

- Minimising Aboriginal cultural heritage impacts by utilising an area largely disturbed by the former railway use;
- Minimising residential and commercial land acquisition by utilising a railway reserve that is already predominately owned by VicTrack; and
- Minimising land use impacts by utilising land that is already zoned and reserved for railway use.

For these reasons the proposed alignment is practical, has the least impact on land use, heritage and environmental values and provides economic benefits to the Project. There are no feasible alternative alignments for a railway from South Morang to Mernda.

#### 2.3 Alternative locations, time frames or activities that form part of the referred action

There are no feasible alternative locations, timeframes or activities that form part of the referred action. This is due to:

- Locations – there are no alternative alignments for a railway from South Morang to Mernda. The MREP project area allows for the provision of a station at Hawkstowe Parade.
- Timeframes – there are no alternative timeframes because the MREP is required to meet demand for public transport from Melbourne's northern growth areas, which are experiencing a rapid increase in population.
- Activities – there are no alternative activities as the project includes all activities necessary for the MREP.

#### 2.4 Context, planning framework and state/local government requirements

The delivery of the MREP responds directly to the Victorian Government's commitment to transforming Melbourne's metropolitan rail network through the integrated delivery of major infrastructure projects. The MREP together with the Melbourne Metro Project, the delivery of high capacity metro trains, the introduction of High Capacity Signalling and the removal of 50 of the State's most congested and dangerous level crossings on the metropolitan rail network will lead to a rejuvenated rail network that will safeguard and enhance Melbourne's status as one of the world's most liveable cities.

The Victorian Auditor General's Office Report (2015) assessed the effectiveness of state agencies in planning and delivering transport infrastructure and services in population growth areas. The report concluded that over many years, the state has not delivered infrastructure and services needed to support rapidly growing communities.

In response to increasing demand for public transport from Melbourne's northern growth areas, the Victorian Government has committed to extending the South Morang rail line to Mernda. It is forecast that without implementation, capacity on the South Morang line would be reached by 2019 and crowding would be exacerbated as demand from the population grows. As a result, MREP is identified as a key rail project in the Plan Melbourne Refresh Discussion Paper (October 2015) and likely to be included in Plan Melbourne 2016 (Victorian Government's metropolitan planning strategy).

### State Policy Context

- Network Development Plan-Metropolitan Rail – the construction of a new two-track extension from South Morang to Mernda, including a new terminating station and stabling facilities at Mernda, is identified as a key project under Stage 4 of the Network Development Plan.
- Plan Melbourne – Plan Melbourne 2014 identifies Mernda as a key activity centre of Melbourne's Northern Subregion and recognises the need to link the Subregion's diverse industry base to key transport infrastructure. Plan Melbourne 2014 did not specifically identify the MREP as a priority project, although the City of Whittlesea's 2013 Submission to the Plan strongly advocated for a rail extension to Mernda as part of an integrated transport network which would balance

investment in roads with public transport infrastructure. Based on the Ministerial Advisory Committee's 2015 review of Plan Melbourne 2014, the Plan is being updated to reflect key new rail projects announced since 2014, including the MREP.

**Local Policy Context**

MREP is located within the City of Whittlesea. The project supports and is consistent with the strategic direction of the City of Whittlesea, including the following:

- Integrated Transport Strategy 2014 – The City of Whittlesea's Integrated Transport Strategy recognises the MREP as a near-term priority for improving the City's connectivity to the regional transport system. The Strategy indicates that Council has advocated for the project to State government and plans to assist in actions that would progress implementation of the MREP, including:
    1. Review of land requirements along the route of the rail line between South Morang and Mernda to ensure that the corridor is protected; potential road/rail grade separations are identified; zoning along the route supports the viability of rail services; and potential areas for carriage stabling and/or park and ride are identified.
    2. Undertake an investigation to determine the location of stations to Mernda.
    3. Undertaking work that would underpin the business case for early development of the line.
- Shaping Our Future, Whittlesea 2030 Strategic Community Plan – the Whittlesea Strategic Community Plan lists access to public transport and providing infrastructure to keep pace with population growth as two of the City's top ten priorities. Public input collected for the Plan indicated strong community support for extending the South Morang rail line to Mernda and providing adequate car park facilities at a new Mernda station.
- Council Plan, 2013-2017, Shaping Our Future – the Whittlesea Council Plan includes a Council goal of advocating to State Government for improved public transport to the municipality, particularly in growth areas, including the extension of the South Morang train line to Mernda.
- Disability Action Plan 2013-2016 – Goal 4 of the Whittlesea Disability Action Plan states that 'Appropriate and accessible transport services would be available to meet the varying needs of all residents.' Actions specified under Goal 4 include:
    - 4.1.1 Advocate to governments and transport providers to enhance accessibility of public transport services and facilities in the municipality and across the wider network, as advised by the Accessible Parking and Transport Advocacy Working Group of Whittlesea Disability Network.
    - 4.1.2 Ensure that works in the areas of the built environment that link to public transport e.g. footpaths, bus shelters, pedestrian crossings are best practice accessibility.

The MREP is sited within an existing rail reserve zoned Public Use Zone 4 (PUZ4) railway use. Additional land would be required to provide for car parking at Mernda Station and is currently zoned Comprehensive Development Zone 1 (CDZ1).

Land outside the existing railway reserve that is required temporarily for construction purposes is zoned as follows:

- General Residential Zone 1 (GRZ1) – Pindari Avenue, Epping; Williamsons Road, South Morang; Old Plenty Road near Marymede Catholic College, South Morang; west of Plenty Road opposite Stagecoach Boulevard, Gordons Road, South Morang; Plenty Road north of Gordons Road, South Morang; Hawkstowe Parade, South Morang; north of Mount Eccles Way, South Morang; north of Grattan Street, South Morang; north-east of Huntingfield Drive, South Morang; The Parkway and Muswellbrook Grove, South Morang; Carriageway Pass and west of the Pass, South Morang; and Station Road, Mernda.
- Public Use Zone 1 (PUZ1) – north of Epping Station and west of Campbell Street, Epping; south of the rail reserve from Varga Close to Civic Drive, Epping; north east of Danaher Drive, South Morang; south of Williamsons Road, South Morang; east of Chamonix Parade, South Morang; north of Grattan Street, South Morang; The Parkway, South Morang; and west of Carriageway Pass, South Morang.

