WILLATOOK WIND FARM
OVER DIMENSIONAL TRANSPORT ROUTE

# Planning Application Report

May 2022

www.willatookwindfarm.com.au

Prepared for Willatook Wind Farm Pty Ltd

Prepared by

Energy Forms
Level 8, 91 William St, Melbourne VIC 3000
PO Box 16164 Collins Street West, VIC 8007

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# Executive summary

Willatook Wind Farm Pty Ltd (the proponent) is developing the proposed Willatook Wind Farm (the project) in Moyne Shire, Victoria, with the haulage route through the Glenelg Shire.

A Traffic Impact Assessment has been prepared to support the application. Four intersections have been identified where works are proposed in the Glenelg Shire. These are:

- Henty Highway/New Street, Portland
- Princes Highway/Henty Highway, Portland
- Princes Highway/Tyrendarra-Ettrick Road, Tyrendarra
- Tyrendarra-Ettrick Road/Woolsthorpe-Haywood Road

Ecological surveys and assessments have been completed at each of these intersections. This planning application is for the removal of native vegetation at two of these intersections in the Glenelg Shire Council area. The need for the native vegetation removal is associated with the road works for over-dimensional vehicles required to support the movement of wind turbine components from Port of Portland to the project.

Clause 52.17 regulates the removal of native vegetation. A permit is required under this provision to remove, destroy or lop native vegetation, including dead vegetation. A permit is also triggered by Environmental Significance Overlay Schedule 3 (ESO3)

The total of native vegetation removal associated with the over-dimensional route and the subject of this application is 0.043 hectares requiring 0.013 general habitat units of native vegetation offsets with the following requirements.

- Minimum strategic biodiversity value (SBV) of 0.683; and
- Occur within the Glenelg Hopkins CMA boundary or Glenelg Shire municipal districts.

No defined EPBC threatened ecological communities were recorded within the over-dimensional transport route study area and therefore no impacts are predicted.

No listed threated species were recorded within the over-dimensional transport route study area and were therefore concluded to be unlikely to occur. Therefore, no impacts to threatened flora are predicted.

The Tyrendarra-Ettrick Road/Woolsthorpe-Haywood Road intersection is affected by an ESO3, which triggers a permit for native vegetation removal and relates to protection of habitat for the Red Tail Black Cockatoo. Within this intersection, 0.012 ha (120 square metres) of Stony Rises Woodland would be impacted. This patch is dominated by Blackwood (*Acacia melanoxylon*) with a wholly exotic ground-layer. This does not represent the preferred foraging habitat of Brown Stringybark (*Eucalyptus baxteri*) and Bulokes (*Allocasuarina luehmannii*). As such no impact to Red Tail Black Cockatoo is predicted.

The removal of native vegetation is required as a result of the need to get infrastructure in over-sized vehicles to site. Whilst every effort has been made to avoid and minimise the native vegetation removal, there is a need for it to occur in the stated locations. The proposal has had regard to the provisions of Clause 52.17 Native Vegetation and the impacts of all removal and necessary offsets will be considered as part of the overall project. Since a conservative wind turbine blade length (i.e., 93 metres) was modelled in the swept path analysis, it is possible that through detailed design with a chosen turbine manufacturer some or all of these intersection upgrades and the resulting vegetation clearance may not be required.

Where possible, design measures have been included to avoid potential impacts to biodiversity. To further minimise potential impacts, management controls would be carried out during construction and operation of the project.

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# Chapter 1 Introduction

Willatook Wind Farm Pty Ltd (the proponent) is developing the proposed Willatook Wind Farm (the project) in Moyne Shire, Victoria, with the haulage route through the Glenelg Shire. The project will harness strong and reliable winds to generate renewable energy through the construction and operation of up to 59 wind turbines generators and would operate for a period of at least 25 years following a two-year construction period. The project is located approximately 22 kilometres to the north of Port Fairy and 32 kilometres to the northwest of Warrnambool and is situated to the south of the Woolsthorpe–Heywood Road.

A Traffic Impact Assessment has been prepared to support the application. Four intersections have been identified where works are proposed in the Glenelg Shire. These are:

- Henty Highway/New Street, Portland
- Princes Highway/Henty Highway, Portland
- Princes Highway/Tyrendarra-Ettrick Road, Tyrendarra
- Tyrendarra-Ettrick Road/Woolsthorpe-Haywood Road

The proposed changes to the intersections would require further development during detailed design.

Ecological surveys and assessments have been completed at each of these intersections. This planning application is for the removal of native vegetation at two of these intersections in the Glenelg Shire Council area. The need for the native vegetation removal is associated with the road works for over-dimensional vehicles required to support the movement of wind turbine components from Port of Portland to the project located in the Moyne Shire.

This planning application was informed by two technical investigations:

- A traffic and transport assessment prepared by Ratio Consultants (Ratio), which included a swept path analysis (Appendix A) (evaluation and calculation of the space required to enable a specified vehicle to make turning movements) of the over size and over mass haulage route, identifying the intersections that would require some median and/or roadside infill works and potential roadside furniture removal to cater for the vehicles transporting the turbine blades.
- A flora and fauna assessment for the broader area was prepared by Nature Advisory (2022) for the wind farm project including the proposed over dimensional route. This included assessment of native vegetation, ecological communities and threatened flora. Habitat hectare assessments and the native vegetation removal report from the Nature Advisory assessment are included as Appendix B and Appendix C respectively.

The planning application for the Willatook Wind Farm has been lodged with DELWP Renewables – Development Approvals and Design Team and will be subject of a Joint Inquiry and Panel hearing for the EES.

# Chapter 2 Subject land

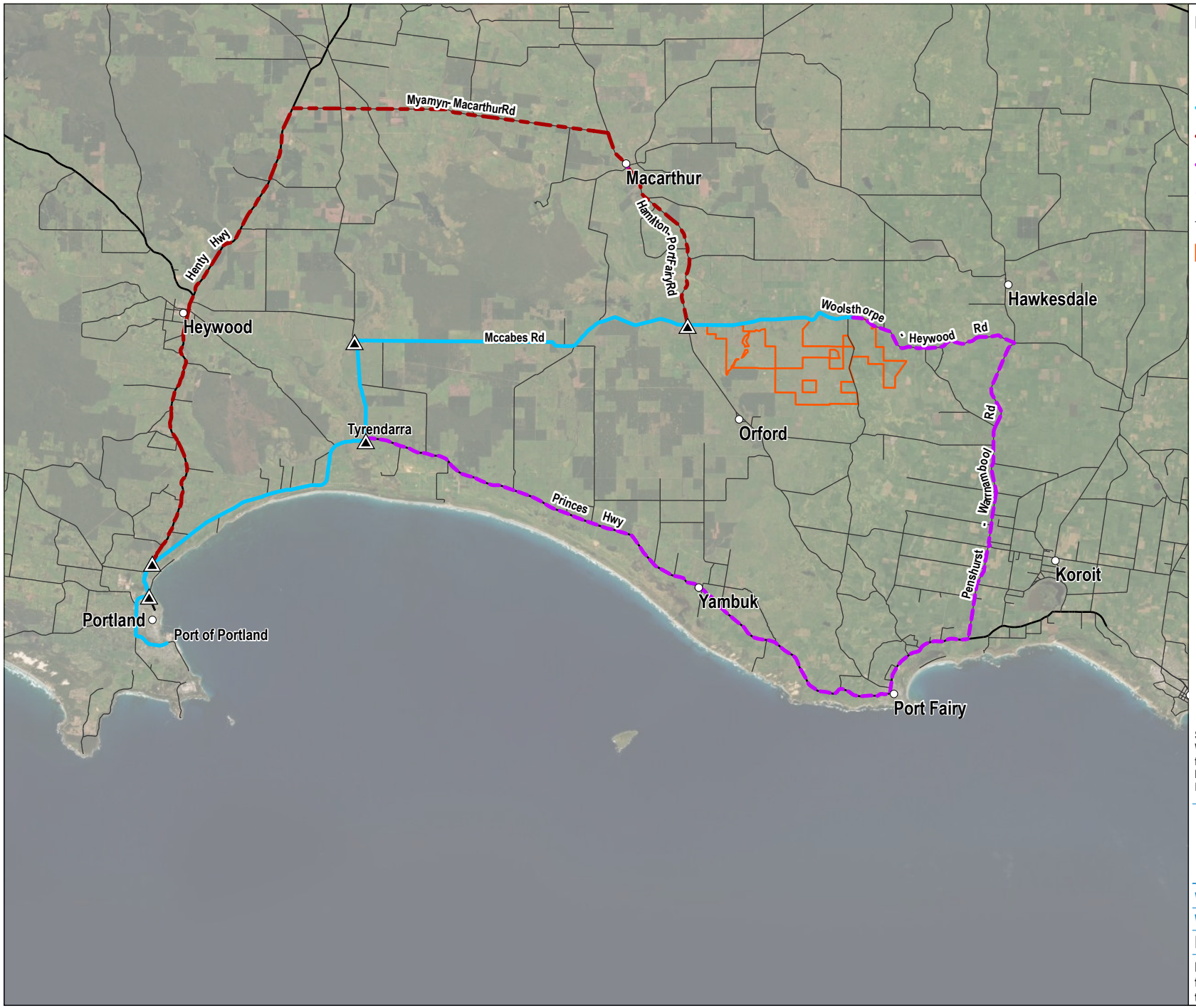
The Port of Portland has been identified as the preferred port of entry for wind turbine generators and other major imported componentry. On this basis, an over size and over mass transport route has been identified between the Port of Portland and the site based on the maximum expected wind turbine component being a 93.0 metre turbine blade.

Through discussion with the Department of Transport regarding preferred and/or previously approved over size and over mass haulage routes from Port of Portland, three route options were investigated and are described and shown in Table 1. All three options commence at the Port of Portland and pass through the Glenelg Shire and Moyne Shires (see Figure 1).

**Table 1 Over size and over mass transport route options**

| Option | Route description | Issues identified |
|---|---|---|
| Option 1 (75 kilometres) | Henty Highway to Princes Highway, and then Tyrendarra-Ettrick Road to Woolsthorpe-Heywood Road, approaching the project site from the west. | • Includes extended sections of road that have a single width seal and rely on gravel shoulders to support passing traffic. |
| Option 2 (100 kilometres) (Extension of the route used by the MacArthur Wind Farm) | Henty Highway, Myamyn-MacArthur Road, then approaching Woolsthorpe-Heywood Road from the north via Hamilton-Port Fairy Road, turning left onto Woolsthorpe-Heywood Road to approach the project site from the west. | • Includes extended sections of road that have a single width seal and rely on gravel shoulders to support passing traffic.<br>• The ability to accommodate laden blade transport vehicles turning left from Hamilton-Port Fairy Road to Woolsthorpe-Heywood Road is limited by the position of the Hamilton-Port Fairy Road carriageway close the eastern side of the road reserve and the width of the Woolsthorpe-Heywood Road reservation at this intersection. |
| Option 3 (120 kilometres) | Princes Highway through Port Fairy and then Penshurst-Port Fairy Road and Penshurst-Warrnambool Road, approaching the project site from the east on Woolsthorpe-Heywood Road. | • The route relies on the higher trafficked Princes Highway, including through the Port Fairy township. |

In consultation with Department of Transport and Moyne Shire Council, Option 1 has been identified as the preferred haulage route for the large turbine components as it is the shortest and most direct route between the Port of Portland and project site, avoids more highly trafficked roads and townships, and it is possible to undertake temporary works to facilitate the transport of the over size and over mass vehicles.




