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Environmental & Social Consultants

# EES SELF-ASSESSMENT

Moreton Hill Wind Farm

**FINAL**

**January 2024**

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Moreton Hill Wind Farm

## FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
MHWF Nominees Pty Ltd.

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Environmental & Social Consultants

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

***Acknowledgement of Country***

*Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.*



**Document Status**

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# 1.0 Introduction

MHWF Nominees Pty Ltd (MHWF Nominees) engaged Umwelt (Australia) Pty Ltd (Umwelt) to prepare a 'self-assessment' of the Moreton Hill Wind Farm project (the Project) against the referral criteria in the *Ministerial guidelines for assessment of environmental effects under the Environment Effects Act 1978* (DELWP, 2006) (the Guidelines) to assist in determining whether the Project is likely to have a significant effect on the environment (individually or in combination).

Projects that could have a significant effect on the environment should be referred to the Victorian Minister for Planning for determination as to whether an Environment Effects Statement (EES) is required. Referral criteria are set out in the Guidelines. The Guidelines also provide guidance on what might constitute a significant effect on the environment.

There are three forms of decisions that the Minister for Planning can make to a referral:

- An EES is required.
- An EES is not required if conditions specified by the Minister for Planning are met (such as the preparation of an Environment Report).
- An EES in not required.

## 1.1 Technical Assessments

The self-assessment has drawn on the following technical assessments prepared for the Project:

- Ecological Assessment, prepared by Ecology and Heritage Partners (EHP) Pty Ltd (2023)
- Geotechnical Desktop Study, prepared by Melbourne Geotechnics (2023)
- Preliminary Landscape and Visual Impact Assessment, prepared by Moir Landscape Architecture (2023)
- Environmental Noise Assessment, prepared by Marshall Day Acoustics (2023)
- Desktop Cultural Heritage Management Plan, prepared by Heritage Insight (2023)
- Preliminary Historical Heritage Assessment, prepared by Heritage Insight (2023)
- Aviation Impact Assessment Report, prepared by Aviation Projects (2023)
- Preliminary Hydrology Assessment, prepared by Umwelt (2023)
- Preliminary Traffic Assessment, prepared by Impact (2023)
- Preliminary Planning Report, prepared by Umwelt (2023)
- Preliminary Socio-economic Baseline, prepared by Umwelt (2023)
- Preliminary Electromagnetic Interference Assessment, prepared by Squadron Energy Pty Ltd (2023)

- Preliminary Shadow Flicker and Blade Glint Assessment, prepared by DNV (2023)
- Preliminary Bushfire Risk Assessment, prepared by Fire Risk Consultants (2023)

## 1.2 Project Overview

MHWF Nominees Pty Ltd is proposing to build a renewable energy facility comprising a wind farm, a battery energy storage facility, and a transmission line to connect the Project to the electricity network, and includes (but is not limited to):

- Up to 62 wind turbines, each with a generation capacity of 421 MW and a maximum overall tip height of 252m
- Hardstands at the base of each turbine
- Underground and overhead reticulation cabling between turbines
- Onsite electrical substation
- A 220 kV underground transmission line connecting the Project from the onsite substation into the electricity network at Berrybank Terminal Station
- Battery Energy Storge System (BESS) with a storage capacity of approximately 150 MW and associated water storage tanks.
- 45,000 litre water tanks at the main site entrance locations or as recommended by the Country Fire Authority (CFA) or Bushfire Risk Assessment (Fire Risk Consultants, 2023).
- Internal site access tracks
- Up to four permanent meteorological monitoring masts
- Operations and maintenance facilities
- Other permanent ancillary works, including road upgrades.