- Road Zone 1 (RDZ1) – Cooper Street, Epping; Plenty Road at Gordons Road, South Morang; and McDonalds Road, South Morang.
- Road Zone 2 (RDZ2) – at Bridge Inn Road, Mernda.
- Special Use Zone 6 (SUZ6) – Ferres Boulevard near South Morang Station.
- Township Zone (TZ) – Schotters Road, Mernda.
- Activity Centre Zone 1 (ACZ1) – north of Epping Station from Campbell Street to Darebin Creek, Epping.
- Commercial 1 Zone (C1Z) – Civic Drive, Epping, Ferres Boulevard, South Morang.
- Commercial 2 Zone (C2Z) – north east of Plenty Road, South Morang.
- Public Conservation and Resource Zone (PCRZ) – Gordons Road, South Morang; East of Plenty Road opposite Yellowbox Avenue, South Morang; south of Hawkstowe Parade, South Morang; and south east of proposed Mernda Station, Mernda.
- Public Park and Recreation Zone (PPRZ) – East of Plenty Road opposite The Lakes Boulevard, South Morang.

**Relevant Victorian legislation**

An amendment to the Whittlesea Planning Scheme would be required under the *Planning and Environment Act 1987* (Vic) to permit use and development of the land for the purposes of the MREP. In addition, construction of the MREP is expected to require approval under a variety of Acts including the following:

- *Aboriginal Heritage Act 2006* (Vic) – A Cultural Heritage Management Plan (CHMP) (13635) is currently being prepared for MREP;
- *Flora and Fauna Guarantee Act 1995* (Vic);
- *Heritage Act 1995* (Vic);
- *Road Management Act 2004* (Vic);
- *Water Act 1989* (Vic); and
- *Wildlife Act 1975* (Vic).

The MREP will also be referred to the Minister for Planning under the *Environment Effects Act 1978* (Vic) for a decision on whether the MREP would require assessment under that Act.

#### 2.5 Environmental impact assessments under Commonwealth, state or territory legislation

A referral will be submitted to the Minister for Planning under the *Environment Effects Act 1978* (Vic), for a decision on whether the MREP would require assessment under that Act. Environmental studies (including flora and fauna, hydrology and cultural heritage) have been undertaken to support the project's planning, engineering design and the preparation of referral documentation under the *Environment Effects Act 1978* and the EPBC Act.

As noted above, the Whittlesea Planning Scheme would need to be amended under the *Planning and Environment Act 1987* (Vic) to include site specific planning controls governing development and operation of the MREP.

#### 2.6 Public consultation (including with Indigenous stakeholders)

LXRA is committed to engagement and consultation with stakeholders and the community.

A Communications and Stakeholders Engagement Strategy has been developed for the MREP and is being implemented to raise awareness of the various aspects of the MREP and guide engagement with stakeholders in order to build trust, gather information about community values and encourage public participation in the development of MREP.

The strategy is based on the following principles:

- **Establish a clear, fair and inclusive process and explain opportunities for involvement**: Provide information about the opportunities for involvement at the outset. Implementing a genuine engagement process will build trust and ensure stakeholders and the community are invested in the outcome. Managing stakeholder expectations with regard to the level of involvement and influence on design outcomes will be critical to maintaining positive stakeholders relations.
- **Commence engagement early:** Ensure early connection with stakeholders to establish context and introduce the authority and the project. Engaging early and setting the context for the project will ensure effective project delivery.
- **Support stakeholder participation as a way to assist decision making:** Fostering a culture that supports public participation as a way to assist decision making and identify critical issues.
- **Be clear about what is negotiable and what is not:** Manage stakeholder and community expectations by communicating early the decisions the package is considering and areas that are open for public participation.
- **Develop high quality visual materials to demonstrate project impacts:** Used at the appropriate time, high quality maps and visual materials will increase understanding of the engineering aspects of the package. Use of site-specific animations will assist stakeholders in understanding critical elements and constraints of the package.
- **CALD and minority groups:** A community profile for the project area will be developed to identify key culturally and linguistically diverse and hard to reach communities. Translated project information and surveys will be produced, as well as provision of a translation service at public consultation events.

***Key stakeholders***

The Project will attract interest from a broad cross section of the Victorian community, particularly people who live, work, own land and travel through the project area and stakeholders with an interest in transport. The Communications and Stakeholders Engagement Strategy was designed to target these and broader categories of stakeholders as outlined below:

- Commonwealth Government
- Department of Economic Development, Jobs, Transport and Resources (DEDJTR),
- Department of Environment, Land, Water and Planning
- Department of Premier and Cabinet
- Department of Treasury and Finance
- Melbourne Water
- Metropolitan Planning Authority
- Metro Trains Melbourne
- Office of Aboriginal Affairs Victoria
- Office of the Victorian Government Architect
- Public Transport Victoria
- City of Whittlesea
- VicRoads
- VicTrack
- Wurundjeri Tribe Land and Compensation Cultural Heritage Council.

Engagement is already underway with the community consultation having commenced in late 2015. Community information sessions were held in February and March 2016 and further sessions are being planned to support project planning and development.

***Key engagement tools:***
A range of communication methods have been adopted to provide information and updates including: a community survey, online discussion forum, project hotline, community workshops and pop-up hubs (which sought community views on issues such as use of the rail network) and public submissions.

Stakeholder and community feedback has informed the project, and will continue as design develops and into construction.

**2.7 A staged development or component of a larger project**

MREP is not a staged development or component of a larger project.

The following preparatory works do not form part of the action which is being referred:

- Activities associated with designing and assessing project impacts such as geotechnical and environmental investigations, site surveys and establishing the location of existing utilities and services.
- The relocation of utilities and services, where such activities are comparable in scope and scale to renewal and maintenance, and are undertaken in accordance with applicable Victorian planning and environmental approval processes.

# 3 Description of environment & likely impacts

## 3.1 Matters of national environmental significance

#### 3.1 (a) World Heritage Properties

**Description**

No World Heritage Properties exist within or are in proximity to the MREP. The action would **not** impact any World Heritage Properties.

**Nature and extent of likely impact**

Not applicable.

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#### 3.1 (b) National Heritage Places

**Description**

No National Heritage Places exist within or are in proximity to the MREP. The action would **not** impact any National Heritage Places.

**Nature and extent of likely impact**

Not applicable.

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#### 3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

**Description**

The Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site is the closest Ramsar wetland and is located approximately 50 km south of the MREP.

**Nature and extent of likely impact**

The action would **not** impact the Port Phillip Bay (Western Shoreline) and Bellarine Peninsula Ramsar Site.

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### 3.1 (d) Listed threatened species and ecological communities

**Description**

An ecological assessment of the MREP was undertaken (GHD AECOM, 2016a) including:

- Desktop assessment of databases and previous ecological investigations, and an initial listed threatened species likelihood of occurrence assessment; and
- Field assessment including for native vegetation, listed threatened ecological communities, and seasonally-appropriate targeted surveys for listed threatened species, which informed a final likelihood of occurrence assessment, consideration of potential impacts, and development of appropriate management controls and mitigation measures.