## LEGEND

- Locality
- Intersections requiring upgrades
- Option 1
- Option 2
- Option 3
- Highway
- Arterial/Sub-arterial road
- Willatook Wind Farm boundary

SOURCE:
Willatook Wind Farm boundary and haulage routes from Wind Prospect.
Roads from Vicmap.
Imagery from ArcGIS Online (various capture dates).

0 10 km

SCALE 1:400,000
PAGE SIZE: **A4**
PROJECTION: **GDA 1994 MGA Zone 54**

WIND PROSPECT

**WILLATOOK WIND FARM**

**FIGURE 1**

**Potential over size and over mass routes from the Port of Portland to the project site**

DATE: 11.02.22 PROJECT: 754-MELEN287657 FILE: 287657_02_F046_GIS DOC REFERENCE: 287657_02_FIGS_E_APRX_V01

A swept path analysis (or evaluation and calculation of the space required to enable a specified vehicle to make turning movements) was undertaken of the over size and over mass haulage route, identifying the intersections that would require some median and/or roadside infill works and potential roadside furniture removal to cater for the vehicles transporting the turbine blades. While other wind farm projects have previously used the Port of Portland for large wind turbine components, the turbine blade length (maximum 93-metre long) used for the assessment are longer than those used on other wind farm projects in the Moyne and Glenelg Shires.

The intersections requiring upgrades are:

- Henty Highway/New Street, Portland
- Princes Highway/Henty Highway, Portland
- Princes Highway/Tyrendarra-Ettrick Road, Tyrendarra
- Tyrendarra-Ettrick Road/Woolsthorpe-Heywood Road, Homerton
- Woolsthorpe-Heywood Road/Hamilton-Port Fairy Road, Broadwater (Moyne Shire).

Considering that a conservative wind turbine blade length (i.e., 93 metres) modelled in the swept path analysis is significantly larger than wind turbine blades currently produced for on-land wind farms, it is possible that through detailed design with a chosen turbine manufacturer some or all of these intersection upgrades may not be required.

Figure 1 shows the haulage route from the Port of Portland to the project site. The intersections that require works to accommodate oversized vehicles are shown as numbered in Figure 2. The intersections numbered 1, 2, 3 and 4 are within the Glenelg Shire and the subject of this planning application.

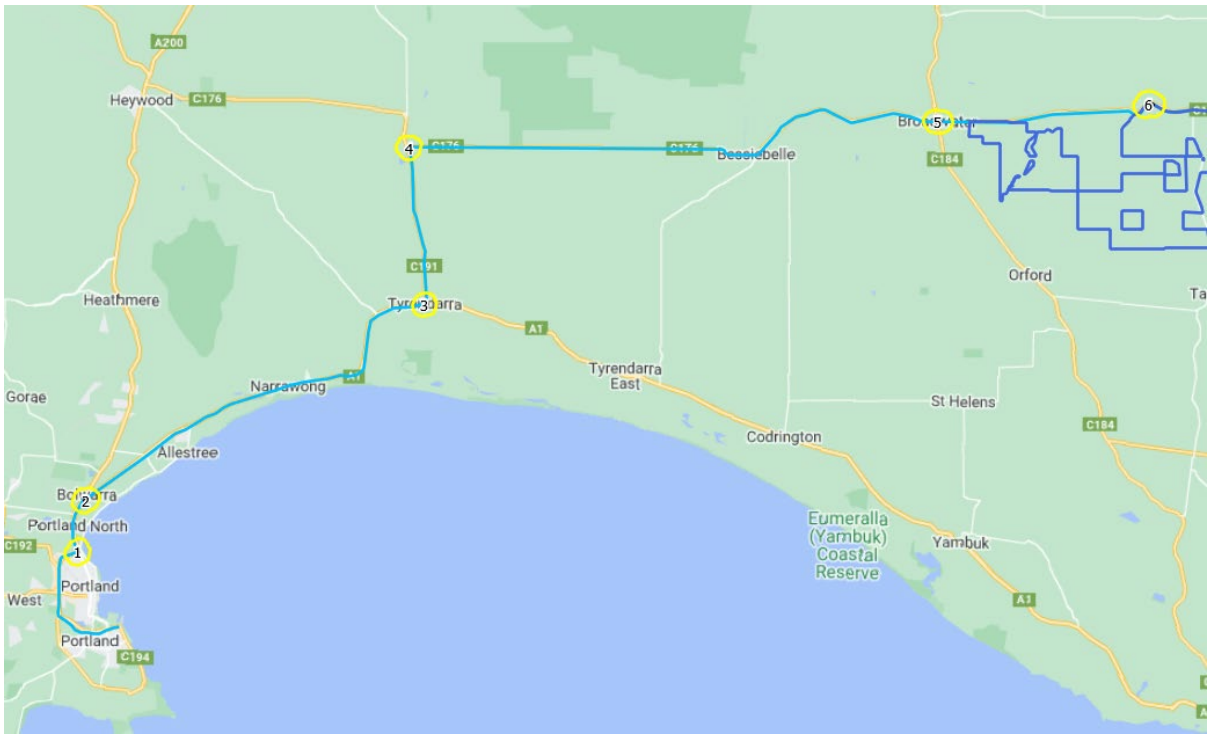



**Figure 2 Location relative to OD route from Portland to Project site.**

Figure 3 shows the intersection of Henty Highway and New Street is within the Transport Zone 2 (TRZ2) - Principal Road Network. No overlays affect the intersection. No native vegetation is proposed to be removed in this location.

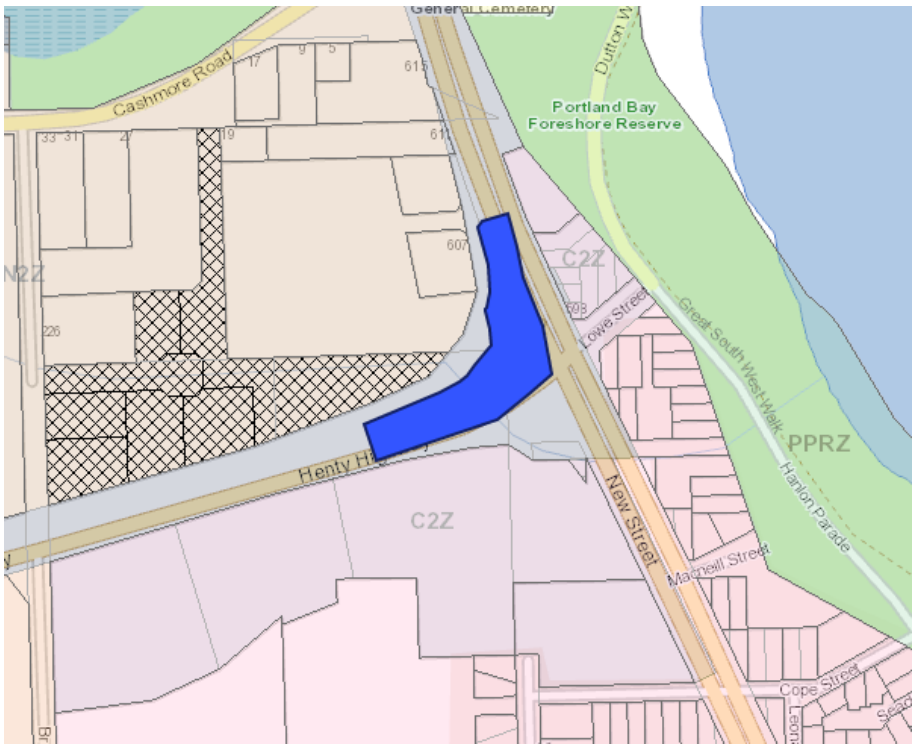



**Figure 3 Location 1 Henty Highway/New Street, Portland**

Figure 4 shows the intersection of Princes Highway and Wilkens Street. The intersection is within the TRZ2. A Bushfire Management Overlay (BMO) affects a small portion of the intersection. A permit is not triggered for the works. Native vegetation is proposed to be removed at this intersection and not within the BMO area.

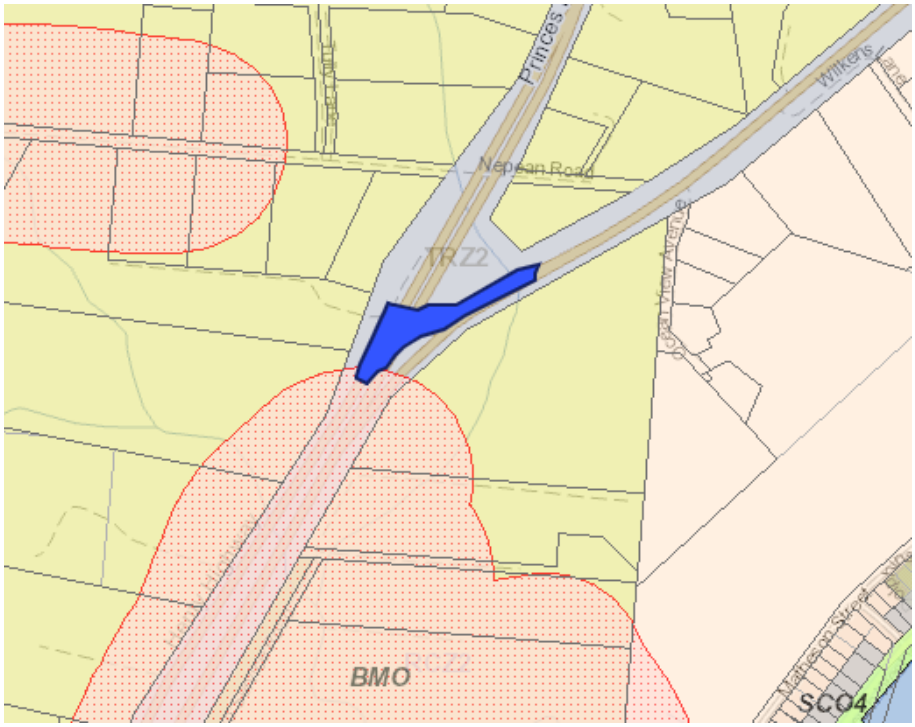



**Figure 4 Location 2 Princes Highway/Henty Highway, Portland**

Figure 5 shows the intersection of Princes Highway/Tyrendarra-Ettrick Road, Tyrendarra. The land is in the TRZ2. No overlays affect the intersection. No native vegetation is proposed to be removed at this intersection.