The Project also requires temporary infrastructure including two construction compounds, temporary laydown areas and two concrete batching plants. An indicative layout for the Project is shown in **Figure 1.1.**

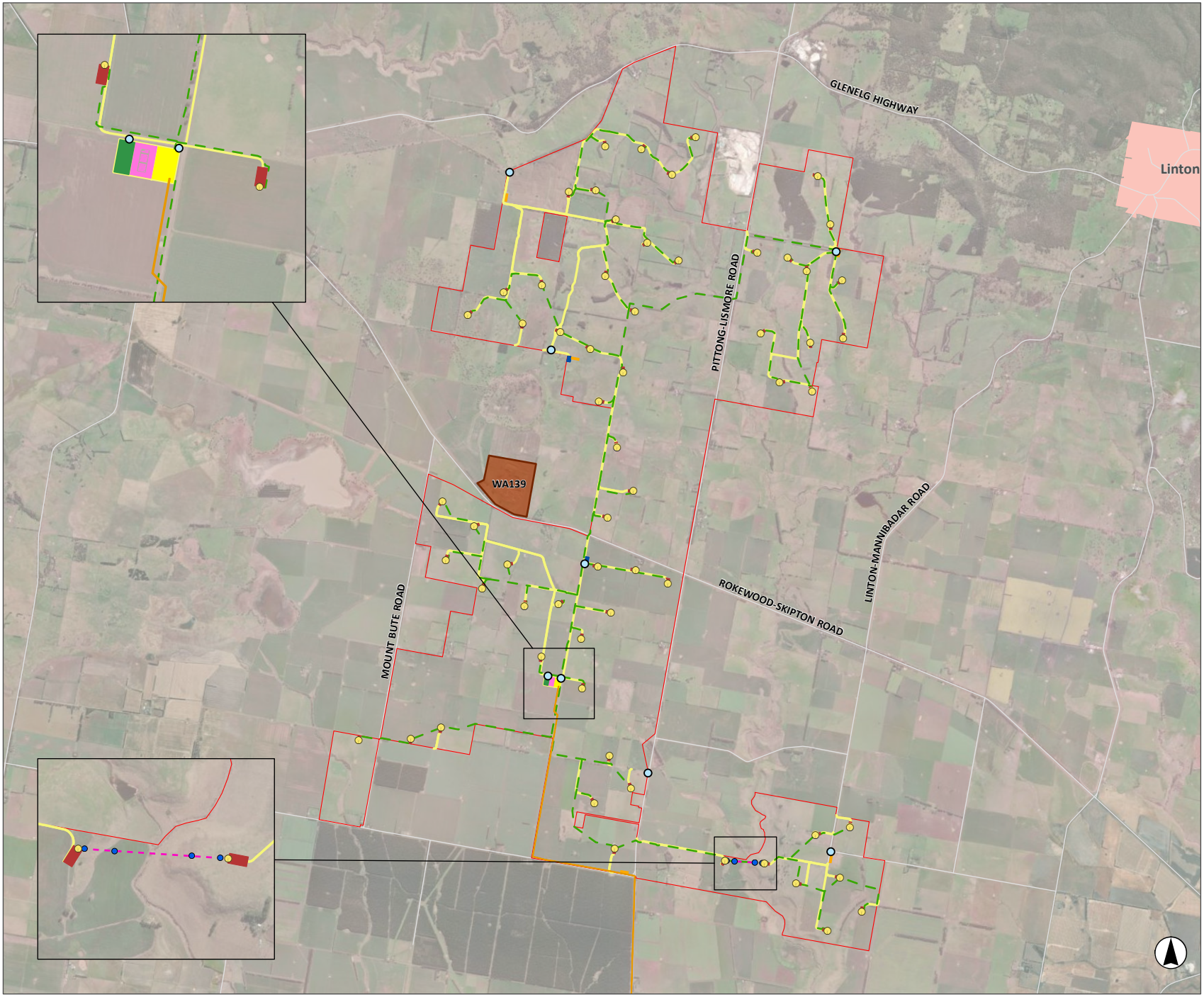
### 1.2.1 Project Site Overview

The Project site is in the Central Highlands region of western Victoria, within Golden Plains Shire and Corangamite Shire, approximately 35 km south-west of Ballarat. The site is largely bound by the Glenelg Highway in the north, Linton-Mannibadar Road in the east, Lismore-Pittong Road in the south and Mount Bute Road in the west. Rokewood Skipton Road bisects the Project site from east to west.

Most of the landscape within, and surrounding, the Project site has been significantly modified for agricultural use, including sheep grazing and cropping of cereals and grains. This has resulted in much of the native vegetation within areas of private land being removed, with most of the native vegetation restricted to linear road reserves or isolated clusters.