**Threatened listed species**

The initial likelihood of occurrence assessment (undertaken as part of the desktop assessment) informed which species should be considered for targeted survey. It was based on the presence of potential species habitat, species ecology, and species records and modelling (GHD AECOM, 2016a). For EPBC Act listed threatened species it found those with a moderate or higher likelihood of occurrence to be:

- Clover Glycine *Glycine latrobeana*,
- Matted Flax-lily *Dianella amoena*,
- Growling Grass Frog *Litoria raniformis*, and
- Swift Parrot *Lathamus discolour.*

The field assessment findings for each of these species are summarised below.

***Threatened listed flora species***

*Clover Glycine (Glycine latrobeana)*

The Clover Glycine was not recorded in the project area. While the initial desktop assessment identified a moderate likelihood of occurrence, the field assessment found most of the project area, including remnant patches, consisted of a degraded understorey and was considered unsuitable habitat for Clover Glycine due to the high biomass of exotic grasses. Nonetheless, targeted surveys were completed to confirm the likelihood of species occurrence in the project area. Better quality remnant patches were considered to have a higher potential to support the species because of their archetypal Kangaroo Grass-grassland structure, yet Clover Glycine was not observed despite extensive searching. In addition to weed cover, pressure from rabbit and kangaroo grazing is likely to be a major barrier to the species' persistence in the project area as well as the wider landscape (there is only one record for Clover Glycine in the surrounding 5 km). It is concluded that Clover Glycine is unlikely to occur in the project area (GHD AECOM, 2016a).

*Matted Flax-lily (Dianella amoena)*

A total of 186 individual plants were recorded in the project area. Most were in a healthy condition with those in the McDonalds Road Offset Site (established as part of the South Morang Rail Extension EPBC 2010/5313) mature with evidence of recent flowering. Elsewhere, Matted Flax-lily occurred in a number of different habitats including at the base of River Red-gums often co-existing with other *Dianella* species, on degraded rocky escarpments dominated by exotic grasses and in shallow depressions. In these areas plants were mostly immature and did not contain old flowering stems suggesting they have probably sprouted from sub-terranean rhizomes in the past twelve months (GHD AECOM, 2016a).

***Threatened listed fauna species***

*Growling Grass Frog (Litoria raniformis)*

The Growling Grass Frog was not recorded at the four sites with aquatic habitat that are considered to have potential to support the species within the project area. The project area is not considered suitable breeding habitat for the species (GHD AECOM 2016a). The project area is also not considered suitable for dispersal of the species. While database search results suggest that local populations of Growling

Grass Frog occur along the nearby Darebin Creek and Plenty River, urbanisation provides an impenetrable barrier for dispersal from these locations through the project area (GHD AECOM, 2016a). Further to this, surveys in 2013 by Wildlife Profiles in the Plenty Gorge Park did not record any individuals in this area (GHD AECOM, 2016a).

*Swift Parrot* (*Lathamus discolour)*
The Swift Parrot was not recorded in the project area even though weather conditions, timing and survey effort were considered adequate to determine the presence of the species and were consistent with EPBC Act survey guidelines (DEWHA, 2010). Red Gum Woodland, which is known to occur in the project area, may be utilised on an intermittent and opportunistic basis by the species during its overwintering period, with the species known to feed on lerp. However, the project area is not considered to support an important Swift Parrot foraging resource due to:

- The presence of scattered trees, rather than intact woodland;
- The dominance of River Red Gum that tend to flower in spring and summer when the species is breeding in Tasmania; and
- The presence of Noisy Miner which compete aggressively for food resources (and are identified as a key threatening process for Swift Parrot under the EPBC Act) (GHD AECOM, 2016a).

This assessment is further supported by the project area not forming part of the identified priority habitat for conservation management of Swift Parrot foraging resource. As a result, the species is considered to have a low likelihood of occurrence, with larger, more intact areas of habitat in the surrounding landscape expected to be preferred for winter-foraging compared to the scattered remnant and fragmented woodland trees found across the project area (GHD AECOM, 2016a).

**Threatened listed ecological communities**
Remnant vegetation was mapped across the MREP project area where it was considered to meet the definition of a threatened ecological community listed under the EPBC Act or the *Flora and Fauna Guarantee Act 1995* (Vic). Government approved listing statements, conservation advice and policy statements were referred to in assisting with the identification of threatened ecological communities.

Initial desktop assessment identified five EPBC Act listed threatened ecological communities that could potentially occur within the project area, being:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Natural Damp Grassland of the Victorian Coastal plain
- Natural Temperate Grasslands of the Victorian Volcanic Plain
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

The field assessment recorded one listed threatened ecological communities present in the project area out of the 5 identified in the desktop assessment, being:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain – recorded across an area of 2.08 ha in the south of the project area between McDonalds Road and the northern carpark at South Morang Station (GHD AECOM, 2016a). This area is part of the existing McDonalds Road Offset Site (established as part of the South Morang Rail Extension EPBC 2010/5313). An assessment of the community was carried out in accordance with the EPBC Act conditions threshold for the species (DSEWPaC, 2011).

The two patches of Plains Sedgy Wetland (EVC 647) which were recorded during the field survey were assessed against the EPBC Act listing criteria for Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (TSSC, 2012) were not considered to be the EPBC Act listed threatened ecological community based on the following important criteria:

- Vegetation was not dominated by native wetland graminoids; and
- Wetland was much smaller than minimum size requirements (i.e. 0.03 ha versus 0.5 ha) (GHD AECOM, 2016a).

No other EPBC Act listed threatened ecological communities were recorded in the MREP project area.

**Nature and extent of likely impact**

The nature and extent of potential impacts from the MREP on EPBC Act listed threatened species and ecological communities are:

- Clover Glycine *Glycine latrobeana* – was not recorded and is unlikely to occur in the project area. The MREP would not have a significant impact on this species (GHD AECOM, 2016a).
- Matted Flax-lily *Dianella amoena* – based on the reference design, Matted Flax-lily plants would be directly impacted by the project and require translocation prior to construction (with 129 identified as requiring translocation in the most recent surveys by GHD AECOM, 2016a, including 52 within the existing McDonalds Road Offset Site).
- Growling Grass Frog *Litoria raniformis* – was not recorded and the project area does not contain suitable breeding or dispersal habitat for the species. The MREP would not have a significant impact on this species (GHD AECOM 2016a).
- Swift Parrot *Lathamus discolour* – was not recorded and the project area is not an important Swift Parrot foraging resource. The MREP would not have a significant impact on this species (GHD AECOM, 2016a).
- Grassy Eucalypt Woodland of the Victorian Volcanic Plain – based on the reference design, approximately 0.82 ha of Grassy Eucalypt Woodland of the Victorian Volcanic Plain would be directly impacted by the project. This ecological community is located within the offset site at McDonalds Road that was established as part of the South Morang Rail Extension Project. This represents <0.001% of the predicted extent of this community, which is between 18,000 – 60,500 ha, and as such MREP would not impact the overall distribution of the community within Australia (GHD AECOM, 2016a).