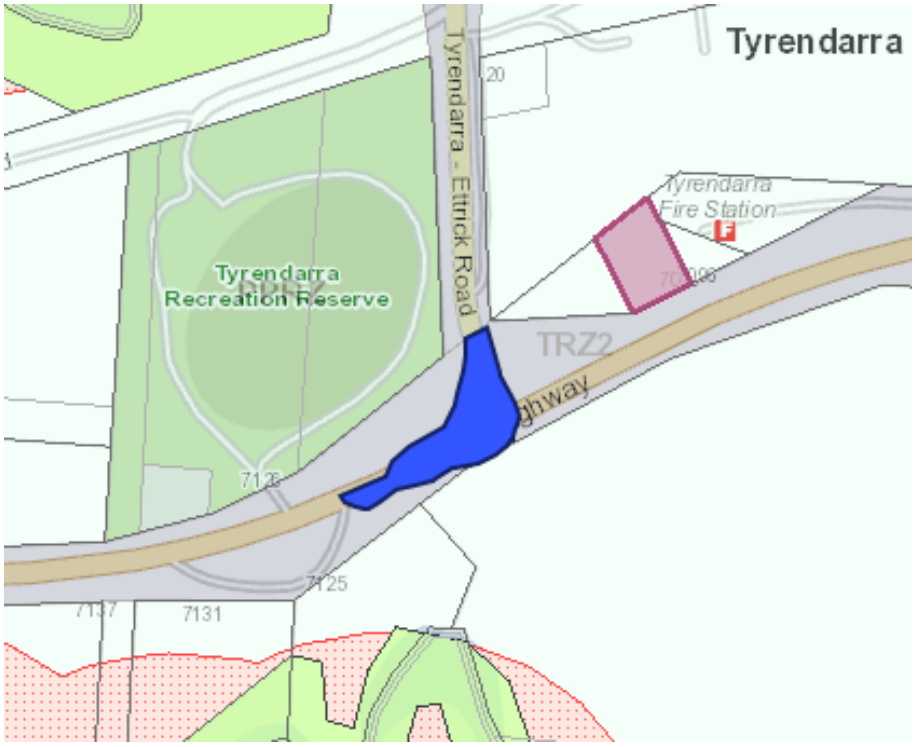



**Figure 5 Location 3 Princes Highway/Tyrendarra-Ettrick Road, Tyrendarra**

The intersection is in the TRZ2. An Environmental Significance Overlay Schedule 3 (ESO3) affects the land. The ESO3 relates to protection of habitat for the Red Tail Black Cockatoo. Native vegetation is proposed to be removed at this intersection.

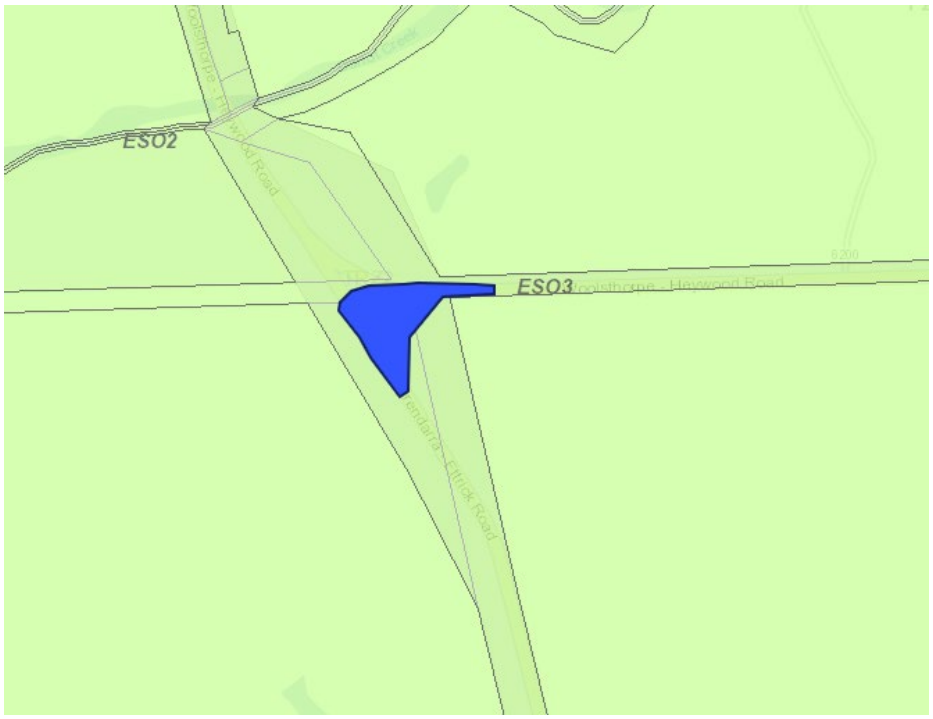



**Figure 6 Location 4 Tyrendarra-Ettrick Road/Woolsthorpe-Haywood Road, Homerton**

# Chapter 3 Planning Provisions

Four of the intersections are in the Glenelg Shire area and are subject to the provisions of the Glenelg Planning Scheme. The following provisions are of most relevance to this application.

## 3.1 Clause 52.17 Native vegetation

Clause 52.17 regulates the removal of native vegetation. A permit is required under this provision to remove, destroy or lop native vegetation, including dead vegetation.

The purposes of this clause are:

- to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017) (the Guidelines):
    1. avoid the removal, destruction or lopping of native vegetation
    2. minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided
    3. provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation
- to manage the removal, destruction or lopping of native vegetation to minimise land and water degradation.

The total project construction including the wind farm site and intersections requires the loss of up to 4.6 hectares of native vegetation and six large trees. Losses of native vegetation and large trees would be offset according to the Native Vegetation Guidelines.

The total of native vegetation removal associated with the over-dimensional route at two intersections and the subject of this application is 0.043 hectares ha requiring 0.013 general habitat units of native vegetation offsets.

Under Clause 66, applications under the Detailed Assessment Pathway or on Crown land which is occupied or managed by the responsible authority must be referred to the Secretary to DELWP as a recommending referral authority.

## 3.2 Planning Policy Framework

The Planning Policy Framework outlines state-wide and regional strategic planning issues and is common in content across all Victorian planning schemes.

In line with the transitional provisions of Planning Scheme Amendment VC148 and Clause 23, policies of local significance are included in the Municipal Strategic Statement and Local Planning Policies (of the Local Planning Policy Framework), until the future introduction of the Municipal Planning Strategy (MPS) and integration of local content into the Planning Policy Framework. Any reference to the Local Planning Policy Framework is to be taken to be a reference to the Planning Policy Framework and vice versa.

### 3.2.1 Clause 12.01-2S Native vegetation

The objective of this clause is to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. Strategies include to apply the three-step approach in the Native Vegetation Guidelines.

# Chapter 4 Assessment

## 4.1 Over size and over mass vehicle traffic management

The haulage route assessment has been prepared by Ratio Traffic Engineers and is included as Appendix A.

While the roads selected for the route are suitable for the large project vehicles, the transport of these vehicles would require minor road upgrades (e.g., infill of median strips) and higher order traffic management to facilitate the movements and ensure public safety. Intersections along the over size and over mass vehicle route requiring specific traffic management measures are detailed in Table 2Figure 2 and are highlighted in Figure 2.

Traffic management to address the safety risk of changed traffic conditions during the transportation of over size and over mass vehicles would result in impacts from closing roads and delaying traffic. The community would be given advance notice of the planned road closures to allow community members to account for closures and possible delays. This process would be outlined in the Traffic Management Plan.

**Table 2 Intersections requiring mitigation for over size and over mass traffic management**

| Intersection | Movement | Traffic management |
|---|---|---|
| Henty Highway/ New Street, Portland | Vehicles from the west would require the full width of Henty Highway on approach to the intersection during left turn. | Temporary closure of right and left turns from Henty Highway (north) and New Street during transit. |
| Princes Highway/ Henty Highway, Portland | To avoid street lighting and power poles, vehicles would cross median and median islands during right turns from Henty Highway to Princes Highway. There are two options which can facilitate this movement. | Temporary removal of signage.<br>Infill within Henty Highway centre median swale (impact on drainage to be considered).<br>Temporary closure of Henty Highway southbound and Princes Highway southbound during transit. |
| Princes Highway/ Tyrendarra-Ettrick Road, Tyrendarra | Vehicles approaching from the west would require the full width of Princes Highway and on approach and Tyrendarra-Ettrick Road in departure to the intersection during left turn. | Temporary closure of intersection to all traffic during transit through this section of road.<br>Infill and temporary removal of signage on north-west corner. |
| Tyrendarra-Ettrick Road/ Woolsthorpe-Heywood Road, Homerton | Right turn from south requires full width of Tyrendarra-Ettrick Road on approach, road reserve area on south-east corner and full width of Woolsthorpe-Heywood Road on departure. | Temporary closure of intersection to all traffic during transit.<br>Temporary removal of signage on Woolsthorpe-Heywood Road approach.<br>Infill required on south-east corner of intersection. |

If the wider wind farm project is approved, a detailed Traffic Management Plan would be prepared prior to the commencement of construction to confirm the mitigation and management works that would be required, following detailed design and the confirmation of the project turbine component dimensions. The Traffic Management Plan would:

- confirm traffic activity and haulage/access routes for construction traffic and heavy vehicles with consideration for safety
- consider the impact on road users including vehicle traffic, slower moving farm machinery, public transport, school buses, emergency services, cyclists and pedestrians
- identify project traffic operation expectations and requirements (vehicle operating speeds, driver behaviour and conduct, compliance and enforcement etc.)
- identify accessibility and detour routes for local landholders, where appropriate

- consider impacts to travel times and accessibility for emergency services and public transport
- identify monitoring and auditing to be undertaken during construction to assess impact of the Traffic Management Plan and advise of remedial action to be undertaken, if warranted
- include an engagement process to ensure that external stakeholders are aware of the any proposed changes to project traffic conditions and that risks associated with such changes are identified and mitigated
- include a mechanism to capture and respond to community and external stakeholder feedback, with stakeholders that includes but is not limited to Department of Transport and Glenelg Shire
- require annual review and require timely updates in response to internal changes to project traffic operation, and external changes that impact the operation/performance of roads relied on by the project

## 4.2 Ecological assessment

Nature Advisory assessed the over-dimensional transport (OD) route focussing on the intersections that are likely to require upgrade. At each intersection, a broader study area was surveyed for native vegetation.

Native vegetation assessments were conducted on foot on 25th – 27th July 2018 by a DELWP-certified native vegetation assessor. During native vegetation surveys, sites found to support native vegetation or with potential to support listed matters were mapped through a combination of aerial photograph interpretation and ground-truthing using a hand-held GPS (accurate to approximately five metres).

Targeted surveying for threatened flora was undertaken in all areas of suitable habitat within the over-dimensional route study area. As these patches were small and often linear, very thorough visual searching of these areas was undertaken. This method, combined with the timing of the surveys (within the published regular flowering periods of all species) was considered appropriate to determine whether the targeted species were present or absent in the impact areas.

### 4.2.1 Native vegetation

Vegetation in the OD route study area within the Glenelg Shire consisted of four EVCs: Basalt Shrubby Woodland (EVC 642), Freshwater Meadow (EVC 680), Herb-rich Foothill Forest (EVC 23), and Stony Rises Woodland (EVC 203).

Descriptions of habitat zones in the over-dimensional transport route study area are provided in Table 3. The habitat hectare assessment results for these habitat zones are provided in Appendix B.

A total of 10 patches (referred to herein as habitat zones) comprising the abovementioned EVCs, were identified in the OD route study area. This totalled an area of 0.166 hectares of native vegetation in patches and included no large trees.

