LEVEL CROSSING REMOVAL PROJECT | NORTH WESTERN PROGRAM ALLIANCE

February 2025

# Brunswick Level Crossing Removal Project.

## *Environment Effects Act 1978* Referral

## Flora and Fauna Assessment Report

VICTORIA State Government

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# Revision and Distribution

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| Rev | Date | Issue purpose | Comments |
|---|---|---|---|
| **A** | 08/12/2023 | Draft | |
| **B** | 20/05/2024 | Draft | |
| **C** | 18/07/2024 | Draft | |
| **D** | 20/09/2024 | Draft | |
| **E** | 7/11/2024 | Draft | |
| **F** | 13/02/2025 | Final | |

# Executive Summary

The Level Crossing Removal Project (LXRP) has undertaken a Flora and Fauna Assessment for the Brunswick Level Crossing Removal Project (the Project). This report provides an assessment of the nature and scale of potential impacts to ecological matters to inform the Project referral under the *Environmental Effects Act 1978* (EE Act). The Project comprises the removal of eight level crossings throughout the suburbs of Parkville (City of Melbourne) and Brunswick (City of Merri-bek) from Albion Street to Park Street.

The impacts of the Project are considered likely to meet the following two 'combined referral criteria' for a referral under the EE Act:

1. Potential for significant effects on the amenity of a substantial number of residents, due to extensive or major, long-term changes in visual, noise and traffic conditions.
2. Potential for extensive or major effects on cultural heritage places and sites listed on the Victorian Heritage Register or the Victorian Heritage Inventory under the *Heritage Act 2017*.

No criteria relating to ecological matters are triggered.

The Referral Project Area (RPA) as defined for the Project (see Appendix A) extends approximately 3.8 kilometres along the Upfield rail line from approximately 450 meters west of Royal Park Station in the south to Moreland Road in the north. The RPA includes sections of Royal Park, private properties, residential and arterial roads, and a section of Clifton Park in Brunswick. Surrounding land uses include public open spaces, rail reserves, public roads, Melbourne Zoo, and industrial and residential land.

A Vegetation Quality Assessment (VQA) was undertaken in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation (the Guidelines) (DELWP, 2017)* and habitat hectare method (DSE, 2004) to identify patches of native vegetation and scattered trees. The field assessment identified a total of 1.64 hectares of native vegetation, including 26 patches of native vegetation (approximately 0.98 hectares), along with 19 native scattered trees (approximately 0.66 ha) (see Appendix B). Impacts to native vegetation will require approval under the *Planning and Environment Act 1987 (P&E Act*).

Potential habitat for Swift Parrot (*Lathamus discolor*), Grey-headed Flying-fox (*Pteropus poliocephalus)* and Gang-gang Cockatoo *(Callocephalon fimbriatum*), all listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Flora and Fauna Guarantee Act 1998* (FFG Act), was observed within Royal Park and Brunswick Central Parklands. Suitable habitat for Powerful Owl (*Ninox strenua),* listed under the FFG Act, was observed within Royal Park. Gang-gang Cockatoo's were observed on four occasions during targeted surveys, in vegetation either side of the rail corridor, to the south of Park Street. Grey-headed Flying-fox was observed flying over the RPA, this species use of the RPA is expected to be limited to foraging activities and impacts to their habitat are considered minor No observations of Swift Parrot, Regent Honeyeater or Powerful Owl were recorded within the RPA during targeted surveys.

A Significant Impact Assessment was prepared to investigate whether proposed impacts to Gang-gang Cockatoo would require a referral under the EPBC Act. These impacts are expected to be minor and unlikely to impact the species at a population level. A referral under the EPBC Act is not recommended.

Fragrant Saltbush (Vulnerable), listed under the FFG Act, were recorded within the RPA during the field survey. These individuals were identified as planted from nursery stock and therefore, an FFG Act 'permit to take' is not required.

Several noxious weeds were observed during the field assessment. Under the provisions of the *Catchment and Land Protection Act 1994* (CaLP Act), noxious weeds need to be managed and controlled to avoid their dispersal.

A list of recommendations to be implemented during the development and delivery phase have been included to minimise the risk and impacts to the ecological values present within the RPA.

# 1. Introduction

## 1.1 Project description

The North Western Program Alliance (NWPA), consisting of the Level Crossing Removal Project (LXRP), Metro Trains Melbourne (MTM), John Holland Group (JHG) and Kellogg Brown & Root (KBR), is undertaking due diligence assessments for the Brunswick Level Crossing Removal Project (the Project), currently in the development phase. The Project is located on the Upfield rail line, approximately six kilometres north of the Melbourne Central Business District (CBD) within the northern boundary of the City of Melbourne and the southern boundary of City of Merri-bek local government areas (LGAs).

The Project comprises the removal of the following eight level crossings in Parkville (City of Melbourne) and Brunswick (City of Merri-bek):

- Albion Street, Brunswick.
- Hope Street, Brunswick
- Victoria Street, Brunswick
- Albert Street, Brunswick
- Dawson Street, Brunswick
- Union Street, Brunswick
- Brunswick Road, Brunswick
- Park Street, Parkville

The Project will replace the existing Anstey, Brunswick and Jewell Stations, and construct two new stations within the City of Merri-bek. The preferred solution for the Project is rail bridge over the road, with a rail bridge to be constructed over the level crossings previously listed. The Project will deliver separated cycling and pedestrian paths between Park Street and Moreland Road. The paths will connect into the existing separated path network from Bell Street and east west streets. South of Park Street the paths will connect into the Upfield bike path and Capital City Trail.

## 1.2 Purpose and Objectives

The purpose of this report is to record any threatened flora, fauna and/or potential habitat, ecological communities and native vegetation present within the RPA, and to identify impacts to these values. This information will be used within the Project's EE Act referral and to inform and provide ecological advice to determine further approval and permit requirements. This analysis includes a desktop assessment supported by field survey to verify environmental and ecological values identified in the desktop assessment. This report will determine the Project's potential impacts in relation to the following items:

- Determine whether a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is required
- Determine whether a referral under the *Environment Effects Act 1978* (EE Act) is required for ecological matters
- Determine whether an application for a permit under the *Flora and Fauna Guarantee Act 1998* (FFG Act) is required
- Determine approvals required under the *Planning and Environment Act 1987* (P&E Act)
- Determine the need for vegetation offsets under the *Guidelines for removal, destruction and lopping of native vegetation (Department of Energy, Land, Water and Planning (*DELWP), 2017) (the Guidelines)
- Determine construction requirements in relation to environmental impact mitigation
- Determine construction requirements in relation to weed and pest management under the *Catchment and Land Protection Act 1994* (CaLP Act)
- Detail mitigation measures to be undertaken by the Project to mitigate environmental impacts

## 1.3 Referral Project Area

The Referral Project Area (RPA), as defined for the Project (see Appendix A), extends approximately 3.8 kilometres along the Upfield rail line from approximately 450 meters west of Royal Park Station in the south to Moreland Road in the north. The RPA includes sections of Royal Park, private properties, residential and arterial roads, such as Sydney Road, Moreland Road and Brunswick Road, and a section of Clifton Park in Brunswick. Surrounding land uses included public open spaces, rail reserves, public roads, Melbourne Zoo, and industrial and residential land.

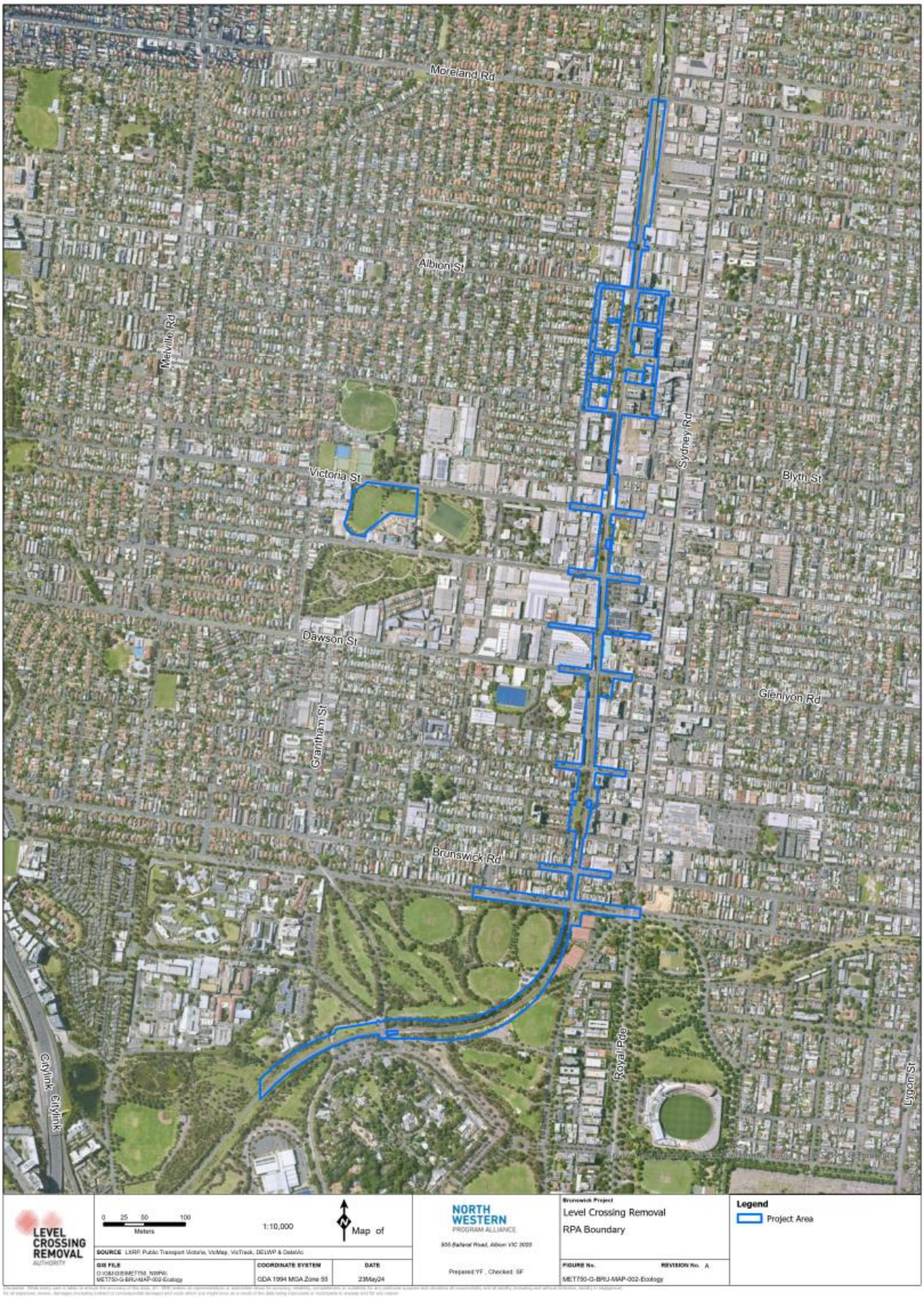


*Figure 1 RPA boundary*

# 2. Review of background documents

A literature review of documents relevant to ecological matters was conducted during the desktop assessment to provide historical context of the site and gather information regarding potential flora and fauna located within the RPA.