Further information on the potential impacts to Matters of National Environmental Significance, including assessment against the EPBC Act significant impact guidelines (DoE, 2013), is presented in Attachment 2.

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**3.1 (e) Listed migratory species**

**Description**

Desktop assessment for the EPBC Act listed migratory species identified 13 potential species. Following an initial likelihood of occurrence assessment (based on the presence of potential species habitat, species ecology, and species records and modelling), only one was found to have a moderate or higher likelihood of occurrence, being:

- Latham's Snipe *Gallinago hardwickii* (GHD AECOM, 2016a).

Latham's Snipe *Gallinago hardwickii* was not recorded in the project area. The potential habitat within the project area was considered of only marginal value, with this species dispersing over large distances and having broad habitat requirements, there is a low potential the species may over-fly in low numbers, or forage in the project area on route to better habitat or breeding sites (GHD AECOM, 2016a).

**Nature and extent of likely impact**

The action would not impact on EPBC Act listed migratory species. The only EPBC Act listed migratory species with potential to occur in the project area, Latham's Snipe *Gallinago hardwickii*, was not recorded and, following field survey, the project area is considered of only marginal value, with any removal of potential habitat not considered to present a significant impact (GHD AECOM, 2016a).

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**3.1 (f) Commonwealth marine area**

**Description**

There are no Commonwealth marine areas in proximity to MREP. The action would **not** impact Commonwealth marine areas.

**Nature and extent of likely impact**

Not applicable.

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**3.1 (g) Commonwealth land**

**Description**

There is no Commonwealth land in proximity to the MREP. The action would **not** impact Commonwealth land.

**Nature and extent of likely impact**

Not applicable.

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**3.1 (h) The Great Barrier Reef Marine Park**

**Description**

MREP is not in proximity to the Great Barrier Reef Marine Park. The action would **not** impact the Great Barrier Reef Marine Park.

**Nature and extent of likely impact**

Not applicable.

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**3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development**

**Description**

MREP is not a coal seam gas development or large coal mining development.

**Nature and extent of likely impact**

Not applicable.

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## 3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

| | | | |
|---|---|---|---|
| **3.2 (a)** | **Is the proposed action a nuclear action?** | ✓ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (b)** | **Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?** | ✓ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (c)** | **Is the proposed action to be taken in a Commonwealth marine area?** | ✓ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))** | | |

| | | | |
|---|---|---|---|
| **3.2 (d)** | **Is the proposed action to be taken on Commonwealth land?** | ✓ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))** | | |

| | | | |
|---|---|---|---|
| **3.2 (e)** | **Is the proposed action to be taken in the Great Barrier Reef Marine Park?** | ✓ | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))** | | |

## 3.3 Other important features of the environment

#### 3.3 (a) Flora and fauna

MREP is sited on the former Whittlesea railway line, which has been disturbed by the former railway use. The environment within the rail reserve remains substantially modified due to its past use as an active rail line, and remnants of the former rail infrastructure are still present, including ballast, cuttings through volcanic rock, a series of bridge culverts and associated rail infrastructure.

Vegetation within the project area consists of disturbed Plains Grassy Woodland (EVC 55) with a River Red Gum overstorey growing amongst cleared areas dominated by exotic pasture grasses. Several areas are dominated by Kangaroo Grass *Themeda triandra* within the rail reserve and the overall project area. Other native species recorded included Lemon Beauty Heads *Calocephalus citreus*, Black-anther Flax-lily *Dianella revoluta*, Spiny-headed Matt Rush *Lomandra longifolia*, Common-Tussock Grass *Poa labillardieri* and Windmill Grass *Chloris truncata*. One listed threatened species, Matted Flax-lily, was identified during the recent GHD AECOM field assessment, both within areas previously known to support the species and within new areas not previously recorded (GHD AECOM, 2016a).

No threatened listed fauna were recorded in the project area during the field assessment. Native fauna observed consisted entirely of common species, typical of peri-urban Melbourne. Native bird species observed included Eastern Rosella *Platycercus eximius*, Red-rumped Parrot *Psephotus haematonotus*, Superb Fairy Wren *Malurus cyaneus*, White Faced Heron *Egretta novaehollandiae*, Grey-butcher Bird *Cracticus torquatus* and Sulphur Crested Cockatoo *Cacatua galerita*. Amphibian species were limited to Common Froglet *Crinia signifera,* Plains Froglet *Crinia parinsignifera,* Spotted Marsh Frog *Limnodynastes tasmainensis,* Peron's Tree Frog *Litoria peronei,* Southern Brown Tree Frog *Litoria ewingii,* and Pobblebonk *Limnodynastes dumerilii*. Several mobs of Eastern Grey Kangaroos *Macropus giganteus* were also observed both within the project area and land directly abutting (GHD AECOM, 2016a).

#### 3.3 (b) Hydrology, including water flows

MREP is within Plenty River catchment. It flows generally north to south, from the Great Dividing Range north of Whittlesea to the junction with the Yarra River at Viewbank. It is ephemeral with flows regularly ceasing in the summer months. Two major domestic water storages (Yan Yean and Toorourrong) are found within the catchment. The river has a largely rural catchment with two major towns at Mernda and Whittlesea. The catchment becomes fully urban downstream of South Morang. In the upper forested reaches, rivers are ecologically healthy (Melbourne Water, 2007).

The Plenty River catchment is a declared water supply protection area under the *Water Act 1989* (Vic), meaning consumptive water use is subject to a stream flow management plan. MREP does not impact upon consumptive water use.

MREP does not cross the Plenty River. It crosses Simons Creek, Mernda Drain and a number of other unnamed ephemeral drainage lines that flow to the river. As part of MREP there would be drainage improvements on Melbourne Water, Parks Victoria and Council managed land, which flow across the existing rail reserve into these waterways (refer to Figure 1). Drainage design is subject to development and refinement informed by consultation with Melbourne Water, Parks Victoria and Council.

**Groundwater**

Groundwater was found to occur from 3-8 m depth below surface level across the Project Area (GHD AECOM, 2016c).