The remainder of the over-dimensional transport route study area is dominated by pasture grasses.

Vegetation in the over dimensional route study area (i.e., roadsides and intersections requiring upgrade) within Glenelg Shire is shown in Table 3.

**Table 3 Vegetation in the over dimensional route study area (i.e., roadsides and intersections requiring upgrade) within Glenelg Shire**

| EVC | Habitat Zones | Description | Total area (Ha) | Average Condition Score (/100) |
|---|---|---|---|---|
| Herb-rich Foothill Forest | 1TrAA, 1TrAB, 1TrAC, 1TrAD, 1TrAE, 1TrAF, 1TrAG | Patches of Herb-rich Foothill Forest occurred within the over dimensional route study area at the intersections of the Henty Highway and New Street, and the Henty Highway and Princes Highway. The canopy included Manna Gum and Swamp-gum as well as planted, non-indigenous eucalypts such as Southern Mahogany. The understorey included planted natives including Drooping She-oak, Coast Wattle and the FFG Act listed Salt Paperbark. The high-threat woody weeds Mirror-bush, Italian Buck-thorn, Sweet | 0.129 | 17 |

| EVC | Habitat Zones | Description | Total area (Ha) | Average Condition Score (/100) |
|---|---|---|---|---|
| | | Pittosporum, Gorse and Sweet Briar were also present in some patches.<br>The ground-layer was dominated by exotic species including Kikuyu), Paspalum, Cocksfoot, with some patches supporting native species including Kangaroo grass. | | |
| Freshwater Meadow | 1TrAH | Within the over dimensional route study area, a small patch of Freshwater Meadow was recorded at the intersection of the Tyrendarra-Ettick Road and Woolsthorpe-Heywood Road. This was dominated by Broad-leaf Cumbungi, which had a very high cover. Other species included native Austral Bracken and Variable Willow-herb and the exotic pasture grass Toowoomba Canary-grass on the edge of the patch. | 0.008 | 39 |
| Shallow Freshwater Marsh | 1TrAI | Shallow Freshwater Marsh was recorded within the over dimensional route study area at the intersection of the Tyrendarra-Ettick Road and Woolsthorpe-Heywood Road. This EVC was dominated by graminoids, including Common Tussock-grass, Australian Sweet-grass and Poong'ort, with scattered occurrences of and Variable Willow-herb. | 0.018 | 42 |
| Stony Rises Woodland | 1TrAJ | One patch of Stony Rises Woodland was mapped at the intersection of the Tyrendarra-Ettick Road and Woolsthorpe-Heywood Road. Stony Rises Woodland was dominated by Blackwood with a wholly exotic ground-layer including Toowoomba Canary-grass and Cleavers. | 0.012 | 17 |

### 4.2.2 Ecological communities

The EPBC Protected Matters Search Tool indicated that seven ecological communities listed under the EPBC Act had the potential to occur in the over-dimensional transport route study area (Table 4). None of these were recorded in the over-dimensional transport route study area.

**Table 4 EPBC Act listed ecological communities and likelihood of occurrence in the OD route study area**

| Ecological Community | EPBC | Occurrence in the over-dimensional transport route study area |
|---|---|---|
| Assemblages of species associated with open-coast salt-wedge estuaries of western and central Victoria ecological community | EN | Not recorded within the OD route study area |
| Giant Kelp Marine Forests of South East Australia | EN | Not recorded within the OD route study area |
| Grassy Eucalypt Woodland of the Victorian Volcanic Plain | CR | Not recorded within the OD route study area |
| Natural Temperate Grassland of the Victorian Volcanic Plain | CR | Not recorded within the OD route study area |
| Seasonal Herbaceous Wetland of the Temperate Lowland Plain | CR | Not recorded within the OD route study area |
| Subtropical and Temperate Coastal Saltmarsh | VU | Not recorded within the OD route study area |

| Ecological Community | EPBC | Occurrence in the over-dimensional transport route study area |
|---|---|---|
| White Box-Yellow-Box-Blakeley's Red Gum Grassy Woodland and Derived Native Grassland | CR | Not recorded within the OD route study area |

**Notes**: EPBC = status under EPBC Act: CR = critically endangered; EN = endangered; VU = vulnerable.

Based on an assessment of native vegetation in the over-dimensional transport route study area against published descriptions and condition thresholds, the following communities were found not to occur in the OD route study area based on the factors described below.

- **Assemblages of species associated with open-coast salt-wedge estuaries of western and central Victoria ecological community** – listed as Endangered under the EPBC Act

  No vegetation within the over-dimensional transport route study area met the description of this community, which occurs in estuaries (DEE 2018).

- **Giant Kelp Marine Forests of South East Australia –** listed as Endangered under the EPBC Act

  No vegetation within the over-dimensional transport route study area met the key diagnostic criteria of this community, which occurs at or below sea level (TSSC 2012b).

- **Grassy Eucalypt Woodland of the Victorian Volcanic Plain –** listed as Critically Endangered under the EPBC Act

  Herb-rich Foothill Forest (EVC 23) and Higher-rainfall Plains Grassy Woodland (EVC 55_63) mapped within the over-dimensional transport route study area would potentially meet the key diagnostic criteria for this community (TSSC 2008a), namely remnant native vegetation within the Victorian Volcanic Plain where trees are present such that the projective foliage cover of native trees is more than 5% and the tree canopy is generally dominated by River Red Gum or associated eucalypts, including Swamp Gum and Manna Gum in areas receiving over 700 mm rainfall (as patches of Herb-rich Foothill Forest mapped within the over-dimensional transport route study area would (BoM 2021)). Habitat Zones A, B, C, D, E, 1TrAB, 1TrAC, 1TrAD, 1TrAE, 1TrAF and 1TrAG do not meet the minimum patch size (0.5 hectares) for the listed ecological community (TSSC 2008a). Habitat zone 1TrAA does meet the minimum patch size but does not meet the first condition threshold for the listed ecological community, because 50% or more of the perennial ground layer vegetation was not native species, and there were not more than ten native perennial species and at least three big trees per hectare (TSSC 2008a). Therefore, this community does not occur within the over-dimensional transport route study area.

- **Natural Temperate Grassland of the Victorian Volcanic Plain –** listed as Critically Endangered under the EPBC Act

  No vegetation within the over-dimensional transport route study area met the key diagnostic criteria of this community, which is described as a patch of remnant native vegetation on the Victorian Volcanic Plain where trees are (and were) absent or sparse such that the projective foliage cover of native trees in the patch is (and would have been) 5% or less (TSSC 2008b).

- **Seasonal Herbaceous Wetland of the Temperate Lowland Plain –** listed as Critically Endangered under the EPBC Act

  No EVCs associated with the listed ecological community (TSSC 2012a) were recorded within the over-dimensional transport route study area.

- **Subtropical and Temperate Coastal Saltmarsh –** listed as Vulnerable under the EPBC Act

  No vegetation within the over-dimensional transport route study area met the physical conditions of the listed community, which occurs in coastal areas under regular or intermittent tidal influence (DSEWPaC 2013).

- **White Box-Yellow-Box-Blakeley's Red Gum Grassy Woodland and Derived Native Grassland –** listed as Critically Endangered under the EPBC Act

No vegetation within the over-dimensional transport route study area met the first key diagnostic criterion for this community, namely that at least one of the most common overstorey species is/was White Box, Yellow Box or Blakely's Red Gum (TSSC 2006).

### 4.2.3 Threatened flora

VBA records and the EPBC Protected Matters Search Tool indicated that within the search region there were records of, or there occurred potential suitable habitat for, 19 species listed under the Commonwealth EPBC Act and 25 listed under the state FFG Act, including 14 listed under both Acts.

One species listed under the FFG Act – Salt Paperbark - was recorded within the over-dimensional transport route study area as a planted specimen. This species occurred in Habitat Zones 1TrAA, 1Tr AB, 1Tr AC and 1Tr AD. It is considered unlikely that this species would have naturally occurred in this area given its habitat requirements and the original modelled vegetation of these areas (DELWP 2018) but has been included in roadside planting along with other native plants not indigenous to the locality.

The likelihood of occurrence in the over-dimensional transport route study area of species listed under the EPBC Act and FFG Act was assessed by Nature Advisory. Species considered 'likely to occur' are those that have a very high chance of being in the study area based on numerous records in the search region and suitable habitat in the study area. Species considered to have the 'potential to occur' are those for which suitable habitat exists, but recent records are scarce.

This analysis indicates that five listed flora species were likely to occur or had the potential to occur. These species are listed below.

- River Swamp Wallaby-grass (*Amphibromus fluitans*), EPBC Act (Vulnerable) - not recorded during targeted surveys. Following field surveys, it was concluded that the species is unlikely to occur within the OD route study area.
- Curly Sedge (*Carex tasmanica*), FFG Act (endangered) – not recorded during targeted surveys. Following field surveys, it was concluded that the species is unlikely to occur within the over-dimensional transport route study area.
- Clover Glycine (*Glycine latrobeana*), EPBC Act (Vulnerable), FFG Act (vulnerable) – not recorded during targeted surveys. Following field surveys, it was concluded that the species is unlikely to occur within the over-dimensional transport route study area.
- Gorae Leek-orchid (*Prasophyllum diversiflorum*), EPBC Act (Endangered), FFG Act (critically endangered) – not recorded during targeted surveys. Following field surveys, it was concluded that the species is unlikely to occur within the over-dimensional transport route study area.
- Maroon Leek-orchid (*Prasophyllum frenchii*), EPBC Act (Endangered), FFG Act (endangered) – not recorded during targeted surveys. Following field surveys, it was concluded that the species is unlikely to occur within the over-dimensional transport route study area.

The targeted surveys for the above-listed flora species focussed on areas identified to support suitable habitat for them. These areas were inspected thoroughly along transects spaced no more than five metres apart. This transect spacing was chosen based on the lifeform of the targeted species and the visibility (i.e., density of ground cover) within areas of suitable habitat.

None of the above-listed threatened flora species were recorded in the October or December 2018 targeted flora surveys, and they are therefore now considered unlikely to occur in the over dimensional route study area.

The removal of native vegetation is required as a result of the need to get infrastructure in over-sized vehicles to site. Whilst every effort has been made to avoid and minimise the native vegetation removal, there is a need for it to occur in the stated locations. The proposal has had regard to the provisions of Clause 52.17 Native Vegetation and the impacts of all removal and necessary offsets will be considered as part of the overall project.

As noted above, since a conservative blade length (i.e., 93 metres) was modelled in the swept path analysis, it is possible that through detailed design with a chosen turbine manufacturer some or all of these intersection upgrades and the resulting vegetation clearance may not be required.

## 4.3 Planning assessment

Construction impact pathways are grouped into two types. These are:

- Direct vegetation and habitat loss from clearance, earthworks and physical disturbance.
- Habitat and vegetation degradation from direct and indirect pathway including introduction or spread of invasive species or pathogens, edge effects, barrier effects, surface hydrological changes, deposition of eroded sediments or from contamination caused by accidental spills of hazardous materials.

The key activity during construction with the potential to impact on native vegetation and listed flora values is physical disturbance and earthworks. Physical disturbance includes vegetation clearance, excavation and earthworks such as stockpiling. The shape, size and duration of physical disturbance (i.e., temporary or permanent) influences the degree to which vegetation and listed flora may be impacted.