# FIGURE 1.1

## Indicative Wind Farm Development Plan




**Legend**

- Wind Turbines
- Water Tank Location
- Overhead Electrical Reticulation Poles
- Overhead Electrical Reticulation
- Underground Electrical Reticulation
- Access Tracks
- Underground Transmission Line
- Site Substation
- Site Office Compound
- Laydown Areas
- Hardstand
- Battery 150MW
- Batching Plant
- Wind Farm Site
- Local Quarry
- Township


0 2 4
Kilometres

Scale 1:95,000 at A4
GDA2020 MGA Zone 54



**Image Source:** ESRI Basemap (2023) **Data source:** VIC DEECA (2023)

# 2.0 Summary of Key Environmental Assets/Sensitivities

## 2.1 Ecology

The Ecological Assessment defined a focused area within the Project site for the vegetation assessments (referred to as Assessment Area herein). The Assessment Area was based on the project development footprint including a 25-metre buffer either side of all proposed access tracks, power pole locations and ancillary works, and a 50-metre buffer around proposed turbine hardstand locations.

All fauna surveys completed for the project were based on species specific study areas within the Project site, and not restricted to the Assessment Area.

The Ecological Assessment identified the following flora and fauna species listed under the *Flora and Fauna Guarantee Act 1988* (FFG Act) within the Project site, or with potential to occur.

**Flora**

- Pale Swamp Everlasting *Coronidium gunnianum* (Critically Endangered)
- Spiny Riceflower *Pimelea spinescens* subsp. *spinescens* (Critically Endangered).

**Threatened Ecological Communities (TEC)**

- Western (Basalt) Plains Grassland (Threatened) - 5.122 hectares (ha) were recorded in the Assessment Area.

**Fauna**

- Brolga *Antigone rubicunda* (Endangered)
- Little Eagle *Hieraaetus morphnoides* (Vulnerable)
- Habitat for Striped Legless Lizard *Delma impar* (Endangered)

While no definitive calls were recorded during microbat surveys, the complex call for FFG listed Eastern Bent-wing Bat (*Miniopterus schreibersii oceanensis*) and Southern Bent-wing Bat (*Miniopterus orianae bassanii*) (also EPBC Act listed) were recorded. However, analysis of the survey results indicates the call complex is more consistent with the common Chocolate Wattled Bat.

Grey-headed Flying-fox (*Pteropus poliocephalu*) (Vulnerable) was not observed during Project surveys, however, a camp is present approximately 20km south of the Project at Lismore. The Project is within the foraging range for individuals utilising the Lismore camp, and it is possible the species may visit or pass through the study area during nightly foraging activity or when moving to areas of more suitable habitat.

White-throated Needletail (*Hirundapus caudacutus*) (Vulnerable) was not observed during Project surveys but could conceivably fly over the Project site for roosting and foraging purposes.

Blue-winged Parrot (*Neophema chrysostoma*) (not listed under the FFG Act, but is Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)) was recorded during bird utilisation surveys. Targeted surveys for the EPBC Act listed Golden Sun Moth did not record any individuals.

**Native vegetation** found within the Assessment Area was represented by six EVCs:

- *Heavier soils* Plains Grassland (EVC 132_61) (Endangered) – 5.122 hectares
- Plains Grassy Woodlan (EVC 55) (Endangered) – 3.409 hectares
- Plains Grassy Wetland (EVC 125) (Endangered) – 0.01 hectares
- Plains Sedgy Wetland (EVC 647) (Endangered) – 12.533 hectares
- Grassy Woodland (EVC 175) (Endangered) – 6.137 hectares
- Healthy Dry Forest (EVC 20) (Least Concern) – 2.591 hectares.

## 2.2 Hydrology

Lake Widderin/Widderin Swamps is located downstream of the Project (southwest of the Project site) and is listed as an "Important Wetland" in the Directory of Important Wetlands in Australia (2001). There are also other DEECA mapped wetlands located within the Projects site. No major rivers occur within the Project site, however four defined non-perennial waterways are present within the Project site including Hoyles Creek, Naringhil Creek, Gnarkeet Chain of Ponds and the Mundy gully. Artificially constructed farm dams also occur throughout the Project site, however, most are in very poor condition with livestock having unrestricted access.

There are no Ramsar wetlands within or adjacent to the Project site. The nearest Ramsar site is the Western District Lakes, located approximately 20 kilometres south of the Project.