### 3.3 (c) Soil and Vegetation characteristics

Basalt flows of the Upper Tertiary to Quaternary Newer Volcanics comprise the surficial geology in the project area. This unit varies in thickness with a minimum of approximately 15 m at McDonalds Road and a maximum of approximately 45 m at Plenty Road and Hawkstowe Parade. Throughout the project area the Newer Volcanics is likely to be underlain directly by Palaeozoic sedimentary basement rocks. An exception to this is where the rail reserve crosses Plenty Road, where the Brighton Group underlies the Newer Volcanics and consists of sands, gravels and clay. The Brighton Group is likely to be over 15 m thick at this location. Based on investigations completed to date it is anticipated that the project works would only intersect the upper alluvial and basalt formations and groundwater systems associated with these formations (GHD AECOM, 2016c).

Vegetation within the project area consists of disturbed Plains Grassy Woodland (EVC 55) with a River Red Gum overstorey growing amongst cleared areas dominated by exotic pasture grasses (GHD AECOM, 2016a).

### 3.3 (d) Outstanding natural features

MREP is sited on the former Whittlesea railway line, which has been disturbed by the former railway use. The project is adjacent to Plenty Gorge Park, a geomorphic feature associated with the Plenty River, which is managed by Parks Victoria and used for public recreation. The MREP will not have a material impact on Plenty Gorge Park.

### 3.3 (e) Remnant native vegetation

MREP is sited on the former Whittlesea railway line, which has been disturbed by the former railway use. However, remnant native vegetation has been retained or regrown within the project area, with localised areas of ecological value, described in further detail below. Within the 90 ha project area, a total of approximately 10.5 ha of native vegetation was recorded, which is predominately Plains Grassy Woodland (EVC 55_61)(GHD AECOM, 2016a).

Generally the quality of the understorey was higher in the southern and central parts of the project area, than the north. High quality habitat zones were characterised by a healthy sward of native grasses such as Common Wallaby-grass *Rytidosperma caespitosum,* Kneed Spear-grass *Austrostipa bigeniculata,* Kangaroo Grass *Themeda triandra* and Common Tussock-grass *Poa labillardieri*, while poor-quality habitat zones were dominated by exotic grasses such as Wild Oat *Avenua fatua,* Soft Brome *Bromus hordaceus,* Prairie Grass *Bromus catharticus* and Cocksfoot *Dactylis glomerata.* The native herbs Chocolate Lily *Arthropodium strictum* s.l., Milmaids *Burchardia umbellata*, Bulbine Lily *Bulbine bolbosa* and to a lesser extent the endangered Matted Flax-lily, were particularly abundant in the south of the project area (GHD AECOM, 2016a).

River Red Gum *Eucalyptus camaldulensis* formed the overstorey of the Plains Grassy Woodland patches. Many of the River Red Gum trees in the south of the project area had not reached the Victorian benchmark although they were in good condition. Conversely, habitat zones in the north generally had a more mature overstorey, with many trees containing hollows and spouts, although overall remnant vegetation was much less dense in the north with large clearings devoid of native vegetation observed in several locations (GHD AECOM, 2016a).

160 scattered remnant trees were recorded throughout the project area. Scattered remnant trees were mostly River Red Gum, with several Swamp Gums *Eucalyptus ovata* also recorded. There were a number of non-indigenous eucalypts that have been planted in the project area, such as Sugar Gum *Eucalyptus cladocalyx* and Blakely's Red Gum *Eucalyptus blakelyi*. In accordance with the Victorian Guidelines, these trees were not considered to be remnant and therefore were not recorded as a scattered remnant tree (GHD AECOM, 2016a).

#### 3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

MREP is on the Victorian volcanic plain which consists of gently undulating land that is interspersed with minor drainage channels and generally rises northward.

#### 3.3 (g) Current state of the environment

MREP is sited on the former Whittlesea railway line, which has been disturbed by the former railway use. Some land parcels within the rail reserve are leased for agistment purposes and are also adjacent to urbanised areas. As described in section 3.1(d) however, there are localised areas of ecological value within the project area. Vegetation within the project area consists of Plains Grassy Woodland (EVC 55) with a River Red Gum overstorey growing amongst cleared areas dominated by exotic pasture grasses.

Exotic flora species include grass and broad-leaf weed species such as Flat Weed *Hypochaeris radicata*, Veldt grass *Ehrharta spp*., Ribwort Plantain *Plantago lanceolata*, Cocksfoot *Dactylis glomerata* and Twiggy Turnip *Brassica fruticulosa*. A number of listed weeds are also present (GHD AECOM, 2016a).

Exotic fauna included Common Starling *Sturnus vulgaris*, European Rabbits *Oryctolagus cuniculus* and a Red Fox *Vulpes vulpes* within agricultural land at the northern end of the project area (GHD AECOM, 2016a).

#### 3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

MREP is sited on the former Whittlesea railway line. An historical archaeological assessment has been undertaken (Vincent Clark & Associates, 2015a), which found:

- No Commonwealth Heritage Places within the project area
- A number of historic sites of State Significance within the project area (refer to Table 3).

**Table 3: Historic Sites within the project area**

| Site Name/s | Site Code/s | Listing Type/s | Location within the project area |
|---|---|---|---|
| Mernda Railway Station | H7922-0356 | VHI | Entirely within the project area |
| Mernda Station Level Crossing Structures | H7922-0498 | VHI | Entirely within the project area |
| Bluestone Bridge – Plenty River | HO70 | HO | Partly within the project area |
| Mernda 1, Berry Lane; Mayfield Farm, Dairy and Berry Lane | H7922-0036 HO19 | VHI and HO | Crosses project area but excluded from the railway reservation (VHI listing); HO listing is west of project area |
| Mernda 2, Mayfield Railway Bridge | H7922-0037 | VHI | Entirely within the project area |
| Sirriani Stream Channel, Plenty Gorge | H7922-0482 | VHI | Crosses the project area |
| Carome Track Level Crossing | H7922-0501 | VHI | Entirely within the project area |
| Whittlesea HS1 | D7922-0256 | VHI (de-listed) | Entirely within the project area |
| Yan Yean Water Supply System | H2333 and HO43 | VHR and HO | Crosses the project area at two locations |
| Yan Yean Pipetrack | H7922-0281 | VHI | Crosses the project area at two locations |

| Site Name/s | Site Code/s | Listing Type/s | Location within the project area |
|---|---|---|---|
| Sheep Station Creek Homestead | H7922-0341 | VHI | Partly within the project area |
| Railway Stopping Place, Gordons Rd, South Morang | H7922-0357 | VHI (de-listed) | Entirely within the project area |
| South Morang Railway Station, South Morang 26 | H7922-0033 | VHI | Entirely within the project area |

Listing types: VHI Victorian Heritage Inventory
VHR Victorian Heritage Register
HO Heritage Overlay

#### 3.3 (i) Indigenous heritage values

Under the *Aboriginal Heritage Act 2006* (Vic), a Cultural Heritage Management Plan (CHMP) is required if all or part of a proposed activity is in an area of cultural heritage sensitivity, and all, or part of the activity is a high impact activity.