**Royal Park Master Plan (Melbourne City Council, 1998).**

The 1984 Royal Park Master Plan established a series of objectives to provide a guide for the long-term development and management of Royal Park. The main purpose of the updated Royal Park Master Plan 1998 is to recreate the original Australian landscape character of the park and enhance the already existing natural and ecological values of the area. This includes landforms, expansive grasslands and tree forms and silhouette (Melbourne City Council, 1998).

Remnants of indigenous vegetation are still present within the park. Extensive restoration and revegetation initiatives have been implemented over the last few decades to recreate a pre-European landscape comprised of grassy open woodlands, native grasslands and wetlands that act as a wildlife corridor and network.

**Linking Melbourne Authority-East West Link Project Eastern Section Preliminary Flora and Fauna Assessments (Parsons Brinkerhoff, 2013).**

This flora and fauna assessment was conducted across multiple inner northern suburbs of Melbourne, generally between the Eastern Freeway from Yarra Bend to Moreland Road in the north and the Port of Melbourne in the south-west. The assessment found limited native vegetation within Royal Park, noting that the area predominantly comprised planted vegetation with some native grasses. The assessment identified four species listed under the EPBC Act that may occur or are known to utilise habitat resources within the Project Area:

- Australian Grayling
- Grey-headed Flying-fox
- Macquarie Perch
- Swift Parrot.

All four species were considered during the field assessment, including any potential habitat or likely presence of these targeted species. It was determined by Parsons Brinkerhoff (2013) that due to the location, habitat quality and type of habitat potentially to be impacted by the then proposed East West Link Project, all four species listed above were deemed to not be at risk of a significant impact.

**Level Crossing Removal Authority- Bell/ Moreland, Flora and Fauna Assessment (AECOM GHD Joint Venture, 2018).**

This flora and fauna assessment was conducted between Hope Street, Brunswick in the south to Charles Street, Coburg in the north. The assessment found limited ecological values within this area due to a heavily modified and degraded urban and industrial setting. The majority of native vegetation patches and scattered trees were planted for amenity purposes, except for one remnant scattered tree located on the corner of Pentridge Boulevard and Champ Street (Coburg).

It was determined that the Investigation Area was unlikely to support any suitable habitat for threatened flora and fauna. However, EPBC Act listed species such as Grey-headed Flying-fox and Swift Parrot had a moderate to low likelihood to use the area as a foraging ground. The assessment determined that the Project is not likely to significantly impact these species.

**Brunswick Level Crossing Removal Project Flora and Fauna Assessment Report (NWPA, 2022).**

The Brunswick Level Crossing Removal Project Flora and Fauna Assessment Report was completed in 2022. This assessment consisted of a desktop assessment, field survey, likelihood of threatened species occurrence and recommendations for further investigations. The report identified several threatened species that occur within the larger 'Investigation Area', including Matted Flax-lily (*Dianella ameona*), and potential habitat for multiple threatened birds. The report recommended that targeted surveys should be completed to determine whether the 'Investigation Area' is used by the threatened bird species.

**Brunswick Level Crossing Removal Project Threatened Bird Targeted Survey Report (NWPA, 2023).**

Following the identification of suitable habitat areas within the Investigation Area during the Brunswick Level Crossing Removal Project Flora and Fauna Assessment Report (NWPA 2022), targeted surveys for Swift Parrot, Regent Honeyeater, Gang-Gang Cockatoo and Powerful Owl were undertaken in 2022 and 2023.

Diurnal species surveys consisted of two suitably qualified ecologists walking the area on foot during the survey guideline window (between March and July) and identifying all bird species observed. Each day the survey effort nominally lasted for

two hours, for a total of 20 hours as per the survey guidelines for Australia's threatened birds (DEWHA 2010). There are currently no published guidelines for survey methodology for Gang-gang Cockatoo so recommended survey guidelines for similar cockatoo species were used to determine suitable survey effort. Powerful Owl surveys were conducted over five nights in 2022 and 2023, using a combination of call playback and spotlight searches.

No observations of Swift Parrot, Regent Honeyeater, or Powerful Owl were recorded during the targeted surveys. Grey-headed Flying-fox was observed flying over the Investigation Area during this assessment. Gang-gang Cockatoo were observed a total of 14 times in 2023. The report recommended that a Significant Impact Assessment should be undertaken.

**Gang-gang Cockatoo Significant Impact Assessment (NWPA 2024)**

A Gang-gang Cockatoo Significant Impact Assessment (NWPA 2024) was completed to investigate whether the proposed impacts would trigger the need for an EPBC Act referral. A desktop assessment for the Gang-gang Cockatoo was undertaken to understand the local occurrence of the species within or adjacent to the RPA. Background research was conducted to determine the foraging and habitat preferences throughout the surrounding region.

The desktop assessment included searches of the PMST and VBA, in addition to the eBird database (maintained by the Cornell Lab of Ornithology), which was reviewed for Gang-gang Cockatoo records within a five km buffer of the RPA. The DEECA NatureKit was also reviewed, using the Victorian Landcover and Habitat Distribution Model (HDM) layers to estimate suitable habitat for the species in the area surrounding the RPA. Native treed vegetation, scattered native trees and native shrubland were all assumed to be potential habitat. All other landcover was assumed to not be suitable Gang-gang Cockatoo habitat.

Arboricultural surveys were undertaken throughout the RPA in 2023. This data has been utilised to identify suitable habitat trees for Gang-gang Cockatoo. Tree genera and species known to be utilised by Gang-gang Cockatoos for foraging were identified using the arborist data to determine proposed impacts to the species.

Based on this desktop assessment, and in addition to the results of the field assessment, the arboriculture surveys and the targeted bird surveys in 2022 and 2023, it was identified that there is suitable habitat for Gang-gang Cockatoo within the RPA. A Significant Impact Assessment for the Project impacts on Gang-gang Cockatoo was carried out in accordance with the *Significant impact guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999* (DoE 2013).

The assessment concluded the Project is not expected to constitute a significant impact under the EPBC Act, and a referral is therefore not required. Further detail on this assessment is provided in Section 4.6.2

# 3. Methodology

This ecology report comprises three components:

1. A desktop assessment of available databases, policies, and reports
2. A summary and update to the field assessment of the RPA
3. The reporting of findings, including mapping, and advice as to implications for potential approvals under State and Commonwealth environmental legislation

## 3.1 Desktop assessment

A updated desktop review of online databases, previous reports and relevant legislation and policy, was undertaken to identify the potential presence of flora and fauna species, as well as communities of conservation significance within the RPA.

Databases reviewed include:

- Department of Climate Change, Energy, the Environment and Water (DCCEEW) EPBC Act Protected Matters Search Tool (PMST) (DCCEEW, 2024), within five kilometres to identify occurrence of listed Matters of National Environmental Significance (MNES). PMST accessed on 11th September 2024. The full PMST results are shown in Appendix C.
- Department of Energy, Environment and Climate Action (DEECA) EnSym Native Vegetation Regulations Tool (DEECA 2023a) for native vegetation databases and offset requirements
- DEECA NatureKit (DEECA 2023b) bioregion location, modelled Ecological Vegetation Class (EVC) distribution and bioregional conservation status
- DEECA Victorian Biodiversity Atlas (DEECA 2023c) (VBA), within five kilometres for previous protected species records. Accessed 22nd October 2024. The mapped distribution of VBA records are shown in Appendix D.

## 3.2 Vegetation and Habitat Field Assessment

The field assessment was completed in five stages throughout May - December 2022 in line with seasonal requirements (NWPA 2022). The assessment was conducted by two ecologists and included:

- A Vegetation Quality Assessment (VQA) in accordance with the Guidelines (DELWP, 2017a) and habitat hectare method (DSE, 2004).
- Identification of native vegetation patches and scattered trees
- Identification of threatened flora, fauna and/or threatened ecological communities
- Identification of potential habitat for threatened fauna
- Identifying the presence of weeds declared under the CaLP Act.

Values were recorded using a hand-held Global Positioning System (GPS) device to map the location and condition score of these values.

### 3.2.1 Native vegetation mapping and Vegetation Quality Assessment

The Guidelines are incorporated into the Victoria Planning Provisions and all planning schemes in Victoria. They set out the application of Victorian planning policy concerning the assessment and compensation for the removal, destruction or lopping of native vegetation. Where patches of native vegetation were present, a habitat hectare assessment was completed using the Guidelines (DELWP, 2017a) and the VQA Manual – Guidelines for applying the habitat hectares scoring method (DSE, 2004). Any vegetation that qualified as scattered tree within the RPA was assessed, measured and mapped accordingly (NWPA 2022).

The Guidelines classify native vegetation as a native vegetation patch or a scattered tree.

Native vegetation is defined as:

- plants that are indigenous to Victoria, including tree, shrubs, herbs and grasses (DELWP, 2017a).

A patch of native vegetation (quantified in hectares) is defined as:

- *an area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or*

- *any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; or*
- *any mapped wetland included in the current wetlands map* (DELWP, 2017a).

A scattered tree is defined as:

- *a native canopy tree that does not form part of a patch. A native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type (*DELWP 2017a*).*

Planted vegetation may be exempt from requiring a permit under Section 2.22 of the *Exemptions from requiring a planning permit to remove, destroy or lop native vegetation* (DELWP 2017b). This exemptions states that:

- *Native vegetation that is to be removed, destroyed or lopped that was either planted, or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity unless the removal, destruction or lopping of the native vegetation is in accordance with written permission of the agency (or its successor) that provided the funding* (DELWP 2017b).

Planted native vegetation for the Project is defined as:

- *Vegetation and/or trees that follow a liner alignment or regular pattern and spacing, often in respect to the setting (road, carpark and footpath)*
- *Vegetation and/or trees that have a consistent height or similar age class*
- *Vegetation and/or trees that are growing on land that has previously been disturbed or modified, such as raised embankments, footpaths or around train station*
- *Vegetation and/or trees that are located within a species mix with species not indigenous to Victoria or the local area.*

The Guidelines prescribe application of the three-step approach (avoid, minimise, offset) to achieve no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This approach has informed the design of the Project and construction footprint in order to avoid and minimise vegetation removal. For unavoidable vegetation removal, offsets are required to compensate for the loss of native vegetation.