### 4.3.1 Native vegetation

Intersection upgrades to support the over dimensional route for the Willatook wind farm project is predicted to require the clearance the clearance of 0.043 hectares (or 430 square metres) as shown in Table 5 and shown in Figure 7, Figure 8, Figure 9, and

Figure 10.

**Table 5 Native vegetation clearance**

| EVC | Mapped Extent | Extent of Clearance |
|---|---|---|
| Herb-rich Foothill Forest (EVC 23) | 0.129 | 0.022 |
| Freshwater Meadow | 0.0089 | 0 |
| Shallow Freshwater Marsh | 0.018 | 0.0098 |
| Stony Rises Woodland (EVC 203) | 0.0116 | 0.005 |

In terms of potential impacts as a result of the proposed intersection upgrades to native vegetation, the clearance of 0.043 hectares spread across ten patches of four EVCs was assessed to have a low overall impact. This was based on the following considerations:

- The ecological condition of these patches was low (ranging from 17-42/100).
- The patches consist of vegetation fragments immediately adjacent to existing intersections.
- The size of vegetation clearance in any one area is limited and represent a small proportion of the existing vegetation within these areas.
- Vegetation clearance would be offset in accordance with Victorian Regulations (DELWP 2017).

Offsets required to compensate for the proposed removal of native vegetation from the study area are provided below. A total of 0.013 general habitat units and must include the following offset attribute requirements:

- Minimum strategic biodiversity value (SBV) of 0.683; and
- Occur within the Glenelg Hopkins CMA boundary or Glenelg Shire municipal districts.

The Native Vegetation Removal (NVR) report provided by DELWP is provided in Appendix C.

Offsets will be secured through an accredited native vegetation offset broker. Discussions have been initiated with Vegetation Link and they have confirmed that they have a landowner located in the Glenelg Hopkins CMA that can provide the offsets.


**Figure 7** **Swept path route of intersection of Henty Highway and New Street with mapped native vegetation**

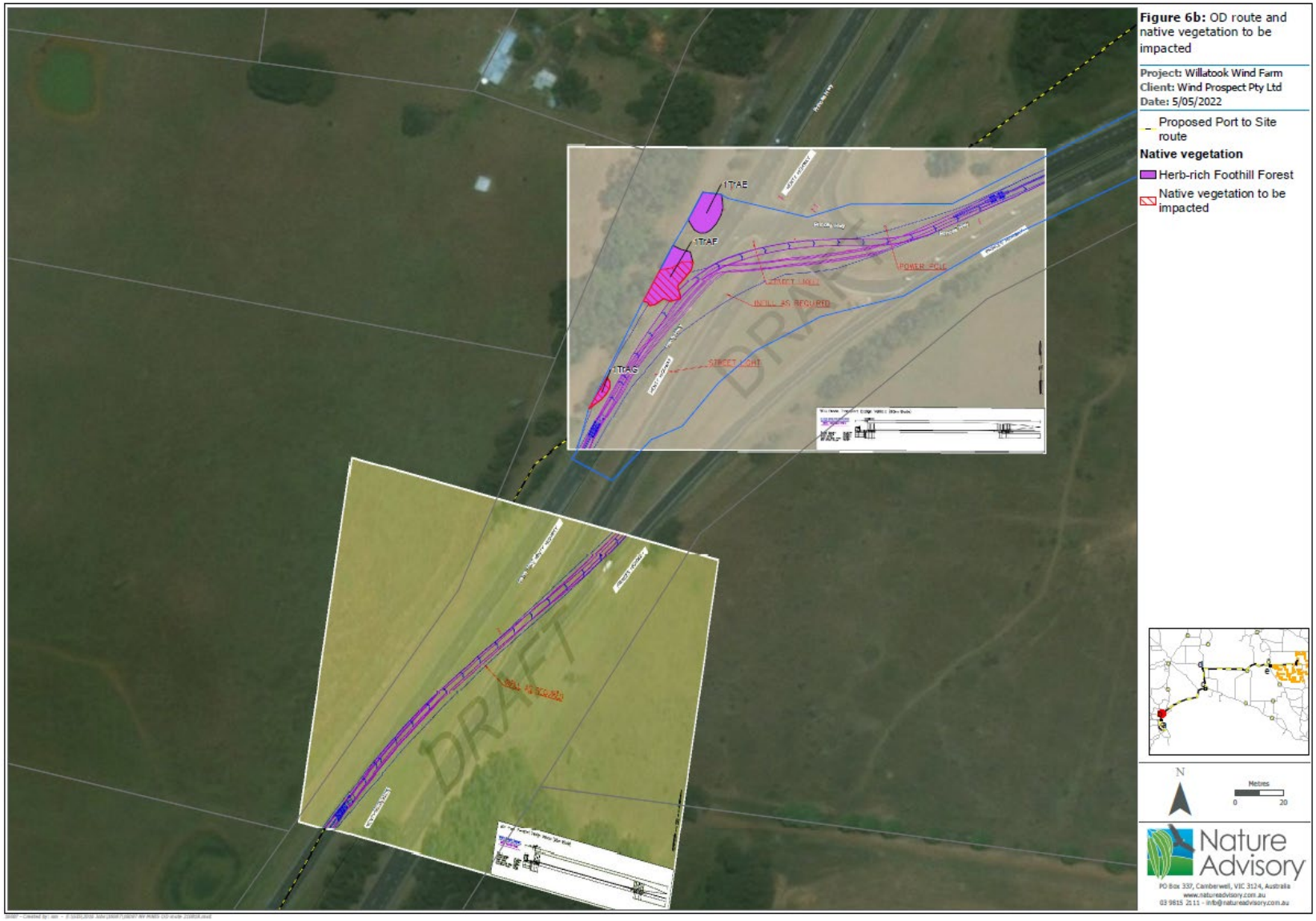



**Figure 8 Swept path route of intersection of Henty Highway and Princess Highway with mapped native vegetation**


**Figure 9** **Swept path route of intersection of Princes Highway and Tyrendarra-Ettrick Road**


**Figure 10** **Swept path route of intersection of Tyrendarra-Ettrick Road and Woolsthorpe-Heywood Road with mapped native vegetation**

### 4.3.2 Ecological communities

No defined EPBC communities were recorded within the over-dimensional transport route study area and therefore no impacts are predicted.

### 4.3.3 Threatened flora

No listed threated species were recorded within the over-dimensional transport route study area and were therefore concluded to be unlikely to occur. Therefore no impacts to threatened flora are predicted.

### 4.3.4 Fauna

The clearance of native vegetation and to a lesser extent exotic vegetation has the potential to reduce habitat available for fauna, at the scale of the proposed works that would affect 10 fragments of native vegetation was not predicted to have a material impact on local fauna populations.

As noted above, the Tyrendarra-Ettrick Road/Woolsthorpe-Haywood Road intersection has an Environmental Significance Overlay schedule 3 (ESO3), which relates to protection of habitat for the Red Tail Black Cockatoo.

Within this intersection, 0.012 ha (120 square metres) of Stony Rises Woodland would be impacted. This patch is dominated by Blackwood (*Acacia melanoxylon*) with a wholly exotic ground-layer. This does not represent the preferred foraging habitat of Brown Stringybark (*Eucalyptus baxteri*) and Bulokes (*Allocasuarina luehmannii*). As such no impact to Red Tail Black Cockatoo is predicted.

### 4.3.5 Proposed environmental management

Where possible, design measures have been included to avoid potential impacts to biodiversity. To further minimise potential impacts, management controls would be carried out during construction and operation of the project. Committed management measures are outlined in Table 6.

**Table 6 Biodiversity management measures**

| Project phase | Management controls |
|---|---|
| Pre-construction | Measures to manage native vegetation during construction would include:<br>• Obtain appropriate approvals and permits before any vegetation removal.<br>• Appropriate offsets would be secured in accordance with state and Commonwealth legislation and policy.<br>• Locate temporary infrastructure areas (parking areas, stockpiles, laydowns etc) in already cleared areas.<br>• Ensure all construction personnel are appropriately briefed before works start<br>• Ensure no construction personnel, machinery or equipment are placed inside vegetation/tree protection zones. |
| Construction | The approved vegetation clearing extent, including retained patches of vegetation within the construction footprint, would be clearly demarcated and identified during the construction stage as follows:<br>• All project personnel would need to attend an induction that outlines environmental management requirements. This would include information on the biodiversity values of the project area specifically areas of threatened flora and fauna habitat.<br>• Erecting flagging, bunting and signage, construction fencing or fauna-specific temporary fencing in areas of special concern and appropriate buffers as follows:<br>  - Areas of mapped EVCs<br>  - Tree protection zones |
| Construction and operations | Revegetation of disturbed areas including:<br>• Planting locally occurring native shrubs, trees and groundcover plants, selected in consultation with DELWP, to recreate the target vegetation community.<br>• Maintaining plantings in accordance with the rehabilitation sub-plan.<br>• Managing weeds and pest animals. |

| Project phase | Management controls |
|---|---|
| Pre-construction, construction and operation | The following measures would be carried out to manage biosecurity risks:<br>• Undertake a baseline weed survey of representative locations within the development footprint to identify locations of existing weed infestations.<br>• Inspection and certification of all vehicles and construction machinery upon arrival at site. Vehicles and construction machinery cannot access the site until certified as clean.<br>• Vehicles and construction machinery would not go outside of the construction footprint or approved roads and tracks.<br>• Monitor the condition of disturbed areas post-construction and undertake remedial measures, within 3 months, with the aim that all disturbed areas are re-profiled to a stable landform consistent with original contours and drainage lines and vegetated with a self-sustaining, non-pest species sterile groundcover (in consultation with landholder requirements). |

# Chapter 5 References

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TSSC 2006 - Threatened Species Scientific Committee (TSSC) 2006, Commonwealth Listing Advice on White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, Department of Environment and Heritage, Canberra.

TSSC 2008a - Threatened Species Scientific Committee (TSSC) 2008a, Commonwealth Listing Advice on Grassy Eucalypt Woodland of the Victorian Volcanic Plain, Department of the Environment, Water, Heritage and the Arts, Canberra.

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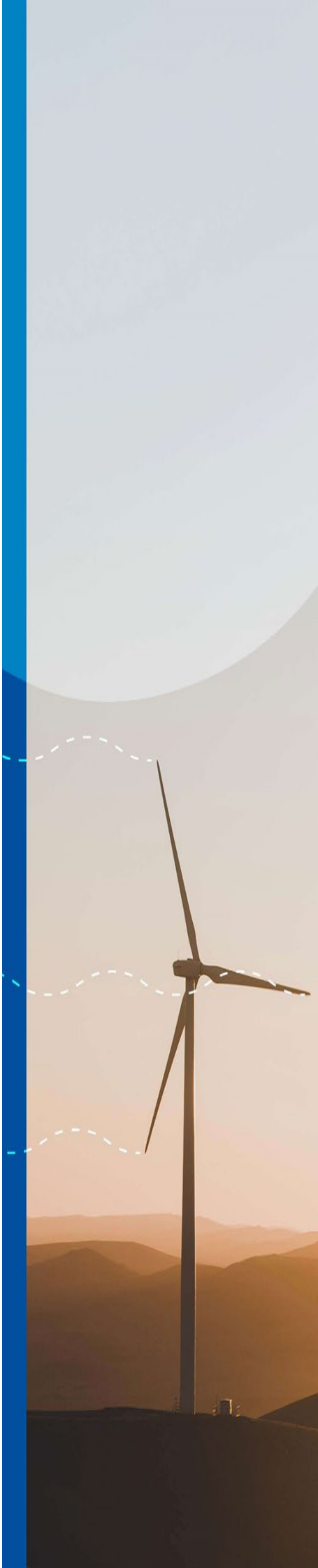
TSSC 2012a - Threatened Species Scientific Committee (TSSC) 2012a, Commonwealth Listing Advice on Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains, Commonwealth of Australia.