A CHMP is currently being prepared for MREP (ref 13635) in accordance with the *Aboriginal Heritage Act 2006* (Vic). To date this has involved:

- Consultation with the Wurundjeri Tribe Land and Compensation Cultural Heritage Council as the Registered Aboriginal Party.
- A desktop assessment – there are 31 Aboriginal places recorded within 200 metres of the project area and three of these are located within the project area.
- A standard assessment – lithic artefacts were recorded at two locations within the project area and two locations next to the project area.
- A complex assessment – two scar trees were identified within the project area and a third immediately adjacent, and Aboriginal artefacts were recorded below ground at three locations: Berry Lane, Hawkstowe Railway Cutting and Morang Railway Cutting during the complex assessment (Vincent Clark & Associates, 2016).

#### 3.3 (j) Other important or unique values of the environment

The project area does not contain other important or unique values of the environment.

#### 3.3 (k) Tenure of the action area (eg freehold, leasehold)

The MREP is sited on the former Whittlesea railway line, which is owned by VicTrack. MREP also requires access to public land parcels for ancillary works associated with drainage improvements and road modifications. This land is managed by either Parks Victoria, Council or Melbourne Water. Additional land would be required to provide for car parking at Mernda Station and this is currently private freehold land.

#### 3.3 (l) Existing land/marine uses of area

The MREP has been sited within an existing rail reserve zoned for railway use. Some land parcels within the rail reserve are currently leased for agistment or grazing purposes.

Land use at the southern end of the new railway alignment is commercial and industrial. The South Morang Terminal Station and Melbourne Water storage tanks are adjacent to the northern boundary of the project area in South Morang and there is commercial development adjacent to the southern section of the alignment (near South Morang station).

The project area is within the Urban Growth Boundary and there is residential development adjacent to the project area in both South Morang and Mernda, including aged care facilities and retirement homes, and further residential developments are proposed. The vacant land to the south of Bridge Inn Road, Mernda has been identified and zoned for development as the proposed Mernda town centre. There is further existing and proposed residential development north of Bridge In Road.

Marymede Catholic College is located adjacent to the rail reserve near Williamsons Road. The Mernda South Primary School, adjacent to the rail reserve at The Parkway, Mernda, is under construction.

The Plenty Gorge Park is to the east of the rail reserve between Gordon Road and Hawkstowe Parade and again in the vicinity of the future Mernda Town Centre.

**3.3 (m) Any proposed land/marine uses of area**

The existing rail reserve would be developed for rail operations. It is also anticipated that urban development would continue to increase adjacent to the rail reserve, particularly at the northern end of the project area, where the development of the Mernda town centre is proposed to occur.

# 4 Environmental outcomes

At the strategic level, the use of the existing disturbed rail reserve allows MREP to avoid significant ecological values that would be impacted by an alternative greenfield alignment. However, there are remnant ecological values in the project area, and while the design is currently being further refined to further minimise potential impacts, MREP would impact on the following matters of national environmental significance:

- Matted Flax-Lily – translocation of plants is required (with 129 identified as requiring translocation in the most recent surveys by GHD AECOM, 2016a)
- Grassy Eucalypt Woodland of the Victorian Volcanic Plain – removal of 0.82 ha**.**

Environmental management requirements have been developed for these matters, which link environmental outcomes with management measures and monitoring (refer to Table 4). In addition, a Matted Flax-lily Translocation Plan detailing salvage, management and translocation for this species is provided at Attachment 3.

**Table 4: Outcomes for threatened listed species and communities for MREP**

| Outcome | Management measures | Monitoring |
|---|---|---|
| No net loss to the extent and distribution of Matted Flax-lily *Dianella amoena* from the MREP | - Based on reference design, Matted Flax-lily plants would be directly impacted by the project (with 129 identified as requiring translocation in the most recent surveys by GHD AECOM 2016a, including 52 within the existing McDonalds Road Offset Site)<br>- Directly impacted Matted Flax-lily would be translocated to a suitable receptor site in accordance with a Matted Flax-lily Translocation Plan (refer to Attachment 3)<br>- Remaining Matted Flax-lily would be managed during construction, including through fenced 'no go' areas, appropriate sediment controls and training of project personnel. Fencing of 'no go' areas would occur prior to construction commencing.<br>- Ecological offsets that meet Commonwealth and Victorian offset requirements would be secured prior to construction. | - Condition of translocated plants would be monitored prior to, during and immediately post translocation in accordance with a Matted Flax-lily Translocation Plan (refer to Attachment 3)<br>- Receptor site would be monitored in accordance with a Matted Flax-lily Translocation Plan (refer Attachment 3)<br>- Condition of remnant plants would be monitored weekly throughout construction<br>- Ecological offsets would be monitored in accordance with Commonwealth and Victorian requirements |
| Minimise impact on the Grassy Eucalypt Woodland of the Victorian Volcanic Plain | - Limit area to be removed to be removed to 0.82 ha and seek to reduce further during design and construction | - Condition of retained area would be monitored weekly throughout construction |

| Outcome | Management measures | Monitoring |
|---|---|---|
| | - Establish construction 'no go' zone to protect area to be retained by installing fences prior to commencing construction<br>- Ecological offsets that meet Commonwealth and Victorian offset requirements would be secured prior to construction. | - Ecological offsets would be monitored in accordance with Commonwealth and Victorian requirements |

These proposed environmental outcomes, management measures and monitoring has been informed by an ecological assessment of the MREP (GHD AECOM, 2016a), which included:

- Desktop assessment of databases and previous ecological investigations, and an initial listed threatened species likelihood of occurrence assessment; and
- Field assessment including for native vegetation, listed threatened ecological communities, and seasonally-appropriate targeted surveys for listed threatened species, which informed a final likelihood of occurrence assessment, consideration of potential impacts, and development of appropriate management controls and mitigations (refer Section 5).

# 5 Measures to avoid or reduce impacts

At the strategic level, the use of the existing disturbed rail reserve presents significant advantages such as:

- Minimising ecological impacts by utilising an area disturbed by the former railway use
- Minimising Aboriginal cultural heritage impacts by utilising an area disturbed by the former railway use
- Minimising residential and commercial land acquisition by utilising a railway line that is already owned by VicTrack
- Minimising planning impacts by utilising a railway line that is already predominately zoned for railway use.

However, there are environmental and social assets, values and uses within and adjacent to the existing rail reserve. While the design is currently being further refined to further minimise potential impacts on these assets, values and uses there would be impacts from the MREP.