## 2.3 Landscape and Visual

The nearest townships to the Project site are Linton and Skipton, which are 5km to the east and west of the Project site respectively. There are several non-involved dwellings located within 6km of the Project site:

- 20 non-involved dwellings withing 2km of a proposed turbine.
- 68 non-involved dwellings between 2-4km of a proposed turbine.
- 43 non-involved dwellings between 4-6km of a proposed turbine.

The landscape across the Project site is flat with minimal obtrusive elements across the landscape, which allows for efficient and optimal harvest of wind energy. Although the landscape of the Project site is predominantly flat and cleared, landscape features which form a part of the existing landscape character would assist in reducing the potential for viewing the Project. These include large areas of roadside vegetation, windbreak planting and riparian vegetation associated with creek lines.

The Project site is not within an area of landscape sensitivity as designated by a Significant Landscape Overlay under the Corangamite or Golden Plains planning schemes.

There are four existing wind farms within proximity to the Project, including Chepstowe Wind Farm (approx. 15km north-east), Stockyard Hill Wind Farm (starting approx. 4km and extending 30-km north), Berrybank Wind Farm (starting approx. 10 km and extending 22-km south), and Golden Plains Wind Farm (starting approx. 10 km and extending 30-km southeast).

## 2.4 Cultural Heritage

There are no previously registered Aboriginal places within the Project site, or within 200m the site. However, there are several areas of mapped cultural heritage sensitivity within the Project site, mostly associated with waterways. There are no listed/registered historic heritage sites located within the Project site.

# 3.0 Assessment

This section provides an overview of the assessment of the Project against the Ministerial guidelines for assessment of environmental effects under the *Environment Effects Act 1978.*

The criteria for referral (as outlined in **Table 3.1**) are focussed on the potential for a significant effect on the environment. The identification of potential significant effects does not indicate that an EES will be required. Other factors, including the likelihood of such effects, may be taken into account in the Minister's decision in response to a referral.

**Table 3.1 Assessment against EES referral criteria**

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| **Referral criteria: individual potential environmental effects**<br>Individual types of potential effects on the environment that might be of regional or State significance, and therefore warrant referral of a project, are: | |
| Potential clearing of 10 ha or more of native vegetation from an area that:<br>• is of an Ecological Vegetation Class identified as endangered by DEECA by DELWP in accordance with Appendix 2 of Victoria's Native Vegetation Management – A Framework for Action (DSE 2002)<br>• is, or is likely to be, of very high conservation significance (as defined in accordance with Appendix 3 of Victoria's Native Vegetation Management – A Framework for Action (DSE 2002)<br>• is not authorised under an approved Forest Management Plan or Fire Protection Plan | **Highly unlikely.**<br>A total area of 0.330 ha of native vegetation patches classified as EVCs is proposed to be impacted. This comprises 0.330 ha of native vegetation from ECV132_61- Plains Grassland (Heavier Soils) (listed as Endangered) in the following locations within the Project site:<br>• Electrical reticulation- 0.003 ha<br>• Willowvale Road underground transmission line- 0.214 ha<br>• Local Road upgrades- 0.11 ha.<br>The negligible area of native vegetation removal is achieved for the Project through:<br>• Selecting a site where native vegetation has previously been removed or destroyed<br>• Micro-siting project infrastructure to avoid remnant native vegetation<br>• Making alterations to the project design and construction methodology (for instance, spanning waterways with overhead reticulation).<br>MHWF Nominees have demonstrably applied the avoid and minimise approach to ensure effects on native vegetation are acceptable, and offsets will be obtained for residual losses. |