### 3.2.2 Likelihood of occurrence assessment

A likelihood of occurrence assessment was conducted on threatened species identified within the PMST and VBA searches. This assessment considers the habitat requirements of each species against the habitat available in the RPA. A likelihood of occurrence rating is then determined to be either:

- **Known to occur**: The species has been positively recorded within the RPA during the NWPA 2022 field assessment.
- **Likely**: The site provides suitable habitat attributes and there have been recent within 5km of the RPA.
- **Possible**: The site provides some favourable habitat attributes; however, these are of lower quality or other factors are likely to reduce occupancy of species at the site.
- **Unlikely:** The site does not provide suitable habitat for the species or there is only limited possible habitat and there are no records within 5km of the RPA.

### 3.2.3 Offset calculation tool

The DEECA EnSym Native Vegetation Regulations tool is used to test native vegetation clearing and offset requirements (DEECA, 2023a). The tool uses information collected during the native vegetation assessments, as well as the DEECA native vegetation location map, native vegetation condition map, strategic biodiversity value map and habitat importance maps for Victoria's rare or threatened species. The outcome of this assessment is presented in a scenario test - native vegetation removal report and will be conducted once the Project impacts are finalised. A final native vegetation removal report must be obtained to accompany any application for a permit to remove native vegetation.

## 3.3 Assumptions and limitations

The findings of this report are subjected to the following assumptions and limitations:

- The vegetation and habitat assessment is based on surveys conducted for the preparation of NWPA 2022. No additional field assessment has been conducted during the preparation of this report.
- Access to the RMIT University Campus located at 25 Dawson Street in Brunswick was not possible for surveys during 2022. Therefore, the condition and presence of ecological values, including patches of native vegetation, scattered trees, threatened species habitat or noxious weeds have not been confirmed within this area.
- The vegetation assessment was limited to vascular plant species (ferns, conifers and flowering plants). Non-vascular flora, including mosses, liverworts, lichens and fungi have not been considered as part of this assessment.
- Level Crossing Removal Project Threatened Bird Targeted Survey Report (NWPA 2023) covers the RPA outlined in Section 1.3. It does not consider ecological values that are outside the RPA. If the RPA boundary is altered in the future, additional consideration for threatened birds may be required.

# 4. Results

## 4.1 RPA overview

### 4.1.1 Modelled native vegetation

The pre-1750 EVC mapping of the RPA indicates the vegetation community predicted to have occurred prior to European settlement would have been Grassy Woodland (EVC 175) and Plains Grassy Woodland (EVC 55). Creekline Grassy Woodland (EVC 68), Escarpment Shrubland (EVC 895), and Brackish Grassland (EVC 934) were also mapped to the west of the RPA. The RPA crosses two bioregions: the Victorian Volcanic Plain and the Gippsland Plain. The area receives approximately 648 millimetres of rainfall annually (Bureau of Meteorology, 2022). There are no waterways, wetlands or Ramsar listed wetlands within the RPA boundary. The nearest waterway is the Moonee Ponds Creek which is approximately 1.25km southwest of the RPA boundary.

A review of the 2005 EVC mapping with a buffer of five kilometres (see Appendix E), prepared during the initial flora and fauna desktop investigation (NWPA 2022), indicates that the landscape within the RPA has been heavily modified and disturbed (DEECA, 2022b). Therefore, minimal native vegetation from these EVCs is likely to remain within the RPA due to historic clearance for agriculture and urban development. A small area of EVC 175: Grassy Woodland, and a smaller area of EVC 55: Plains Grassy Woodland are mapped to the west of Royal Park Station (Figure 2).

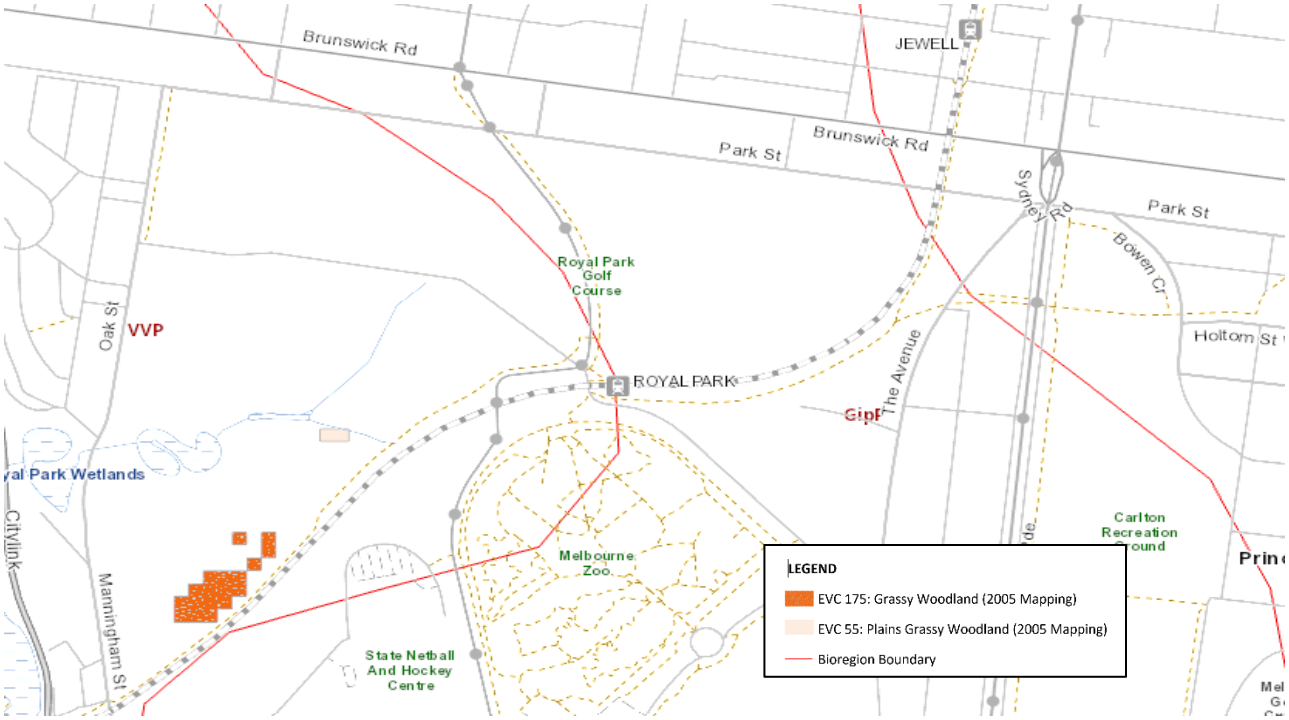


*Figure 2 - Map of predicted existing native vegetation: 2005 Ecological Vegetation Class (DEECA, 2022b)*

### 4.1.2 Description of area north of Park Street

The area located north of Park Street includes the rail corridor, Anstey, Brunswick and Jewell Stations, industrial units, urban parklands, arterial roads and residential streets. The area is characterised by residential, industrial and commercial land uses in a highly urbanised environment. There are no waterways or wetlands within this area.

The overall condition of the native vegetation is poor, with no native vegetation patches recorded in this area. The arterial roads and residential streets are dominated by planted indigenous, native and exotic trees predominately for amenity purposes. The main species recorded are Spotted Gum (*Corymbia maculata*), Lemon Scented Gum (*C. citriodora*), Red Flowering Gum (*C. ficifolia*), Water Gum (*Tristaniopsis laurina*), Red Box (*Eucalyptus polyanthemos)*, Weeping Bottlebrush (*Melaleuca viminalis*), Calgary Pear (*Pyrus calleryana*) and White Cedar (*Melia azedarach*) (Figure 3).

The vegetation observed around Jewell Station comprises several scattered trees (see Appendix B) and native and exotic vegetation planted for amenity purposes (Figure 4). The main species recorded are River Red Gum (*Eucalyptus camaldulensis*), Yellow Box (*E. melliodora*), Yellow Gum (*E. leucoxylon*), Blackwood (*Acacia melanoxylon*), Lightwood (*Acacia implexa*), Black Wattle (*Acacia mearnsii*), Sweet Bursaria (*Bursaria spinosa*), Hop Bush (*Dodonea viscosa*), Rosemary Grevillea (*Grevillea rosmarinifolia*), Rock Correa (*Correa glabra*), Black Anther Flax-lily (*Dianella revoluta)*, Hop Goodenia *(Goodenia ovata*), Austral Indigo (*Indigeofera australis),* Fragrant Saltbush (*Rhagodia parabolica*), Common Tussock-grass (*Poa labillardieri*), Spiny-head Mat-rush (*Lomandra longifolia*) and Pigface (*Carpobrotus glaucescens*). Planted trees consisting predominately of River Red Gum were observed along the rail corridor between Park Street and Hope Street (Figure 5).

*Figure 3 Planted vegetation next to Brunswick Station (left) and scattered tree (right) in the vicinity of Jewell Station.*

Figure 5 Planted Red Box's in residential streets in the vicinity of Anstey Station.

*Figure 4 Planted vegetation along the rail corridor.*

### 4.1.3 Description of area south of Park Street

The area located south of Park Street includes Royal Park, the rail corridor, Royal Park Station, a section of the Capital City Trail, a car park and the substation on the corner of Park Street. This area contains the highest ecological values and habitat connectivity within the RPA. There are no waterways or wetlands within this area.

The overall condition of the native vegetation within Royal Park is very high, consisting predominantly of planted indigenous vegetation for biodiversity purposes. The main tree species recorded are River Red Gum, Spotted Gum, Lemon Scented Gum Sugar Gum, Drooping Sheoak (*Allocasuarina verticillata*), Silver Wattle, Black Wattle and Lightwood.

*Figure 6 - Patch of native vegetation in Royal Park (left) and Sugar Gums south of Park Street (right)*

## 4.2 Native vegetation patches

Twenty-six patches of native vegetation, comprising 0.98 ha, were recorded within the RPA (see Appendix B). These patches are consistent with the DEECA benchmark of EVC 175: Grassy Woodland, across both the Victorian Volcanic Plain and the Gippsland Plain Bioregions.

Grassy Woodland (EVC 175) generally occurs on moderately fertile soils on gentle slopes on a range of geologies. It is characterised by an open eucalypt woodland to 15 metres tall, or a sheoak/acacia woodland to ten metres tall over a diverse and rich ground layer of herbs and grasses.

All patches of native vegetation recorded within the RPA were deemed to have been planted for biodiversity purposes, as the purpose of the 1984 Royal Park Master Plan is to recreate the pre-European Australian landscape and enhance the existing ecological values (Melbourne City Council, 1998). These patches of native vegetation have been planted since 1997 with species indigenous to the area (Melbourne City Council, 1998), that are characteristic of EVC 175: Grassy Woodland.

These patches of native vegetation are comprised of a canopy layer dominated by River Red Gum, Yellow Box and Red Ironbark, over a mid-storey including Lightwood, Golden Wattle (*Acacia pycnantha*), Gold Dust Wattle (*Acacia acinaceae*), Drooping Sheoak, Fragrant Saltbush, Seaberry Saltbush (*Rhagodia candoleana*) and Sifton Bush (*Cassinia sifton*).