In response to this, the project is developing environment management requirements that will provide management measures to ensure project outcomes are monitored and controlled, and that any residual impacts remain at acceptable levels. The environmental management requirements would need to:

- Ensure that commitments and conditions arising from the approvals process are effectively implemented;
- Monitor and verify compliance with relevant environmental legislation and policy; and
- Facilitate communication and respond to stakeholder feedback.

These environmental management requirements will include the environmental outcomes (and the linked management measures and monitoring) that have developed specifically for matters of national environmental significance (refer Section 4). In addition, a Matted Flax-lily Translocation Plan has been developed which details salvage, management and translocation for this species (refer to Attachment 3).

The construction related environmental management requirements would be implemented by the construction contractor under LXRA's control. The construction contractor would be required to develop, implement, and maintain an Environmental Management Plan to LXRA's satisfaction and in accordance with conditions of approval. The Plan would include:

- An outline of the regulatory framework under which project activities would be undertaken, including a list of required approvals
- Work method statements and construction procedures that have been developed to effectively manage environmental and social risks
- Performance objectives and criteria to provide a clear basis of accountability for environmental outcomes
- Competence and training requirements
- Management of change processes
- Incident response
- Reporting (reportable incidents and routine)
- Compliance monitoring and auditing
- Record keeping.

Performance objectives would be developed in relation to:

- Aboriginal cultural heritage
- Contamination

- Ecology
- Groundwater
- Historical heritage
- Noise and vibration
- Surface water
- Traffic management
- Waste and hazardous materials management

Performance monitoring and reporting processes would also be adopted.

# 6 Conclusion on the likelihood of significant impacts

## 6.1 Do you THINK your proposed action is a controlled action?

| | |
|---|---|
| ✓ | No, complete section 5.2 |
| | Yes, complete section 5.3 |

## 6.2 Proposed action IS NOT a controlled action.

At the strategic level, the use of the existing disturbed rail reserve allows MREP to avoid significant ecological values that would be impacted by an alternative greenfield alignment. However, there are remnant ecological values in the project area, and while the design is currently being further refined to further minimise potential impacts, MREP would impact on the following matters of national environmental significance:

- Matted Flax-Lily – translocation of plants is required (with 129 identified as requiring translocation in the most recent surveys by GHD AECOM, 2016a)
- Grassy Eucalypt Woodland of the Victorian Volcanic Plain – removal of 0.82 ha**.**

Based on the reference design, the impact of MREP on Grassy Eucalypt Woodland of the Victorian Volcanic Plain is confined to 0.82 ha of the 2.08 ha within the project area. This represents <0.001% of the predicted extent of Grassy Eucalypt Woodland across Australia, which is predicted between 18,000 – 60,500 ha, and as such MREP would not impact the overall distribution of the community within Australia (GHD AECOM, 2016a). On this basis the impact is not considered significant.

Based on the reference design, the impact of MREP on Matted Flax-lily would require translocation of plants (with 129 identified as requiring translocation in the most recent surveys by GHD AECOM, 2016a). A Matted Flax-lily Translocation Plan detailing salvage, management and translocation for this species is provided at Attachment 3.

Translocation of Matted Flax-lily is a proven technique that has a demonstrated high success rate. There have been high survival rates for the Matted Flax-lily translocated as part of the South Morang Rail Extension Project and residential developments in the area. The procedure is considered low risk provided certain safeguards are in place (as detailed in Attachment 3). On this basis the impact is not considered significant.

## 6.3 Proposed action IS a controlled action

| | **Matters likely to be impacted** |
|---|---|
| | World Heritage values (sections 12 and 15A) |
| | National Heritage places (sections 15B and 15C) |
| | Wetlands of international importance (sections 16 and 17B) |
| | Listed threatened species and communities (sections 18 and 18A) |
| | Listed migratory species (sections 20 and 20A) |
| | Protection of the environment from nuclear actions (sections 21 and 22A) |
| | Commonwealth marine environment (sections 23 and 24A) |
| | Great Barrier Reef Marine Park (sections 24B and 24C) |
| | A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E) |
| | Protection of the environment from actions involving Commonwealth land (sections 26 and 27A) |
| | Protection of the environment from Commonwealth actions (section 28) |
| | Commonwealth Heritage places overseas (sections 27B and 27C) |

# 7 Environmental record of the responsible party

| | | Yes | No |
|---|---|---|---|
| **7.1** | **Does the party taking the action have a satisfactory record of responsible environmental management?**<br><br>**Provide details**<br><br>LXRA is an administrative office in relation to the Department of Economic Development, Jobs, Transport and Resources (DEDJTR).<br><br>DEDJTR and its predecessor organisations (Department of Transport, Planning and Local Infrastructure and the Department of Transport) has a sound environmental management record and promotes sustainable development within its projects. | ✓ | |
| **7.2** | **Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?**<br><br>**If yes, provide details** | | ✓ |
| **7.3** | **If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?**<br><br>**If yes, provide details of environmental policy and planning framework**<br><br>The Department's environment policy applies to all departmental activities. The environment policy is available online at: http://www.dtpli.vic.gov.au/about-the-department/structure-and-governance/corporate-governance/environment-policy<br><br>LXRA has developed a Sustainability Policy that applies to all its projects (refer Attachment 4) | ✓ | |
| **7.4** | **Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?**<br><br>**Provide name of proposal and EPBC reference number (if known)**<br><br>The eight most recent referrals submitted by DEDJTR and its predecessor organisations are:<br>• Western Distributor Project (EPBC 2015/7620)<br>• Melbourne Metro Rail Project (EPBC 2015/7549)<br>• Pakenham East Stabling & Maintenance Depot (EPBC 2014/7263)<br>• Regional Rail Link Section 1 (EPBC 2011/6015)<br>• Williams Landing Railway Station Development (EPBC 2010/5464)<br>• Caroline Springs Railway Station Development (EPBC 2010/5463)<br>• Cardinia Road Railway Station Development (EPBC 2010/5462)<br>• South Morang Rail Extension Project (EPBC 2010/5313). | ✓ | |

# 8 Information sources and attachments

(For the information provided above)

## 8.1 References


AECOM. 2014. Mernda and Yan Yean – flora and fauna assessment. Prepared for VicTrack by AECOM, January 2014.

Barker J., Grigg G.C. and Tyler M.J. 1995. *A Field Guide to Australian Frogs*. Surrey Beatty and Sons. Chipping Norton.

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Carter, O. and Sutter, G. 2010. National Recovery Plan for the Clover Glycine. Department of Sustainability and Environment, Victoria.

Clemann, N. and Gillespie, G.R. 2012. National Recovery Plan for the Southern Bell Frog **L***itoria raniformis*. Department of Sustainability and Environment, Melbourne.