TSSC 2012b Threatened Species Scientific Committee (TSSC) 2012b, Commonwealth Listing Advice on Giant Kelp Marine Forests of South East Australia, Commonwealth of Australia.



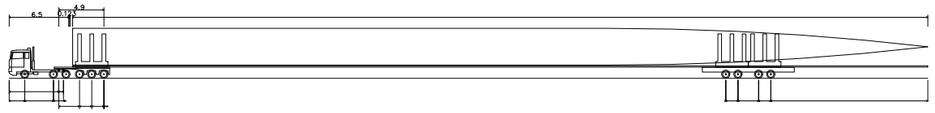
Appendix A

# Swept path analysis

## WTG Blade Transport Design Vehicle (93m Blade)

VEHICLE ENVELOPE (FORWARD)

WHEEL TRACKING PATHS




| | |
|---|---|
| Overall Length | 99.900m |
| Overall Width | 4.301m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 37.50° |




CAD FILE: x:\14501-15000\14558t - willatook wind farm\design\cadd\2019-06-12 - 93m blade swept paths\14558t-sp02_bt.dwg

| ISSUE | DESIGN | DATE | AMENDMENT |
|---|---|---|---|
| B | – | 17/06/19 | PRELIMINARY ISSUE – INCREASE BLADE LENGTH |
| A | – | 00/00/17 | PRELIMINARY ISSUE |

GENERAL NOTES
1. BASE INFORMATION OBTAINED FROM BING MAPS ON 17/11/17
2. BASE INFORMATION UPDATED FROM NEARMAP AND BING 14/06/19

| | |
|---|---|
| DESIGNED | C HAMOND |
| CHECKED | B THOMSON |
| AUTHORISED | A WALLEY |
| SCALE | 0 7.5 15 |

ratio:
RATIO CONSULTANTS PTY LTD
ACN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

# WILLATOOK WIND FARM

## SWEPT PATH ASSESSMENT
## HENTY HWY / NEW ST

| DATE | SHEET NO. | DRAWING NO. | ISSUE |
|---|---|---|---|
| 21/06/2019 | 1 OF 7 | 14558T SP01-1 | B |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WTG Blade Transport Design Vehicle (93m Blade)

VEHICLE ENVELOPE (FORWARD)
WHEEL TRACKING PATHS

| | |
|---|---|
| Overall Length | 99.900m |
| Overall Width | 4.301m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 37.50° |




| ISSUE | CHECK | DATE | AMENDMENT |
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| B | – | 17/06/19 | PRELIMINARY ISSUE – INCREASE BLADE LENGTH |
| A | – | 00/00/17 | PRELIMINARY ISSUE |

GENERAL NOTES
1. BASE INFORMATION OBTAINED FROM BING MAPS ON 17/11/17

| | |
|---|---|
| DESIGNED | C HAMOND |
| CHECKED | B THOMSON |
| AUTHORISED | A WALLEY |
| SCALE | 0 5 10 |

ratio:
RATIO CONSULTANTS PTY LTD
ACN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

WILLATOOK WIND FARM

SWEPT PATH ASSESSMENT
HENTY HWY / PRINCES HWY – OPTION 1

| DATE | SHEET NO. | DRAWING NO. | ISSUE |
|---|---|---|---|
| 21/06/2019 | 2 OF 7 | 14558T SP01-2 | B |


WTG Blade Transport Design Vehicle (93m Blade)

VEHICLE ENVELOPE (FORWARD)
WHEEL TRACKING PATHS

| | |
|---|---|
| Overall Length | 99.900m |
| Overall Width | 4.301m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 37.50° |




| ISSUE | CHECK | DATE | AMENDMENT |
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| B | – | 17/06/19 | PRELIMINARY ISSUE – INCREASE BLADE LENGTH |
| A | – | 00/00/17 | PRELIMINARY ISSUE |

GENERAL NOTES
1. BASE INFORMATION OBTAINED FROM BING MAPS ON 17/11/17

| | |
|---|---|
| DESIGNED | C HAMOND |
| CHECKED | B THOMSON |
| AUTHORISED | A WALLEY |
| SCALE | 0 5 10 |

ratio:
RATIO CONSULTANTS PTY LTD
ACN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

WILLATOOK WIND FARM

SWEPT PATH ASSESSMENT
HENTY HWY / PRINCES HWY – OPTION 1

| DATE | SHEET NO. | DRAWING NO. | ISSUE |
|---|---|---|---|
| 21/06/2019 | 3 OF 7 | 14558T SP01-3 | B |

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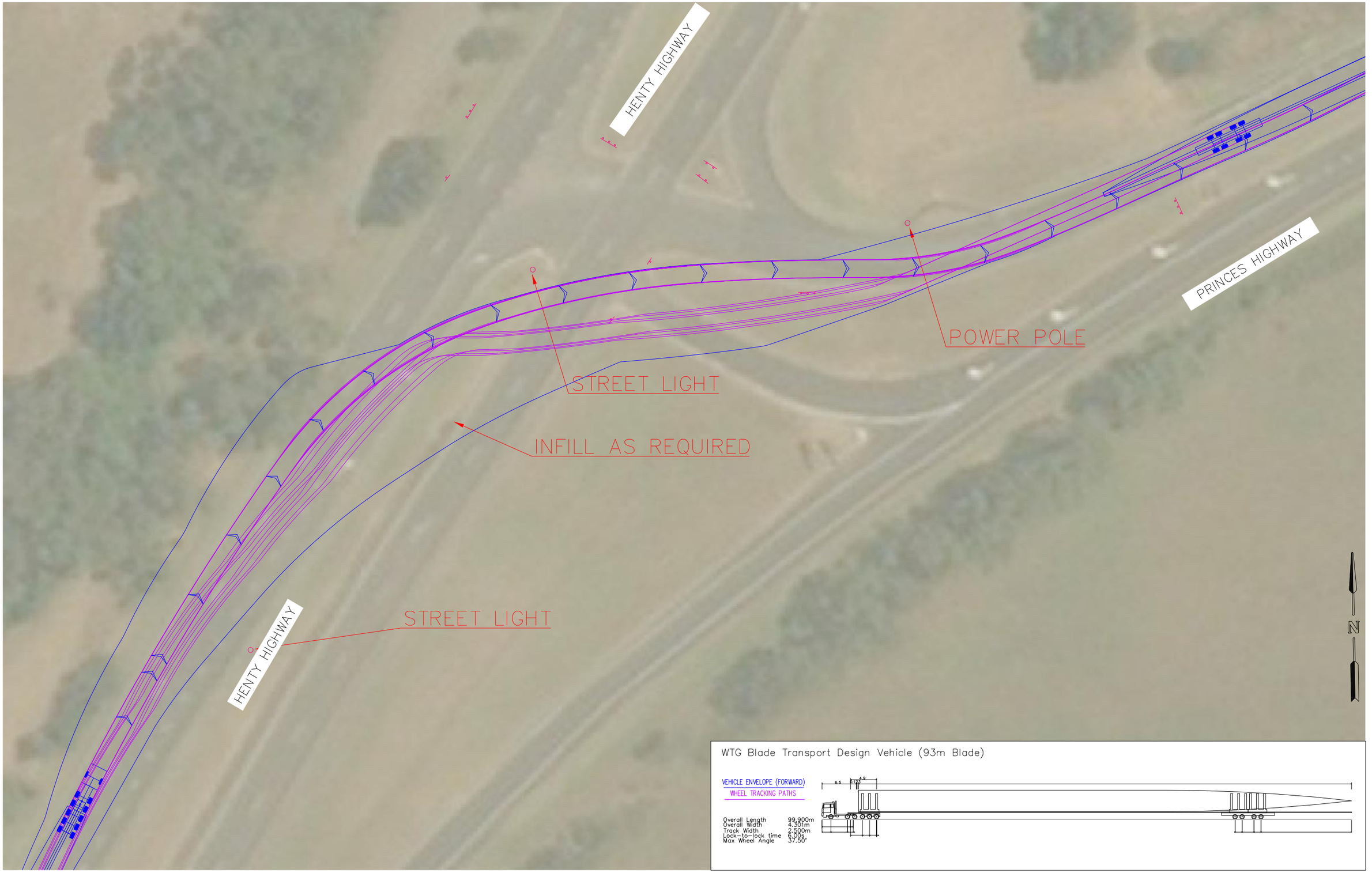


WTG Blade Transport Design Vehicle (93m Blade)

VEHICLE ENVELOPE (FORWARD)
WHEEL TRACKING PATHS

| | |
|---|---|
| Overall Length | 99.900m |
| Overall Width | 4.301m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 37.50° |




| ISSUE | CHECK | DATE | AMENDMENT |
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| B | – | 17/06/19 | PRELIMINARY ISSUE – INCREASE BLADE LENGTH |
| A | – | 00/00/17 | PRELIMINARY ISSUE |

GENERAL NOTES
1. BASE INFORMATION OBTAINED FROM BING MAPS ON 17/11/17

| | |
|---|---|
| DESIGNED | C HAMOND |
| CHECKED | B THOMSON |
| AUTHORISED | A WALLEY |
| SCALE | 0 5 10 |

ratio:
RATIO CONSULTANTS PTY LTD
ACN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

WILLATOOK WIND FARM

SWEPT PATH ASSESSMENT
HENTY HWY / PRINCES HWY – OPTION 2

| DATE | SHEET NO. | DRAWING NO. | ISSUE |
|---|---|---|---|
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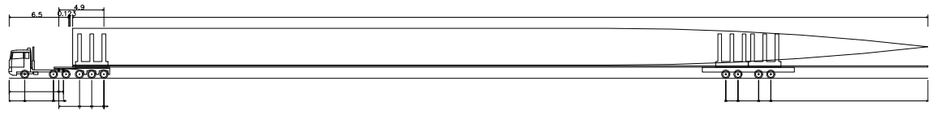
## WTG Blade Transport Design Vehicle (93m Blade)

VEHICLE ENVELOPE (FORWARD)

WHEEL TRACKING PATHS




| | |
|---|---|
| Overall Length | 99.900m |
| Overall Width | 4.301m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 37.50° |




| ISSUE | CHKD | DATE | AMENDMENT |
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| B | – | 17/06/19 | PRELIMINARY ISSUE – INCREASE BLADE LENGTH |
| A | – | 00/00/17 | PRELIMINARY ISSUE |