The understorey is comprised predominantly of Native Bluebell (*Whalenbergia sp*.), Small-leaved Clematis (*Clematis microphylla*), Pigface, several species of flax lilies including Black Anther Flax-Lily, Small-flowered Flax-Lily (*Dianella brevicalis*) and Late-flowered Flax-Lily (*Dianella tarda*), and several species of native lilies including Chocolate Lily (*Arthropodium strictum*), Bulbine Lily (*Bulbine bulbosa*) and Pale Vanilla-Lily (*Arthropodium milleflorum*), as shown in Figure 6.

The results of the VQA assessment on all patches of native vegetation are included in Appendix F.

## 4.3 Scattered trees

A total of 19 scattered trees, equivalent to approximately 0.66 hectares were recorded within the RPA. These details are displayed in Table 2 and the locations are shown in Appendix B.

*Table 1 Details of scattered trees between Park Street and Moreland Road*

| Tree ID | Common Name | Scientific Name | Diameter at breast height (cm) | Tree Protection Zone (m)* | Tree Size |
|---|---|---|---|---|---|
| **2** | Yellow Gum | *Eucalyptus leucoxylon* | 15 | 2 | Small |
| **3** | Swamp Gum | *Eucalyptus ovata* | 87 | 10.44 | Large |
| **5** | Yellow Gum | *Eucalyptus leucoxylon* | 12 | 2 | Small |
| **6** | Drooping Sheoak | *Allocasuarina verticillata* | 74 | 8.88 | Large |
| **21** | River Red Gum | *Eucalyptus camaldulensis* | 96 | 11.52 | Large |
| **25** | Yellow Box | *Eucalyptus melliodora* | 95 | 11.4 | Large |
| **30** | Yellow Box | *Eucalyptus melliodora* | 68 | 8.16 | Small |
| **45** | River Red Gum | *Eucalyptus camaldulensis* | 11 | 2 | Small |
| **50^** | River Red Gum | *Eucalyptus camaldulensis* | 114 | 13.68 | Large |
| **83** | River Red Gum | *Eucalyptus camaldulensis* | 76 | 9.12 | Large |
| **87** | River Red Gum | *Eucalyptus camaldulensis* | 20 | 2.4 | Small |
| **89** | Manna Gum | *Eucalyptus viminalis* | 51 | 6.12 | Small |
| **95** | River Red Gum | *Eucalyptus camaldulensis* | 95 | 11.4 | Large |
| **102** | Yellow Box | *Eucalyptus melliodora* | 4 | 2 | Small |
| **104** | River Red Gum | *Eucalyptus camaldulensis* | 15 | 2 | Small |

| Tree ID | Common Name | Scientific Name | Diameter at breast height (cm) | Tree Protection Zone (m)* | Tree Size |
|---|---|---|---|---|---|
| **109** | River Red Gum | *Eucalyptus camaldulensis* | 5 | 2 | Small |
| **110** | Manna Gum | *Eucalyptus viminalis* | 49 | 4.8 | Small |
| **215** | Yellow Box | *Eucalyptus melliodora* | 5 | 2 | Small |
| **216** | Black Wattle | *Acacia mearnsii* | 18 | 2 | Small |

**** TPZ minimum is 2m. TPZ maximum is 15m***

***^ Tree contains hollows***

## 4.4 Threatened Ecological Communities

The PMST returned six potential Threatened Ecological Communities (TEC's), four of which are known or likely to occur in the area:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain (Critically Endangered)
- Natural Temperate Grassland of the Victorian Volcanic Plain (Critically Endangered)
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critical Endangered)
- Subtropical and Temperate Coastal Saltmarsh (Vulnerable)

EVC 175: Grassy Woodland was the only EVC identified during the field assessment. The floristic community associated with this EVC does not align with any of the TEC's listed above. None of the TEC's were identified within the RPA.

## 4.5 Threatened and Protected Flora

The PMST identified 16 threatened flora species, of which 8 are classified as 'known' or 'likely' to occur within the RPA. The only known flora species is the Matted Flax-lily (*Dianella amoena*). A search of VBA records returned several flora species, with none recorded within the RPA. A large proportion of VBA records are recorded from along nearby waterways and grasslands located north of the RPA. Many of the threatened flora species are unlikely to occur within the RPA due to a lack of suitable habitat.

### 4.5.1 Threatened Flora Likelihood of occurrence

The likelihood of occurrence of threatened flora was implemented for the species returned by the PMST and the VBA. The majority of threatened flora species were considered to be unlikely within the RPA, due to the modified and urban setting of the area. The RPA contains five species that are known to be present. The 'known to occur' species are all deemed to have been planted vegetation and therefore a 'permit to take protected flora' does not apply to these individuals. Twenty-three species are considered unlikely to occur due to the lack of observations during the field assessment. A summary of the likelihood of occurrence assessment is presented in Table 3 below, with the full results of the assessment presented in Appendix G.

*Table 2 - Overview of the Threatened Flora Likelihood of Occurrence Assessment*

| | Known to Occur | Likely | Possible | Unlikely |
|---|---|---|---|---|
| **Flora** | **Planted specimens**<br>Fragrant Saltbush<br>Giant Honey Myrtle<br>Melbourne Yellow Gum<br>Southern Blue Gum<br>Spotted Gum | None | None | 23 species |

### 4.5.2 Matted Flax-lily

A small population of the EPBC Act and FFG Act listed Matted Flax-Lily are known to occur near the RPA. Initial flora surveys identified three Matted Flax-lily near the rail corridor, approximately 100m south of the southernmost section of the RPA boundary (NWPA 2022). This area contains higher quality vegetation and will not be impacted by the Project works. No Matted Flax-lily were identified within the RPA during flora surveys and this species is therefore considered 'unlikely' to occur within the RPA.

## 4.6 Threatened Fauna

### 4.6.1 Likelihood of occurrence - Threatened Fauna

The likelihood of occurrence of threatened fauna was implemented for the species returned by the PMST and the VBA. Marine species have not been included within the likelihood of occurrence table as suitable habitat is not present within the RPA.

The majority of threatened flora and fauna species, and migratory species were considered to be unlikely within the RPA, due to the modified and urban setting of the area. The RPA, particularly within Royal Park was considered to potentially provide habitat for seven fauna species. A summary of the likelihood of occurrence assessment is presented in 5 below and the full results of the assessment are presented in Appendix G.

*Table 3 - Overview of the Threatened Fauna Likelihood of Occurrence Assessment*

| | Known to Occur | Likely | Possible | Unlikely |
|---|---|---|---|---|
| **Fauna** | Gang-gang Cockatoo<br>Grey-headed Flying-fox<br>Little Eagle | Powerful Owl<br>Swift Parrot | Square-tailed Kite<br>Tussock Skink | 43 species |

### 4.6.2 Gang-gang Cockatoo

Gang-gang Cockatoo is listed as Endangered under the EPBC Act and FFG Act. The search of the PMST showed that Gang-gang Cockatoo habitat is known to occur within a 5km buffer of the RPA. The search of the VBA showed nine records of Gang-gang Cockatoo within a five km buffer over the last 30 years, none of these are located within the RPA. The NatureKit 2.0 Habitat Distribution Model (HDM) for the Gang-gang Cockatoo, showed no suitable habitat within the RPA north of Park Street, and low suitability within the RPA south of Park Street.

Gang-gang Cockatoo are mostly found at higher elevations near the Great Dividing Range, where they breed in tree-hollows. During the autumn and winter months, they generally undertake a seasonal migration to lower altitudes to feed, mainly on seeds of native and introduce species with a preference for *Eucalyptus*, *Acacia* and introduced *Crataegus* species (Birdlife Australia, 2022). There are currently no survey guidelines for Gang-gang Cockatoo; however, their preference for *Eucalyptus* and *Acacia* as a food source indicates that there may be suitable habitat for the species within the RPA.

The Conservation Advice for Gang-gang Cockatoo states that all foraging habitat during both the breeding and non-breeding season is considered critical habitat, but does not include exotic feeding grounds, such as ornamental trees, shrubs and hedges within urban and suburban areas (DCCEEW, 2022b). Tree species specifically identified within the Conservation

Advice (DAWE 2022) and trees indigenous to the species distribution (including planted trees) have been considered critical foraging habitat.

Targeted surveys were conducted for this species during winter in 2022 and 2023. No Gang-gang Cockatoo were observed during the targeted survey in 2022. Gang-gang Cockatoo individuals were observed on four occasions as shown in Table 4.

*Table 4 Gang-gang Cockatoo observations.*

| Survey date | Comments |
|---|---|
| **18 July 2023** | Two male and two female, located north of Royal Park Station. Observed feeding on Gungurru (*Eucalyptus caesia*), Cotoneaster and African Boxthorn (*Lycium ferocissimum*). |
| **19 July 2023** | Two male and two female, located in a stand of Sugar Gum to the north of Royal Park Station. |
| **21 July 2023** | Approximately four individuals were heard calling near the north of Royal Park Station. |
| **27 July 2023** | One adult female and one juvenile male, located in Sugar Gums south of Park St to the west of the rail reserve. |

It is not possible to know if the sightings were of the same individuals or different groups.

After presence of Gang-gang Cockatoo was confirmed, a Significant Impact Assessment (SIA) was conducted to determine whether the Project would trigger a referral under the EPBC Act. Proposed impacts to Gang-gang Cockatoo and their habitat is expected to be limited. The impact is measured at 0.63 ha of suitable predicted habitat, representing approximately 1.95% of the surrounding suitable habitat (NWPA 2024). These impacts will be further reduced where practicable and the Project has largely avoided impacts to the higher-quality habitat throughout Royal Park. The impacts are limited to lower quality habitat and are not expected to be important, notable, or of consequence to the Gang-gang Cockatoo, having regard to their context or intensity. The proposed action is not expected to constitute a significant impact under the EPBC Act, and a referral is not required (NWPA 2024).

### 4.6.3 Swift Parrot

Swift Parrot is listed as Critically Endangered under the EPBC Act and FFG Act. The search of the PMST showed that Swift Parrot habitat is known to occur within the feature area. The search of the VBA showed 26 records of Swift Parrot within a five km buffer over the last 30 years, none of these are located within the RPA. The NatureKit 2.0 Habitat Distribution Model (HDM) for the Gang-gang Cockatoo, showed no suitable habitat within the RPA.

Habitat within the RPA does not present suitable breeding habitat, as Swift Parrot breed only in Tasmania (Saunders and Tzaros, 2011). This species utilises flowering eucalypts during the winter months as a food source and disperse to follow this resource. The vegetation within the RPA provides suitable foraging habitat, however this is expected to be of lower quality due to increased competition with other urban birds and the negative effects associated with being located within an urban area. Despite a number of recent VBA records nearby, the targeted surveys in 2022 and 2023 did not detect Swift Parrot in the RPA. This suggests that the habitat within the RPA does not represent core foraging habitat and is likely to only be used opportunistically.