DEC. 2005. Southern Bell Frog (*Litoria raniformis*) Draft Recovery Plan. Available online at: www.environment.nsw.gov.au/resources/nature/recoveryplanDraftSouthernBellFrog.pdf

DELWP. 2015. Victorian Biodiversity Atlas. Administered by the Department of Environment, Landscape, Water and Planning.

DEPI. 2013. Permitted clearing of native vegetation – biodiversity assessment guidelines. Victorian Government Department of Environment and Primary Industries, Melbourne, September 2013.

DEWHA 2010. Survey guidelines for Australia's threatened bird. Guidelines for detecting birds listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999. Department of Environment, Water, Heritage and the Arts, Canberra, ACT.

DoE. 2013. Matters of National Environmental Significance, Significant impact guidelines 1.1, Environment Protection and Biodiversity Conservation Act 1999, Department of the Environment, Australian Government, Canberra DoE. 2015. EPBC Act Protected Matters Search Tool. Accessed 16 June 2015.

DPI. 2001. Swift Parrot Recovery Plan. Department of Primary Industries, Water and Environment, Tasmania Swift Parrot Recovery Team

DSE. 2004. Native Vegetation: Vegetation Gain Approach – technical basis for calculating gains through improved native vegetation management and revegetation. Department of Sustainability and Environment, State of Victoria.

DSE. 2006. Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978. Department Sustainability and environment, State of Victoria.

DSE. 2007. 2007 EVC Bioregional Conservation Status, Tenure and Depletion Statement for Victoria. Excel Spreadsheet, Department of Sustainability and Environment. Melbourne.

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DTPLI. 2015. Planning Maps online. Available at http://services.land.vic.gov.au/maps/pmo.jsp. Victorian Department of Transport Planning and Local infrastructure, February 2015.

EHP. 2014. Preliminary Flora and Fauna Assessment, South Morang to Mernda Rail Extension (Ecology and Heritage Partners, September 2014).

EP. 2007a. Epping to Mernda, Ecology Partners, March 2007 Targeted Matted Flax-Lily *Dianella amoena* and Growling Grass Frog Litoria Raniformis

EP. 2007b. Surveys for the Proposed Whittlesea Transit Corridor, Epping Station to Mernda, Ecology Partners, February 2007

FFGSAC. 2013. Flora and Fauna Guarantee Act 1988 – Threatened list – Characteristics of threatened Communities. FFG Scientific Advisory Committee

GHD AECOM. 2016a. Mernda Rail Extension Project Ecological Assessment. Prepared for Level Crossing Removal Authority by GHD AECOM, March 2016

GHD AECOM. 2016b. Mernda Rail Extension Project Matted Flax-lily Translocation Plan. Prepared for Level Crossing Removal Authority by GHD AECOM, March 2016.

GHD AECOM. 2016c. Preliminary Groundwater Impact Assessment. Prepared for Level Crossing Removal Authority by GHD AECOM, March 2016.

Saunders, D.L. and Tzaros, C.L. 2011. National Recovery Plan for the Swift Parrot Lathamus discolor, Birds Australia, Melbourne

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TSSC. 2012. Commonwealth Listing Advice on Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plain, Threatened Species Scientific Committee, Australian Government, Canberra.

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Vincent Clark & Associates. 2016. Mernda Rail Extension Project – Historical Archaeology Survey. Prepared for Level Crossing Removal Authority by Vincent Clark & Associates, Draft - March 2016

Vincent Clark & Associates. 2016. Mernda Rail Extension Project Cultural Heritage Management Plan (no 13635). Prepared for Level Crossing Removal Authority by Vincent Clark & Associates, 2016

Walsh, N and Entwisle, T. 1996. *Flora of Victoria Volumes 1-4,* Inkata Press, Melbourne.

## 8.2 Reliability and date of information

All information contained within this referral is provided on the basis that it is considered reliable and factual.

## 8.3 Attachments

| | | ✓ attached | Title of attachment(s) |
|---|---|---|---|
| **You must attach** | figures, maps or aerial photographs showing the project locality (section 1) | ✓ | Figure 1: Mernda Rail Extension project area<br>Attachment 1: Mernda Rail Extension Project bounding coordinate map and GIS file |
| | GIS file delineating the boundary of the referral area (section 1) | | |
| | figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3) | ✓ | Attachment 2: Mernda Rail Extension Project Ecological Assessment (GHD AECOM, 2016) |
| **If relevant, attach** | copies of any state or local government approvals and consent conditions (section 2.5) | | |
| | copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6) | | |
| | copies of any flora and fauna investigations and surveys (section 3) | ✓ | Attachment 2: Mernda Rail Extension Project Ecological Assessment (GHD AECOM, 2016a) |
| | technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4) | ✓ | Attachment 2: Mernda Rail Extension Project Ecological Assessment (GHD AECOM, 2016a)<br>Attachment 3: Matted flax-lily Translocation Plan (GHD AECOM, 2016b) |
| | report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3) | | |

# 9 Contacts, signatures and declarations

**Project title:** Mernda Rail Extension Project

### 9.1 Person proposing to take action

| | |
|---|---|
| 1. Name and Title: | Kevin Devlin, Chief Executive Officer |
| 2. Organisation (if applicable): | Level Crossing Removal Authority |
| 3. EPBC Referral Number (if known): | |
| 4: ACN / ABN (if applicable): | 69 981 208 782 |
| 5. Postal address | GPO Box 4509m Melbourne VIC 3001 |
| 6. Telephone: | 03 9027 5222 |
| 7. Email: | kevin.devlin@levelcrossings.vic.gov.au |
| 8. Name of designated proponent (if not the same person at item 1 above and if applicable): | |
| 9. ACN/ABN of designated proponent (if not the same person named at item 1 above): | |

**COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE**

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

□ an individual; OR

□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

□ not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

**COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER**

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on

□ not applicable.

| | |
|---|---|
| which the waiver is sought and the reasons why it should be made: | |
| Declaration | I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.<br>I understand that giving false or misleading information is a serious offence.<br>I agree to be the proponent for this action.<br>I declare that I am not taking the action on behalf of or for the benefit of any other person or entity. |
| Signature |  Date 24/3/2016 |

**9.2 Person preparing the referral information (if different from 8.1)**

Individual or organisation who has prepared the information contained in this referral form.

| | |
|---|---|
| Name | |
| Title | |
| Organisation | |
| ACN / ABN (if applicable) | |
| Postal address | |
| Telephone | |
| Email | |
| Declaration | I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.<br>I understand that giving false or misleading information is a serious offence. |
| Signature | Date |

# REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

**HAVE YOU:**

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than three megabytes (3mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)?

**Attachment A**

## Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipeline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. (http://www.anzlic.org.au/policies_guidelines#guidelines).

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

All data will be provide under a Creative Commons license (http://creativecommons.org/licenses/by/3.0/au/)