GENERAL NOTES

1. BASE INFORMATION OBTAINED FROM BING MAPS ON 17/11/17

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|---|---|
| DESIGNED | C HAMOND |
| CHECKED | B THOMSON |
| AUTHORISED | A WALLEY |
| SCALE | 0 7.5 15 |

ratio:
RATIO CONSULTANTS PTY LTD
ACN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

WILLATOOK WIND FARM

SWEPT PATH ASSESSMENT
PRINCES HWY / TYRENDARRA-ETTRICK RD

| DATE | SHEET NO. | DRAWING NO. | ISSUE |
|---|---|---|---|
| 21/06/2019 | 4 OF 7 | 14558T SP01-4 | B |

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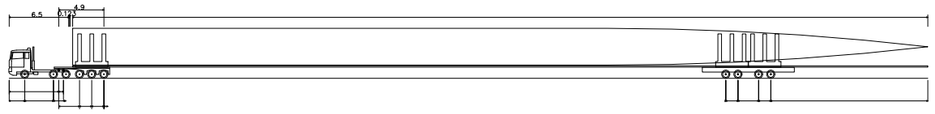
## WTG Blade Transport Design Vehicle (93m Blade)

VEHICLE ENVELOPE (FORWARD)

WHEEL TRACKING PATHS




| | |
|---|---|
| Overall Length | 99.900m |
| Overall Width | 4.301m |
| Track Width | 2.500m |
| Lock-to-lock time | 6.00s |
| Max Wheel Angle | 37.50° |

TYRENDARRA-ETTRICK ROAD

WOOLSTHORPE-HEYWOOD RD

INFILL AS REQUIRED

FENCELINE

TREE TO BE REMOVED

N

| ISSUE | CHECK | DATE | AMENDMENT |
|---|---|---|---|
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| B | – | 17/06/19 | PRELIMINARY ISSUE – INCREASE BLADE LENGTH |
| A | – | 00/00/17 | PRELIMINARY ISSUE |

GENERAL NOTES

1. BASE INFORMATION OBTAINED FROM BING MAPS ON 17/11/17

| | |
|---|---|
| DESIGNED | C HAMOND |
| CHECKED | B THOMSON |
| AUTHORISED | A WALLEY |
| SCALE | 0 5 10 |

ratio:
RATIO CONSULTANTS PTY LTD
ACN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

WILLATOOK WIND FARM

SWEPT PATH ASSESSMENT
TYRENDARRA / WOOLSTHORPE

| DATE | SHEET NO. | DRAWING NO. | ISSUE |
|---|---|---|---|
| 21/06/2019 | 5 OF 7 | 14558T SP01-5 | B |

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Appendix B

# Habitat hectare assessment

| Habitat Zone | | | 1TrAA | 1TrAB | 1TrAC | 1TrAD | 1TrAE | 1TrAF | 1TrAG | 1TrAH | 1TrAI | 1TrAJ | 1TrAK | A | B | C | D | E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bioregion | | | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP | VVP |
| EVC Number | | | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 821 | 653 | 203 | 642 | 55_63 | 55_63 | 55_63 | 55_63 | 55_63 |
| Total area of Habitat Zone (ha) | | | 0.032 | 0.014 | 0.018 | 0.010 | 0.016 | 0.026 | 0.003 | 0.008 | 0.018 | 0.012 | 0.011 | 0.078 | 0.037 | 0.188 | 0.065 | 0.025 |
| Site Condition | Large Old Trees | /10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Tree Canopy Cover | /5 | 2 | 0 | 0 | 0 | 0 | 3 | 0 | N/A | N/A | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Lack of Weeds | /15 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Understorey | /25 | 5 | 5 | 5 | 5 | 5 | 5 | 15 | 15 | 15 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| | Recruitment | /10 | 0 | 0 | 0 | 0 | 5 | 5 | 6 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Organic Matter | /5 | 5 | 5 | 5 | 5 | 2 | 5 | 5 | 3 | 5 | 2 | 2 | 4 | 4 | 4 | 4 | 4 |
| | Logs | /5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A | N/A | 0 | 0 | 5 | 5 | 5 | 5 | 5 |
| | Site condition standardising multiplier* | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.36 | 1.36 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | *Site Condition subtotal* | | *12* | *14* | *10* | *10* | *12* | *18* | *26* | *34* | *37* | *12* | *7* | *14* | *14* | *14* | *14* | *14* |
| Landscape Context | Patch Size | /10 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Neighbourhood | /10 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Distance to Core | /5 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Condition Score** | | **/100** | **14** | **16** | **12** | **12** | **14** | **23** | **31** | **39** | **42** | **17** | **8** | **15** | **15** | **15** | **15** | **15** |

* Modified approach to habitat scoring - refer to Table 14 of DELWP's Vegetation Quality Assessment Manual (DSE, 2004)

Appendix C

# Native vegetation removal report

# Native vegetation removal report

This report provides information to support an application to remove, destroy or lop native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report **is not an assessment by DELWP** of the proposed native vegetation removal. Native vegetation information and offset requirements have been determined using spatial data provided by the applicant or their consultant.

**Date of issue:** **26/04/2022**
**Time of issue:** **9:26 am**

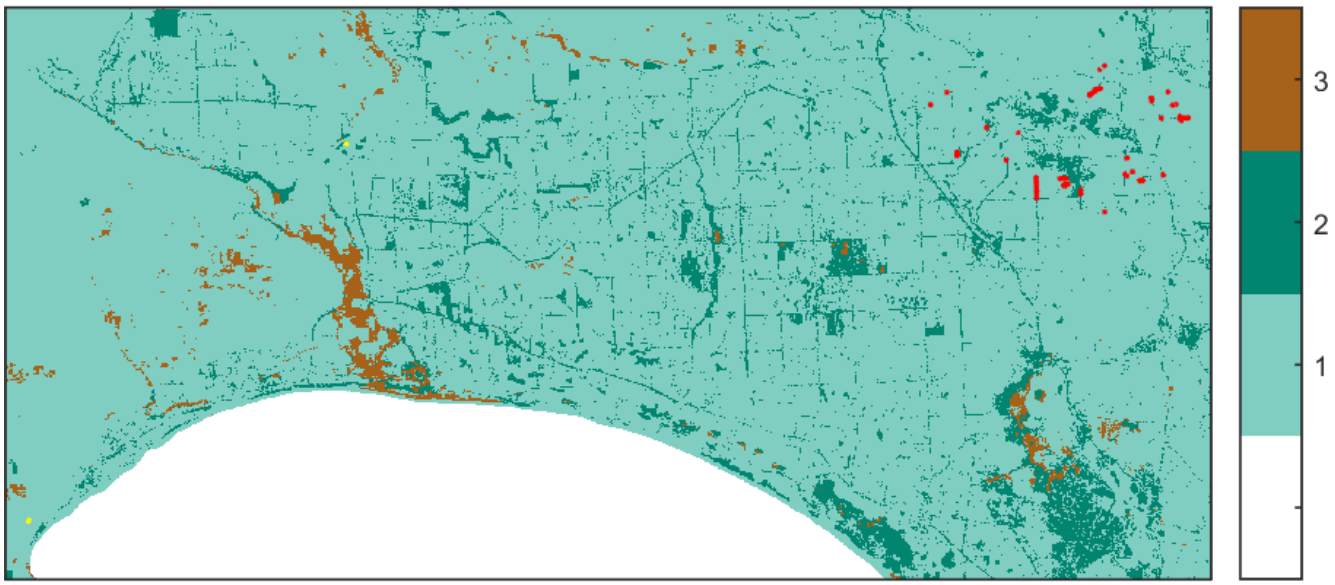
**Report ID: NAA_2022_062**

| **Project ID** | 16087_Willatook_Impact_ODRoute_v80_001_Glenelg_220421 |
|---|---|

## Assessment pathway

| **Assessment pathway** | **Detailed Assessment Pathway** |
|---|---|
| Extent including past and proposed | 4.609 ha |
| Extent of past removal | 4.572 ha |
| Extent of proposed removal | 0.037 ha |
| No. Large trees proposed to be removed | 0 |
| Location category of proposed removal | Location 1<br>The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map), sensitive wetland or coastal area. Removal of less than 0.5 hectares in this location will not have a significant impact on any habitat for a rare or threatened species |

**1. Location map**



## Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

| | |
|---|---|
| **General offset amount**[1] | 0.013 general habitat units |
| Vicinity | Glenelg Hopkins Catchment Management Authority (CMA) or Glenelg Shire Council |
| Minimum strategic biodiversity value score[2] | 0.734 |
| Large trees | 0 large trees |

NB: values within tables in this document may not add to the totals shown above due to rounding

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

1 The general offset amount required is the sum of all general habitat units in Appendix 1.

2 Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

## Next steps

Any proposal to remove native vegetation must meet the application requirements of the Detailed Assessment Pathway and it will be assessed under the Detailed Assessment Pathway.

If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. Council will refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

This *Native vegetation removal report* must be submitted with your application for a permit to remove, destroy or lop native vegetation.

Refer to the *Guidelines for the removal, destruction or lopping of native* vegetation (the Guidelines) for a full list of application requirements This report provides information that meets the following application requirements:

- The assessment pathway and reason for the assessment pathway
- A description of the native vegetation to be removed (partly met)
- Maps showing the native vegetation and property (partly met)
- Information about the impacts on rare or threatened species.
- The offset requirements determined in accordance with section 5 of the Guidelines that apply if approval is granted to remove native vegetation.

Additional application requirements must be met including:

- Topographical and land information
- Recent dated photographs
- Details of past native vegetation removal
- An avoid and minimise statement
- A copy of any Property Vegetation Plan that applies
- A defendable space statement as applicable
- A statement about the Native Vegetation Precinct Plan as applicable
- A site assessment report including a habitat hectare assessment of any patches of native vegetation and details of trees
- An offset statement that explains that an offset has been identified and how it will be secured.



Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

www.delwp.vic.gov.au

# Appendix 1: Description of native vegetation to be removed

The species-general offset test was applied to your proposal. This test determines if the proposed removal of native vegetation has a proportional impact on any rare or threatened species habitats above the species offset threshold. The threshold is set at 0.005 per cent of the mapped habitat value for a species. When the proportional impact is above the species offset threshold a species offset is required. This test is done for all species mapped at the site. Multiple species offsets will be required if the species offset threshold is exceeded for multiple species.

Where a zone requires species offset(s), the species habitat units for each species in that zone is calculated by the following equation in accordance with the Guidelines:

*Species habitat units = extent x condition x species landscape factor x 2, where the species landscape factor = 0.5 + (habitat importance score/2)*

The species offset amount(s) required is the sum of all species habitat units per zone

Where a zone does not require a species offset, the general habitat units in that zone is calculated by the following equation in accordance with the Guidelines:

*General habitat units = extent x condition x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)*

The general offset amount required is the sum of all general habitat units per zone.