### 4.6.4 Grey-headed Flying-fox

Grey-headed Flying-fox is listed as Vulnerable under the EPBC Act and FFG Act. The search of the PMST showed that Grey-headed Flying-fox foraging, feeding or related behaviour is known to occur within the feature area. The search of the VBA showed 293 records of Grey-headed Flying-fox within a five km buffer over the last 30 years, none of these are located within the RPA.

Grey-headed Flying Fox is considered a highly mobile species that forages over a large area. This species was observed flying over the RPA during Powerful Owl surveys, however, there is no critical roosting habitat within the RPA. The nearest camp is located at Yarra Bend Park, approximately 5km east. The RPA is located within a highly urbanised area and is only expected to provide minor foraging opportunities for the species within the broader landscape. Impacts to Grey-headed Flying-fox are expected to be minor and the species has not been further considered for this reason.

### 4.6.5 Powerful Owl

Powerful Owl (*Ninox strenua)* is listed as Vulnerable under the FFG Act. The search of the VBA showed 46 records of Powerful Owl within a five km buffer over the last 30 years, none of these are located within the RPA.

Suitable habitat was also recorded for Powerful Owl in the form of large eucalypts and exotic trees with a dense and compact canopy, which it uses to roost. No trees were observed which contained hollows of a suitable size that Powerful Owl would utilise them for breeding.

Suitable habitat for FFG Act listed Powerful Owl was observed within Royal Park. Targeted surveys undertaken in 2022 and 2023 throughout the RPA did not detect this species.

### 4.6.6 Little Eagle

Little Eagle (*Hieraaetus morphnoides*) is listed as vulnerable under the FFG Act. The search of the VBA showed 18 records of Little Eagle within a five km buffer over the last 30 years, none of these are located within the RPA.

Little Eagle was observed flying over the site on two occasions. It is unknown whether this was one individual observed on two occasions, or two separate individuals. This species is generally considered to be absent from urbanised areas and no observations of roosting or nesting were recorded within the RPA. Any impacts upon this species or species habitat would not be deemed significant and this species has not been further considered.

### 4.6.7 Square tailed kite

Square-tailed Kite (*Lophoictinia isura)* is listed as Vulnerable under the FFG Act. The search of the VBA showed 16 records of Square-tailed Kite within a five km buffer over the last 30 years, none of these are located within the RPA.

Square-tailed Kites can be found in a variety of habitat, including woodlands and open forests. Suitable habitat may be located within the RPA; however, this is only expected to be used occasionally. Additionally, targeted surveys for threatened birds undertaken in 2022 and 2023 throughout the RPA did not detect this species.

### 4.6.8 Tussock Skink

Tussock Skink (*Pseudemoia pagenstecheri)* is listed as Endangered under the FFG Act. The search of the VBA showed one record of Tussock Skink within a five km buffer over the last 30 years.

Predominantly terrestrial, the Tussock Skink is usually found in grassy, treeless areas, often in association with rocks. The lowland population occurs in grassy ecosystem habitats of the warm temperate zone in the Victorian Volcanic Plain bioregion. All native vegetation patches throughout the RPA are associated with Grassy Woodland EVC and contain a treed canopy; most of the RPA is therefore considered low-quality habitat for Tussock Skinks. However, the species is still considered as possible to occur due to previously having been recorded within similar disturbed urban environments.

### 4.6.9 Regent Honeyeater

Regent Honeyeater is listed as Critically Endangered under both the EPBC Act and FFG Act. The search of the PMST showed that Regent Honeyeater habitat is known to occur within the feature area. The search of the VBA did not show records of this species within a five km buffer over the last 30 years.

This species utilises flowering eucalypts during the winter months as a food source and disperse to follow this resource. Regent Honeyeaters do not use this habitat for breeding, only migratory foraging. The habitat within the RPA was initially considered to potentially provide suitable foraging habitat for the species (NWPA 2022). Targeted surveys undertaken in 2022 and 2023 throughout the RPA did not detect this species.

Further investigation during the preparation of this document concluded that the RPA is unlikely to contain suitable habitat for this species. Regent Honeyeater preferentially utilises box-ironbark assemblages, favouring areas with mature key foraging trees that include *Eucalyptus sideroxlyon, E. melliodora, E. albens, E. leucocylon, E. robusta* and *Corymbia maculata* (DCCEEW 2016). Only four *Eucalyptus melliodora* and two *Eucalyptus leucoxylon* were recorded within the RPA; no other key foraging tree species were recorded within the RPA. There are no recent observations of the species within the Melbourne region, and the closest known Regent Honeyeater breeding area is located approximately 170 kilometres from the RPA. The species is considered unlikely to occur within the RPA.

### 4.6.10 Migratory Species

The PMST identified 35 migratory species, of which 29 are known or likely to occur or have species habitat present in the RPA (Appendix C). Migratory shorebirds and waders have been ruled out from occurring within the RPA due to a lack of suitable habitat. White-throated Needletail and Fork-tailed Swift are high flying species that rarely roost and are considered unlikely to be impacted by proposed Project works. All other migratory species are unlikely to occur within the RPA.

## 4.7 Non-threatened Fauna

Despite the urbanised nature of the RPA, a number of non-threatened fauna species were identified during the field assessment and targeted bird surveys. Many of these species are typically urban-tolerant species, such as Noisy Miner and Rainbow Lorikeet. The complete list of species identified during field assessments and targeted surveys are displayed in Appendix H.

## 4.8 Weeds

No noxious weeds were observed between Park Street and Moreland Road. Several noxious weed species declared under the CaLP Act were identified within the section south of Park Street, see Table 5. These noxious weeds have a high density along the rail corridor between Park Street and Flemington Road (Figure 7).

*Figure 7 Blackberry (left) and Artichoke Thistles (right) observed along the rail corridor in Royal Park.*

*Table 5 Noxious weeds observed from Royal Park to Flemington Bridge Station*

| Common name | Species name | CaLP Act Category |
|---|---|---|
| **African Boxthorn** | *Lycium ferocissimum* | Regionally controlled |
| **Artichoke Thistle** | *Cynara cardunculus* | Regionally controlled |
| **Blackberry** | *Rubus fruticosus* | Regionally controlled |
| **Chilean Needle-grass** | *Nassella neesiana* | Restricted |
| **Fennel** | *Foeniculum vulgare* | Restricted |
| **Opuntia Cacti** | *Opountia monocantha* | Restricted |
| **Spear Thistle** | *Cirsium vulgare* | Regionally controlled |
| **Sweet Briar** | *Rosa rubiginosa* | Regionally controlled |
| **Willow** | *Salix spp.* | Restricted |

# 5. Legislative requirements

## 5.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act provides legislative protection and management of Australia's matters of national environmental significance, including important plants, animals, habitats and places. Potential impacts to matters listed under the EPBC Act may require a referral. The legislative requirements under the EPBC Act are outlined in Table 7 below.

*Table 6 EPBC Act legislative requirements*

| Category | Discussion | Referral required? |
|---|---|---|
| **Threatened Flora** | No flora listed under the EPBC Act was identified within the RPA | No |
| **Threatened Fauna** | Gang-gang Cockatoo and Grey-headed Flying Fox were confirmed to be present within the RPA. An SIA concluded that the proposed action is not expected to constitute a significant impact under the EPBC Act.<br><br>Grey-headed Flying Fox was only observed flying over the RPA and is not considered to have critical habitat within the RPA.<br><br>No other species are likely to occur within the RPA. | No |
| **Threatened Ecological Communities** | No TEC's were identified within the RPA | No |

## 5.2 Environment Effects Act 1978

The EE Act provides for assessment of proposed projects that are capable of having a significant effect on the environment. This includes potential impacts to ecological, heritage, cultural and social values. The EE Act enables the Minister administering the EE Act to decide whether an Environment Effects Statement (EES) should be prepared.

The potential impacts for the Project have been considered against the relevant EES referral criteria, during the EE referral self-assessment. Based on this self-assessment, it was decided that the Project should be referred to the minister due to triggering the following two combined criteria:

1. Potential for significant effects on the amenity of a substantial number of residents, due to extensive or major, long-term changes in visual, noise and traffic conditions.
2. Potential for extensive or major effects on cultural heritage places and sites listed on the Victorian Heritage Register or the Victorian Heritage Inventory under the Heritage Act 2017.

No criteria relating to ecological matters were triggered; evaluation of these matters are shown in Table 8 below.

*Table 8 EE Act criteria evaluation*

| Individual Criteria | Comment | Criteria triggered |
|---|---|---|
| **Potential removal, destruction or lopping of ten hectares or more of native vegetation, that consists of, or comprises a combination of:**<br><br>• **an ecological vegetation class (EVC) classified as endangered; or** | The RPA boundary is approximately 12.45 hectares. A total of 1.64 hectares of native vegetation is proposed to be impacted. All native vegetation consists of EVC 175: Grassy Woodland, which is classified as endangered. | Criterion not met |

| Individual Criteria | Comment | Criteria triggered |
|---|---|---|
| • **an EVC that is classified as vulnerable (with a condition score of 0.5 or more) or rare (with a condition score of 0.6 or more); and that is not authorised for removal under an approved forest management plan or fire protection plan.** | The Project will not remove, destroy or lop ten hectares of vegetation. | |
| **Potential clearing of an area determined as 'critical habitat' under the *Flora and Fauna Guarantee Act 1988.*** | There are no areas determined as 'critical habitat' under the FFG Act. The proposed works will therefore not impact upon any 'critical habitat'. | Criterion not met |
| **Potential for loss of a significant proportion (e.g. 1 percent or greater) of known remaining habitat or population of a threatened species within Victoria.** | The Gang-gang Cockatoo is the threatened species most likely to be impacted by the Project.<br><br>The Gang-gang Cockatoo population is estimated to be 25,300 individuals. Proposed works may temporarily displace a small number of individuals, well below 1% of the population.<br><br>The entire RPA is anticipated to impact 1.64 hectares (0.0164 $km^2$) of native vegetation, including 19 native scattered trees. This represents 0.000055% of the total Area of Occupancy of the species (30,000$km^2$).<br><br>Grey-headed Flying-fox and Little Eagle were both observed within or flying over the RPA. However, the RPA habitat was deemed to only be used for opportunistic foraging and is not expected to contain important or notable habitat for the species.<br><br>Powerful Owl, Swift Parrot and Square-tailed Kite were not observed within the RPA despite previous records nearby. The RPA may be utilised opportunistically or intermittently by these species and is not expected to contain important or notable habitat. | Criterion not met |
| **Potential for long-term change to the ecological character of a wetland listed under the Ramsar Convention or in *A Directory of Important Wetlands in Australia*** | There are no nearby Ramsar listed wetlands that may be impacted by the Project. No wetlands are listed in *A Directory of Important Wetlands in Australia.* | Criterion not met |

| Combined Criteria | Comment | Approval Required |
|---|---|---|
| **Potential removal, destruction or lopping of ten hectares or more of native vegetation, unless it is authorised for removal under an approved forest management plan or fire protection plan.** | Only 1.64 hectares of native vegetation is expected to be impacted by the Project. | Criterion not met |
| **Matters listed under the *Flora and Fauna Guarantee Act 1988*:**<br>• **potential loss of a significant area of a listed ecological community; or**<br>• **potential loss of a genetically important population of an endangered or threatened species (listed or nominated for listing), including from loss or fragmentation of habitats; or**<br>• **potentially significant effects on habitat values of a wetland supporting migratory bird species.** | All native vegetation patches within the RPA boundary are categorised as planted vegetation for biodiversity purposes. These do not meet the criteria of a significant area of a listed ecological community.<br><br>The Gang-gang Cockatoo is the threatened species most likely to be impacted by the Project. This species is highly mobile and capable of flying vast distances. Some displacement of individuals may occur; however, none are expected to be lost. The impacts are minor within the broader landscape context and not expected to result in fragmentation of species habitat.<br><br>The Project is not expected to impact any wetlands that support migratory bird species. | Criterion not met |

## 5.3 Flora and Fauna Guarantee Act 1988

The FFG Act and the Flora and *Fauna Guarantee Amendment Act 2019* provide protection for a wide range of threatened Victorian plants, animals and communities. A permit to 'take protected flora' under the FFG Act and Amendment Act will be required if threatened flora cannot be avoided and are required to be removed on public land/Crown land and freehold land that is managed by a public authority.