## Native vegetation to be removed

| Information provided by or on behalf of the applicant in a GIS file | | | | | | | Information calculated by EnSym | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Zone** | **Type** | **BioEVC** | **BioEVC conservation status** | **Large tree(s)** | **Partial removal** | **Condition score** | **Polygon Extent** | **Extent without overlap** | **SBV score** | **HI score** | **Habitat units** | **Offset type** |
| 1-1TrAI | Patch | vvp_0203 | Vulnerable | 0 | no | 0.420 | 0.005 | 0.005 | 0.960 | | 0.003 | General |
| 1-1TrAJ | Patch | vvp_0200 | Endangered | 0 | no | 0.170 | 0.010 | 0.010 | 0.960 | | 0.002 | General |
| 1-1TrAG | Patch | vvp_0023 | Vulnerable | 0 | no | 0.310 | 0.003 | 0.003 | 0.599 | | 0.001 | General |
| 1-1TrAF | Patch | vvp_0023 | Vulnerable | 0 | no | 0.230 | 0.019 | 0.019 | 0.940 | | 0.006 | General |

# Appendix 2: Information about impacts to rare or threatened species' habitats on site

This table lists all rare or threatened species' habitats mapped at the site.

| Species common name | Species scientific name | Species number | Conservation status | Group | Habitat impacted | % habitat value affected |
|---|---|---|---|---|---|---|
| Curly Sedge | *Carex tasmanica* | 500650 | Vulnerable | Dispersed | Habitat importance map | 0.0001 |
| Lacey River Buttercup | *Ranunculus amplus* | 505019 | Rare | Dispersed | Habitat importance map | 0.0001 |
| Showy Lobelia | *Lobelia beaugleholei* | 502733 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Squat Picris | *Picris squarrosa* | 504827 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Swamp Everlasting | *Xerochrysum palustre* | 503763 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Dense Leek-orchid | *Prasophyllum spicatum* | 504506 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Wavy Swamp Wallaby-grass | *Amphibromus sinuatus* | 503625 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Plains Yam-daisy | *Microseris scapigera s.s.* | 504657 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Bog Gum | *Eucalyptus kitsoniana* | 501290 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Small Sickle Greenhood | *Pterostylis lustra* | 504876 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Swamp Flax-lily | *Dianella callicarpa* | 505086 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Blotched Sun-orchid | *Thelymitra benthamiana* | 503369 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Leafy Twig-sedge | *Cladium procerum* | 500786 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Purple Blown-grass | *Lachnagrostis punicea subsp. punicea* | 504206 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Swamp Fireweed | *Senecio psilocarpus* | 504659 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Parsley Xanthosia | *Xanthosia leiophylla* | 504562 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Western Peppermint | *Eucalyptus falciformis* | 505358 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Purple Blown-grass | *Lachnagrostis punicea subsp. filifolia* | 504222 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Lime Fern | *Pneumatopteris pennigera* | 502578 | Endangered | Dispersed | Habitat importance map | 0.0000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Western Golden-tip | *Goodia medicaginea* | 501518 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Pale Swamp Everlasting | *Coronidium gunnianum* | 504655 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| One-flower Early Nancy | *Wurmbea uniflora* | 503583 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Coast Helmet-orchid | *Corybas despectans* | 500836 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Dwarf Brooklime | *Gratiola pumilo* | 503753 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Coast Ground-berry | *Acrotriche cordata* | 500119 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Spotted Hyacinth-orchid | *Dipodium pardalinum* | 500324 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Clover Glycine | *Glycine latrobeana* | 501456 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Swamp Greenhood | *Pterostylis tenuissima* | 502819 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Southern Bent-wing Bat | *Miniopterus schreibersii bassanii* | 61343 | Critically endangered | Dispersed | Habitat importance map | 0.0000 |
| Lax Twig-sedge | *Baumea laxa* | 500378 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Swamp Onion-orchid | *Hydrorchis orbicularis* | 502186 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Leafy Greenhood | *Pterostylis cucullata subsp. cucullata* | 505911 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Swamp Diuris | *Diuris palustris* | 501082 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Winter Sun-orchid | *Thelymitra hiemalis* | 505006 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Southern Xanthosia | *Xanthosia tasmanica* | 504088 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Swamp Skink | *Lissolepis coventryi* | 12407 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Salt Blown-grass | *Lachnagrostis robusta* | 504223 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Hoary Rapier-sedge | *Lepidosperma canescens* | 501915 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Salt Paperbark | *Melaleuca halmaturorum* | 502149 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Mauve-tuft Sun-orchid | *Thelymitra malvina* | 503374 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Slender Pink-fingers | *Caladenia vulgaris* | 504449 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Rough Daisy-bush | *Olearia asterotricha* | 502300 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Metallic Sun-orchid | *Thelymitra epipactoides* | 503367 | Endangered | Dispersed | Habitat importance map | 0.0000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Maroon Leek-orchid | *Prasophyllum frenchii* | 502709 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Forest Bitter-cress | *Cardamine papillata* | 505034 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Southern Toadlet | *Pseudophryne semimarmorata* | 13125 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Lewin's Rail | *Lewinia pectoralis pectoralis* | 10045 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Delicate Crane's-bill | *Geranium sp. 6* | 505347 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Grey Goshawk | *Accipiter novaehollandiae novaehollandiae* | 10220 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |
| Neat Spear-grass | *Austrostipa mundula* | 503281 | Rare | Dispersed | Habitat importance map | 0.0000 |
| Rough Blown-grass | *Lachnagrostis rudis subsp. rudis* | 500159 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Masked Owl | *Tyto novaehollandiae novaehollandiae* | 10250 | Endangered | Dispersed | Habitat importance map | 0.0000 |
| Wiry Bog-sedge | *Schoenus carsei* | 503043 | Rare | Dispersed | Habitat importance map | 0.0000 |
| White-throated Needletail | *Hirundapus caudacutus* | 10334 | Vulnerable | Dispersed | Habitat importance map | 0.0000 |

**Habitat group**

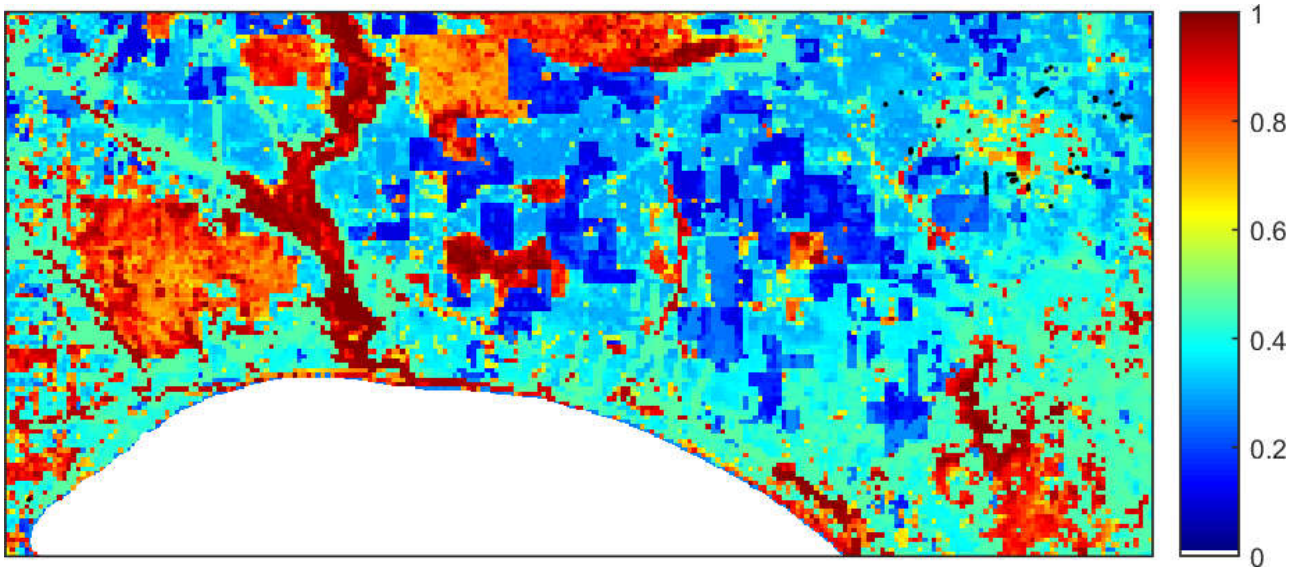
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

**Habitat impacted**

- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species
- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance scores in dispersed species habitat maps and selected VBA records
- Selected VBA record is an area in Victoria that represents a large population, roosting or breeding site etc.

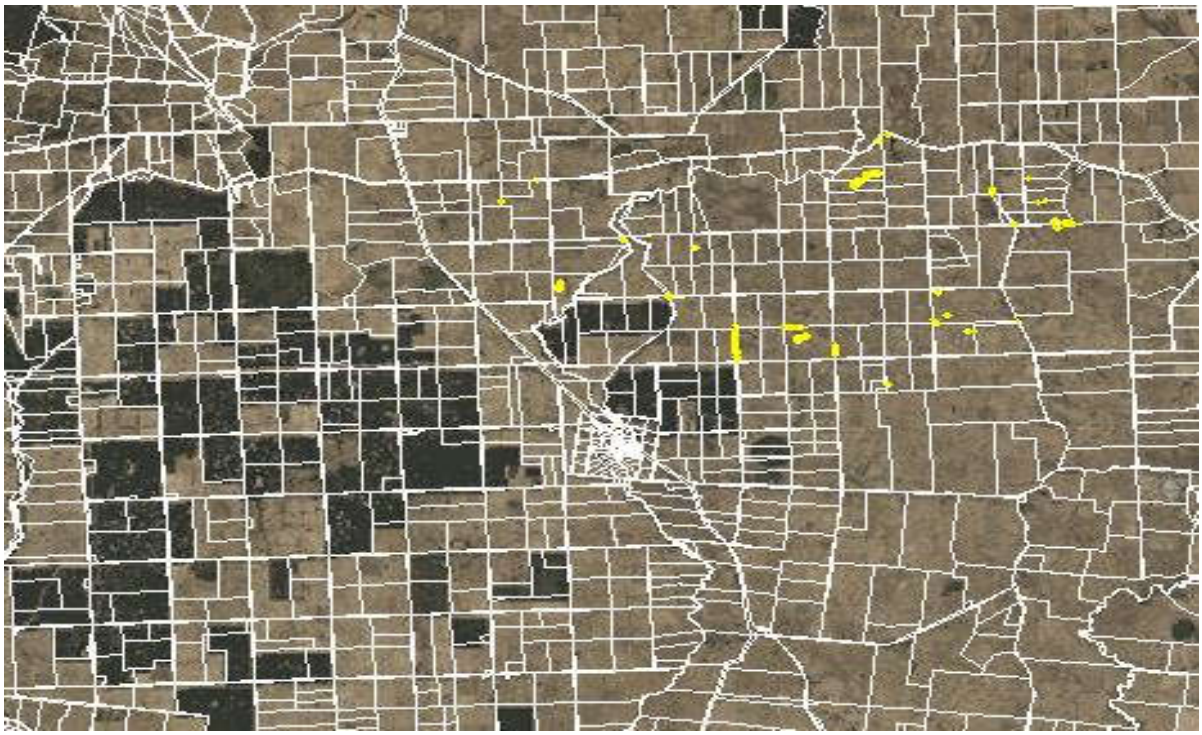
# Appendix 3 – Images of mapped native vegetation

**2. Strategic biodiversity values map**




**3. Aerial photograph showing mapped native vegetation**

**4. Map of the property in context**



Yellow boundaries denote areas of proposed native vegetation removal.

Red boundaries denote areas of past removal.