The obligation to obtain a 'permit to take protected flora' does not apply to protected 'restricted use' flora or flora that has been propagated from species which have been lawfully obtained and kept (DEECA 2022d). Golden Wattle, Black Wattle, Gold Dust Wattle are classified as 'restricted use'. The Fragrant Saltbush recorded during the field assessment are believed to be planted from nursery stock. These species do not require permits to remove.

Gang-gang Cockatoo, Grey-headed Flying Fox and Little Eagle were observed within the RPA boundary. Impacts to these species have been avoided where practicable and impacts to all species are expected to be minor.

No other FFG Act listed fauna or flora were identified during the field assessment.

## 5.4 Planning and Environment Act 1987

The *Planning and Environment Act 1987 (P&E Act*) is the primary legislation that governs land use and development in Victoria. The P&E Act is administered by each local council through controls established in their respective planning schemes.

The provisions under Clause 52.03-7 'native vegetation requirements' of the Melbourne and Merri-bek planning schemes set out the requirements to be satisfied prior to the removal, destruction or lopping native vegetation. The information must be submitted to the satisfaction of the Secretary to DEECA and demonstrate compliance with the Guidelines for the removal, destruction or lopping of native vegetation. This includes demonstrating how the Project has avoided, minimised and then offset any impacts to native vegetation (DELWP, 2017a), along with evidence that the required offsets have been secured.

### 5.4.1 Guidelines for the removal, destruction and lopping of native vegetation

The Guidelines set out the assessment pathways (basic, intermediate, or detailed) and corresponding information requirements to accompany applications as well as decision guidelines against which applications will be assessed.

Submission of the spatial information and data of all native vegetation to be removed by the Project to DEECA Native Vegetation Removal Tool provides for confirmation of clearing extent and offset requirements to be calculated.

Following confirmation of the impact area for the Project, a final Native Vegetation Removal Report (NVR Report) will need to be obtained for the submission of information in accordance with the Guidelines as called up by Clause 52.03-7 of the planning schemes.

#### 5.4.1.1 Avoid and minimise impacts to native vegetation

The provisions of Clause 52.03-7 require demonstration of how the Project has avoided and minimised impacts to native vegetation. Impacts to native vegetation should be considered throughout the design process of the Project.

#### 5.4.1.2 Offset Strategy

Once the Project impacts are known the EnSym tool should be run against the proposed impacts to native vegetation. The outcome of the EnSym will inform the required offsets. The required offsets should then be secured through a suitable offset broker.

## 5.5 Catchment and Land Protection Act 1994

The CaLP Act sets Victoria's objectives for the integrated management and protection of catchments, including control of noxious weeds and pest animals.

Under the provisions of the CaLP Act, noxious weeds and pest animals are required to be controlled and a permit needs to be sought to remove or sell soil, sand, gravel or stone which contain or is like to contain any part of a noxious weed, or which comes from land on which noxious weeds grow. Specifically, reasonable precautions should be implemented to ensure that all construction vehicles are free from seeds of any noxious weed to avoid their dispersion.

## *5.6 Wildlife Act 1975*

The *Wildlife Act 1975* establishes a framework for management of wildlife throughout the State, including the management of State Wildlife Reserves and Nature Reserves and provisions for licenses to handle wildlife. Wildlife under the act includes any indigenous animal.

A Management Authorisation (a permit under the *Wildlife Act 1975*) required for the purposes of capturing, handling or relocating fauna, and may be required (e.g., if any trenching/digging/pit works and/or tree/limb removal works are proposed), depending on mitigation employed. A wildlife handler possessing a wildlife licence should be engaged for preclearance check to look for, handle, capture and release any wildlife found prior to and during vegetation clearance.

# 6. Project recommendations

## 6.1 Proposed impacts

A conservative approach has been taken and assumed that there will be impacts to all vegetation within the RPA. The proposed works are therefore expected to impact all 26 patches of native vegetation, along with 19 scattered trees. The total area within the RPA boundary is 12.45 ha; the proposed impacted native vegetation covers 1.64 hectares. These patches, all aligning with EVC 175: Grassy Woodland, were identified as non-remnant; however, they are believed to have been planted for biodiversity purposes. The vegetation is of low quality due to the lack of floristic diversity, fragmentation, and impacts associated with being situated within an urban environment (e.g. noise, lighting, human presence and traffic).

Impacts to species and ecological communities are not expected to warrant a referral under the EPBC Act. Temporary impacts to native species are expected due to necessary clearing of native vegetation required to complete the works.

## 6.2 Mitigation Measures

Through project design, construction methodology and other procedures, the Project will mitigate impacts to native vegetation and threatened species habitat as much as practicable.

### 6.2.1 Design

The primary mitigation strategy employed by the Project is during the design process, where avoidance of native vegetation and habitat areas was prioritised wherever possible. Through altering the Project design, large areas of native vegetation has been entirely avoided by the Project.

The areas of highest quality vegetation which were identified during the initial ecological investigations are located to the west of Royal Park Station. These patches of diverse remnant vegetation, including three individuals of Matted Flax-lily that have been entirely avoided by the Project design. Matted Flax-lily is listed as Critically Endangered under the EPBC Act and the FFG Act.

The size of the RPA boundary has been reduced to limit the amount of vegetation proposed to be impacted. This has reduced the total number of trees that are proposed to be impacted. As design and construction methodology are further refined, there will likely be opportunities for further reduction in the amount of native vegetation and habitat which is to be impacted by the Project. These opportunities will be enacted wherever practicable.

### 6.2.2 Construction

No-Go Zones will be implemented around patches of native vegetation, scattered trees and habitat trees where they are in close proximity to the Project works. This will prevent any access and accidental damage during construction. A Construction Environmental Management Plan (CEMP) will be prepared that details weed management control measures that will be implemented during construction.

## 6.3 Recommendations

The following is a summary of the recommendations for the development stage of the Project:

- Obtain appropriate approvals in accordance with Clause 52.03-7 of the Melbourne and Merri-bek planning schemes
- Submit shapefile data of native vegetation to be removed to DEECA EnSym NVR Tool Support for preparation of a final Native Vegetation Removal Report (NVRP) to determine native vegetation offsets required
- Obtain confirmation that the required vegetation offsets are available through an offset broker. This arrangement should be organised in a timely manner to ensure the necessary offsets are available.

The following is a summary of the recommendations for the delivery stage of the Project:

- Tree removal should ideally be undertaken outside of winter to reduce the risk of indirect impacts to migratory species such as the Gang-gang Cockatoo
- Engage a wildlife handler with a Management Authorisation under the *Wildlife Act 1975* to capture and relocate any native fauna during vegetation clearance and demolition works
- Develop a replanting schedule that promotes the planting of indigenous species post construction
- Implement a weed control protocol to avoid the dispersion of noxious weeds, including the following:

- All plant and vehicles entering site will be inspected using the pre-acceptance checklist. This checklist outlines that vehicles and plant should be free of organic materials (mud, dirt, weeds or seeds) prior to arrival
- All removed vegetation classified as noxious weeds, including vegetation that has been lopped, must be disposed of appropriately to ensure the weed species are not spread
- Request a permit, if needed, under the CaLP Act to transport noxious weeds or to remove or sell soil, sand, gravel or stone which contain or is like to contain any part of a noxious weed, or which comes from land on which noxious weeds grow

# Conclusion

This report has provided an assessment of the nature and scale of potential impacts to ecological matters on the Brunswick Level Crossing Removal Project. It supports the Project's referral under the EE Act, noting that ecological matters were not the reason for the referral.

Given the Project is located in a highly urbanised and modified environment, there are limited opportunities for threatened flora, fauna and migratory species.

Potential habitat for several threatened species was recorded within the RPA. Targeted surveys for EPBC Act listed Swift Parrot, Regent Honeyeater and Gang-gang Cockatoo, and the FFG Act listed Powerful Owl were carried out in 2022 and 2023. No Swift Parrot, Regent Honeyeater or Powerful Owl were observed during the targeted surveys. Gang-gang Cockatoo were observed during the targeted survey in 2023, with 14 total sightings of Gang-gang Cockatoo individuals observed. A Significant Impact Assessment was undertaken to determine whether a referral under the EPBC Act was required. This assessment identified that the proposed Project works are unlikely to trigger any of the significant impact guidelines criteria and that a referral under the EPBC Act is not recommended.

The RPA contains 1.64 hectares of native vegetation, comprising 26 patches of native vegetation and 19 scattered trees. Most scattered trees, and all the patches of native vegetation were recorded within Royal Park. All patches of native vegetation and majority of the scattered trees were considered to have been planted for biodiversity purposes. Therefore, if they are going to be impacted, they need to be offset in accordance with the Guidelines under Clause 52.03-7 of the Melbourne and Meri-bek planning schemes.

*Table 9 Approvals requirement summary*

| Legislation | Approval Required | Comment |
|---|---|---|
| **EPBC Act** | Unlikely | The proposed Project works are expected to impact vegetation considered to be critical habitat for the Gang-gang Cockatoo. A significant impact assessment determined that impacts are unlikely to trigger requirements for a referral under the EPBC Act.<br><br>No other EPBC Act listed species are expected to be significantly impacted by the Project. |
| **EE Act** | Unlikely for ecological matters, but other criteria have been met | A self-assessment of the Project under the EE Act Referral Criteria does not indicate that the Project will have a significant effect on ecological grounds. However, this report supports the Project's EE Act referral as non-ecological criteria have been met. |
| **P&E Act** | Likely | Planning approval is required to remove, destroy, or lop native vegetation, including any vegetation contained within a mapped patch of native vegetation, scattered trees and scattered native individuals.<br><br>Offsets must be obtained prior to native vegetation removal and secured through a suitable offset broker. |

| Legislation | Approval Required | Comment |
|---|---|---|
| **FFG Act** | Unlikely | The proposed action is not expected to impact any remnant FFG Act flora species. Impacts to FFG fauna species will be reduced where practicable. No FFG Act permit is required. |
| **CaLP Act** | Likely | Several noxious weeds declared under the CaLP Act were identified during the Flora and Fauna Assessment. Under the Act, the Project must ensure declared noxious weeds do not spread due to construction activities. Rigorous weed control protocols should be adopted to prevent spread including vehicle and tool hygiene measures, appropriate disposal of weed material, inclusion of weed management controls in the Project CEMP, and obtaining a permit if required.<br><br>A permit needs to be sought to remove or sell soil, sand, gravel or stone which contain or is like to contain any part of a noxious weed, or which comes from land on which noxious weeds grow. |
| **Wildlife Act** | Likely | A qualified wildlife handler should be employed for pre-clearance wildlife checks and the handling, capture and release of wildlife prior/during any required vegetation removal. |

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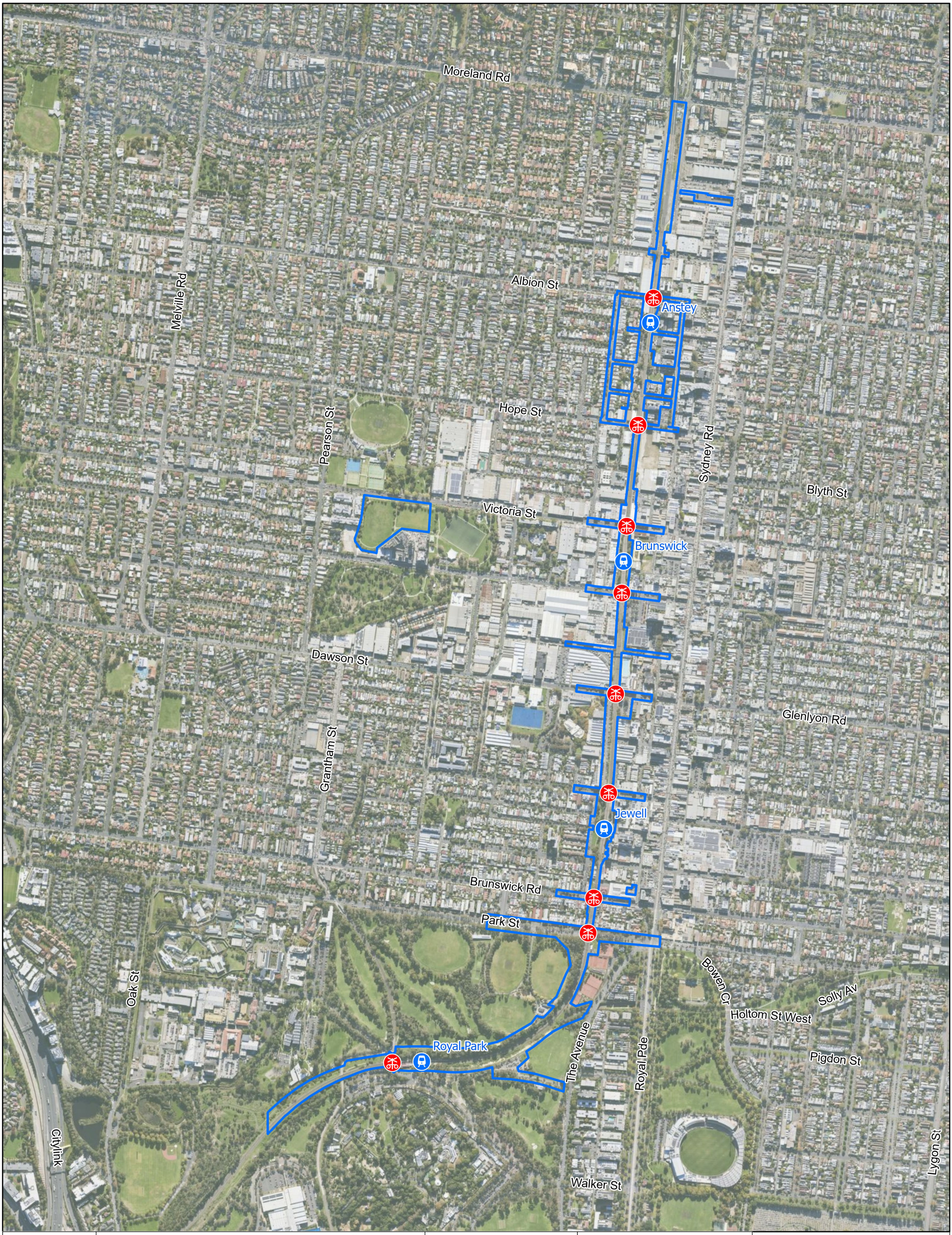
# Appendix A

RPA Boundary




LEVEL CROSSING REMOVAL AUTHORITY

0 25 50 100
Meters

1:10,000

Map of

**SOURCE** LXRP, Public Transport Victoria, VicMap, VicTrack, DELWP & DataVic

| GIS FILE | COORDINATE SYSTEM | DATE |
|---|---|---|
| O:\G&I\GIS\MET750_NWPA\ MET750-G-BRU-MAP-002-Ecology | GDA 1994 MGA Zone 55 | 11Jul24 |

NORTH WESTERN PROGRAM ALLIANCE

*505 Ballarat Road, Albion VIC 3020*

Prepared:YF , Checked: SF

**Brunswick Project**

Level Crossing Removal

RPA Boundary

**FIGURE No.** MET750-G-BUR-MAP-039 - RPA Boundary

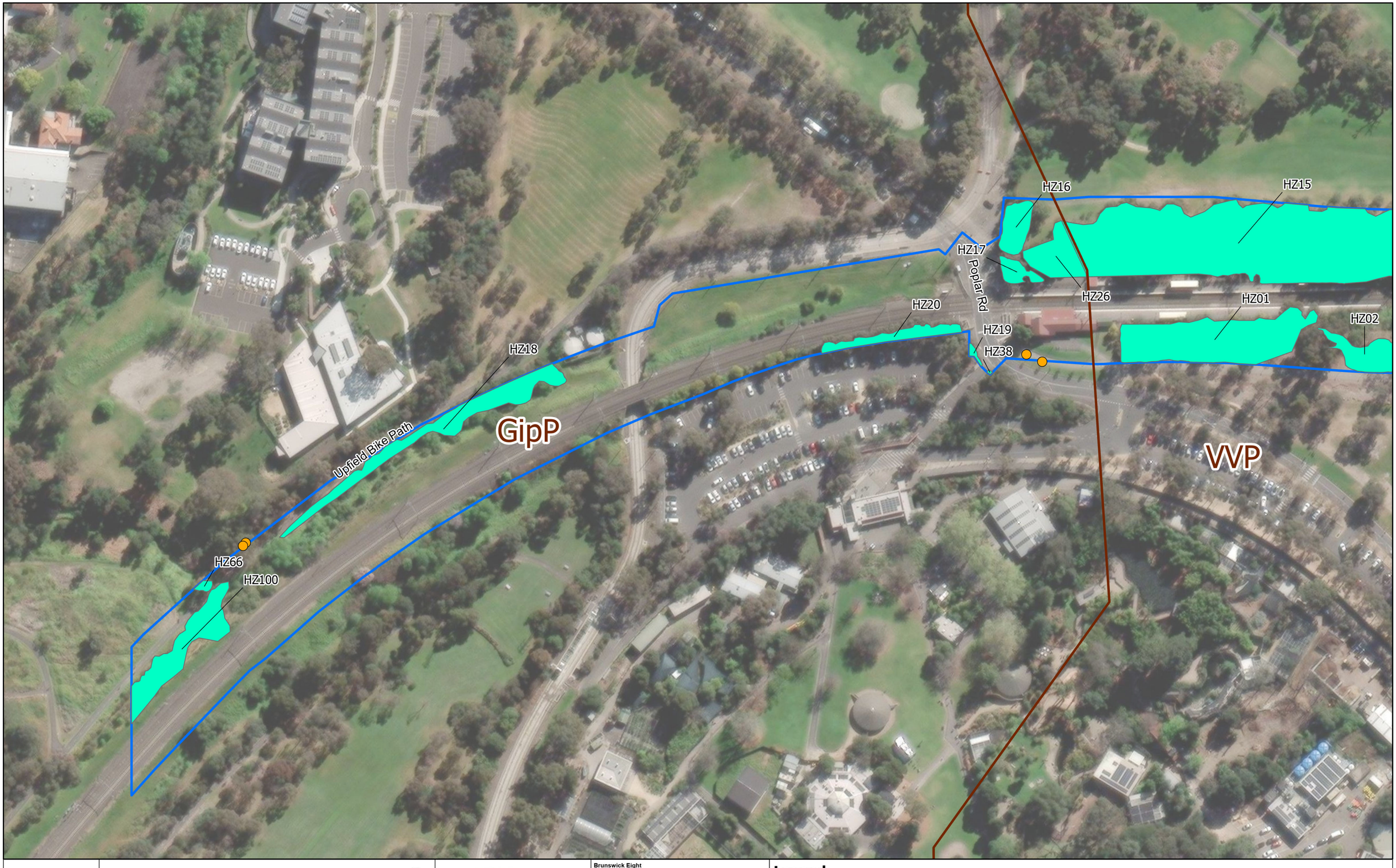
**REVISION No.** B

**Legend**

- Referal Project Area
- Level Crossing Removal Location
- Railway Staion

# Appendix B

Ecological Values Map




LEVEL CROSSING REMOVAL AUTHORITY

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**SOURCE** LXRA, Public Transport Victoria, VicMap, VicTrack, DELWP & DataVic

| GIS FILE | COORDINATE SYSTEM | DATE |
|---|---|---|
| O:\G&I\GIS\MET750_NWPA\ MET750-G-BRU-MAP-002-Ecology | GDA94 MGA Zone 55 | 25Oct24 |

NORTH WESTERN PROGRAM ALLIANCE
*Level 3, 441 St Kilda Rd, Melbourne VIC 3004*

Prepared:YF , Checked: SF

**Brunswick Eight**

Level Crossing Removal

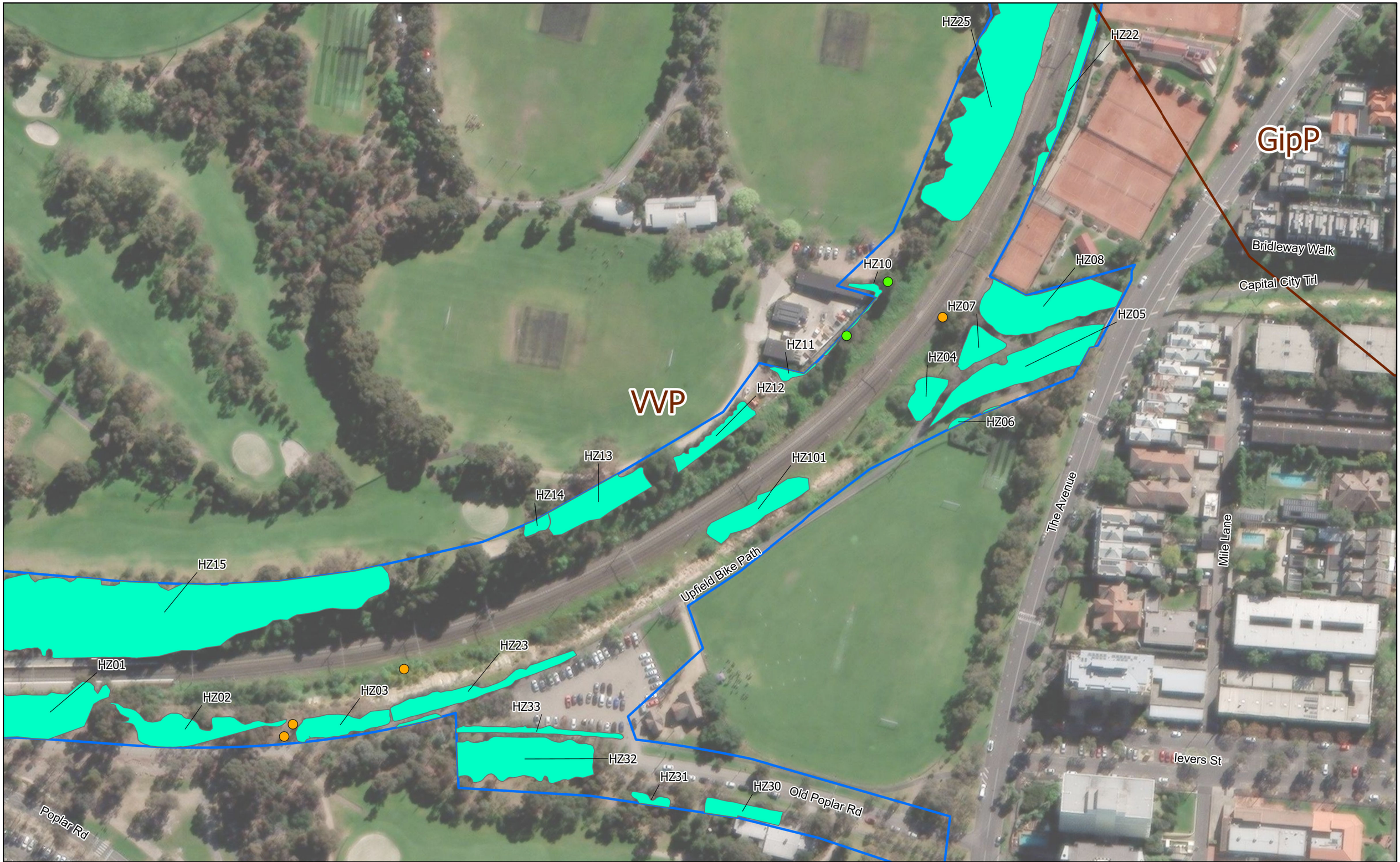
Native Vegetation Impact

**FIGURE No.** MET750-G-BRU-MAP-002-Ecology **REVISION No.** B

## Legend

- Referal Project Area
- Bioregion Boundary
- Native Vegetation Patch

Scattered Tree
- Large
- Small




LEVEL CROSSING REMOVAL AUTHORITY

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**SOURCE** LXRA, Public Transport Victoria, VicMap, VicTrack, DELWP & DataVic

| GIS FILE | COORDINATE SYSTEM | DATE |
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| O:\G&I\GIS\MET750_NWPA\ MET750-G-BRU-MAP-002-Ecology | GDA94 MGA Zone 55 | 25Oct24 |

NORTH WESTERN PROGRAM ALLIANCE

*Level 3, 441 St Kilda Rd, Melbourne VIC 3004*

Prepared:YF , Checked: SF

**Brunswick Eight**

Level Crossing Removal

Native Vegetation Impact

**FIGURE No.** MET750-G-BRU-MAP-002-Ecology **REVISION No.** B

## Legend

- Referal Project Area
- Bioregion Boundary
- Native Vegetation Patch

Scattered Tree

- Large
- Small


LEVEL CROSSING REMOVAL AUTHORITY

0 30 60 Meters

1:1,500

N

**SOURCE** LXRA, Public Transport Victoria, VicMap, VicTrack, DELWP & DataVic

| GIS FILE | COORDINATE SYSTEM | DATE |
|---|---|---|
| O:\G&I\GIS\MET750_NWPA\ MET750-G-BRU-MAP-002-Ecology | GDA94 MGA Zone 55 | 25Oct24 |

NORTH WESTERN PROGRAM ALLIANCE

*Level 3, 441 St Kilda Rd, Melbourne VIC 3004*

Prepared:YF , Checked: SF

**Brunswick Eight**

Level Crossing Removal

Native Vegetation Impact

**FIGURE No.** MET750-G-BRU-MAP-002-Ecology

**REVISION No.** B

## Legend

- Referal Project Area
- Bioregion Boundary
- Native Vegetation Patch

Scattered Tree

- Large
- Small


LEVEL CROSSING REMOVAL AUTHORITY

0 30 60 Meters 1:1,500

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**SOURCE** LXRA, Public Transport Victoria, VicMap, VicTrack, DELWP & DataVic

| GIS FILE | COORDINATE SYSTEM | DATE |
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NORTH WESTERN PROGRAM ALLIANCE

*Level 3, 441 St Kilda Rd, Melbourne VIC 3004*

Prepared:YF , Checked: SF

**Brunswick Eight**

Level Crossing Removal

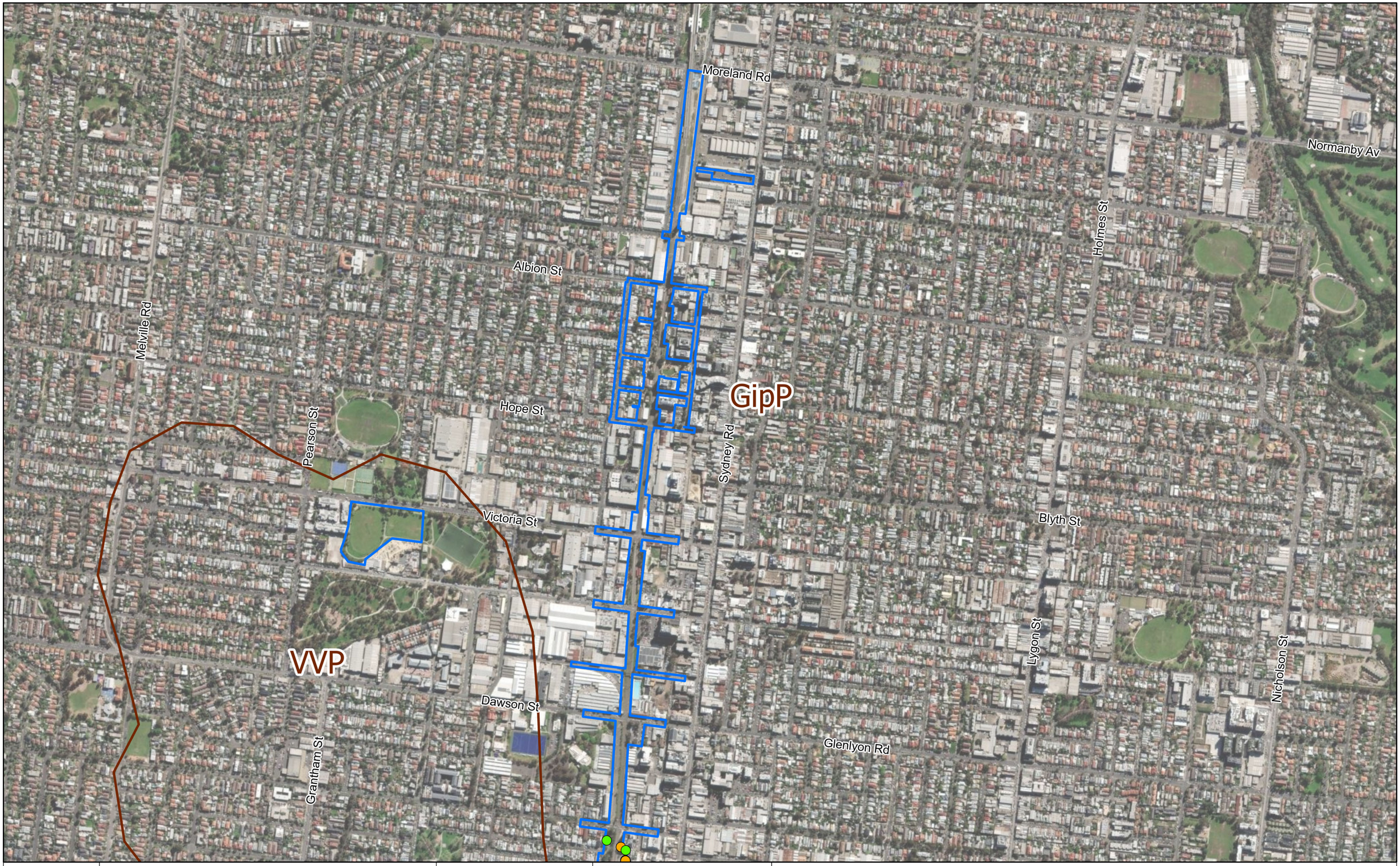
Native Vegetation Impact

**FIGURE No.** MET750-G-BRU-MAP-002-Ecology **REVISION No.** B

## Legend

- Referal Project Area
- Bioregion Boundary
- Native Vegetation Patch

Scattered Tree
- Large
- Small




LEVEL CROSSING REMOVAL AUTHORITY

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**SOURCE** LXRA, Public Transport Victoria, VicMap, VicTrack, DELWP & DataVic

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NORTH WESTERN PROGRAM ALLIANCE

*Level 3, 441 St Kilda Rd, Melbourne VIC 3004*


Prepared:YF , Checked: SF

**Brunswick Eight**

Level Crossing Removal

Native Vegetation Impact

**FIGURE No.** MET750-G-BRU-MAP-002-Ecology **REVISION No.** B

## Legend

- Referal Project Area
- Bioregion Boundary
- Native Vegetation Patch

Scattered Tree
- Large
- Small