| | |
|---|---|
| Potential long-term loss of a significant proportion (e.g., 1 to 5 percent depending on the conservation status of the species) of known remaining habitat or population of a threatened species within Victoria | **Unlikely.**<br>Flora<br>Two FFG Act listed threatened flora species, Pale Swamp Everlasting (*Coronidium gunnianum*) and Spiny Riceflower (*Pimelea spinescens* subsp. *Spinescens*) (also EPBC Act listed) were recorded within the Assessment Area. However, Project infrastructure has been designed and sited to avoid direct impact on these species.<br>Birds<br>Two threatened bird species listed under the FFG Act, Brolga (*Antigone rubicunda)* and Little Eagle *(Hieraaetus morphnoides),* were recorded during Bird Utilisation Surveys (BUS).<br>There are historical flocking and breeding records for Brolga within proximity to the Project site. A single breeding record from 1984 is located within the north of the Project site, in a wetland south of Nottmans Road. This wetland has since been observed to have been ploughed and drained, and is therefore no longer considered to support potential Brolga breeding habitat. Roaming breeding surveys and flocking surveys undertaken for the Project did not record/observe any Brolga. However, a total of 10 Brolga were recorded opportunistically during bird utilisation surveys below the rotor swept area. As part of the roaming surveys, an assessment of habitat quality was undertaken at all observable wetlands within 10km of the Project site. 21 wetlands were considered high quality habitat, however no Brolga were observed at these wetlands. Most wetlands assessed were considered to be of low quality.<br>Little Eagle (*Hieraaetus morphnoides*) was recorded within the rotor swept area dung BUS. There has been one known Little Eagle fatality recorded in Victoria as a result of turbine collision (Moloney et. al., 2019). Particular raptor species have been identified as being 'of concern' due to their proneness to collision with operational wind turbines, although these species do appear to become conditioned to the presence of wind turbines after an extended period of time, and adjust their foraging behaviour to avoid wind turbines (i.e. up to 99% avoidance rates for most species).<br>Brolga and Little Eagle both have a widespread distribution range, and any potential removal of habitat within the Project or potential collision risk with turbines is unlikely to result in a long-term loss of a significant proportion of known remaining habitat or population of these species within Victoria.<br>The Project is considered unlikely to have a significant impact on the Blue-Winged Parrot. The species primarily forage on/near the ground for seeds from a range of native and introduced grasses, herbs, and shrubs. This is supported by observations of the species during Project BUS below the RSA. The species is considered to have a low risk of collision.<br>Bats<br>Southern Bent-wing Bat (*Miniopterus orianae bassanii*) was not recorded during microbat surveys and there are no records of the species in the local vicinity of the Project. However, during the fourth round of microbat surveys a call complex for Southern Bent-wing Bat was recorded. Analysis of the recorded calls were found to be more consistent with the Chocolate Wattled Bat. The |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| | nearest known significant roosting caves for Southern Bent-wing Bat are Pomborneit cave approximately 65 km south of the Project. A number of potential roosting sites have been identified in the surrounding landscape however none are known to contain significant bat populations (i.e. only occasional bats observed), with the exception of Pomborneit Cave.<br>There are no other known caves near the Project site within the flight radius from Pomborneit Cave that could be, or are known to be used as a roosting site. While individuals have been tracked travelling up to 140 kilometres in a single night (i.e. flying 70 kilometres to a roosting cave, and back again to the maternity cave) it is highly unlikely that Southern Bent-wing Bat would forage at a distance of 65 km from a known roosting/maternity cave – in a direction where no roosting caves are known to occur, and fly back again.<br>The call complex for the Eastern Bent-wing Bat *(Miniopterus schreibersii)* was recorded at least once during microbat surveys, however analysis of recorded calls were found to be more consistent with the common Large Forest Bat or Chocolate Wattled Bat. There are no previous records of the species within proximity of the Project site, and the species has been shown to fly consistently below turbine height, with no collision mortalities published in Victoria.<br>The Project is unlikely to result in a long-term loss of a significant proportion of known remaining habitat or population for Southern Bent-wing Bat or Eastern Bent-wing Bat within Victoria.<br><u>Other fauna</u><br>Limited areas of suitable habitat for the Striped Legless Lizard (*Delma Impar)* are present in the Project site, generally restricted to fragmented narrow linear patches of lower quality grassland in road reserves isolated from other larger areas of nearby confirmed habitat. A total of 0.330 ha of suitable habitat is proposed to be removed by the Project. This would not constitute a significant proportion of known remaining habitat for this species.<br>Targeted surveys did not record any Golden Sun Moth individuals, and due to the isolated, fragmented nature of the areas of potential habitat, a significant population of the species is unlikely to occur within the Assessment Area. |
| Potential long-term change to the ecological character of a wetland listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia' | **Highly unlikely.**<br>There are no wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia' within the Project site. |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| Potential extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems, over the long term | **Highly unlikely.**<br>The Project site intersects with four defined non-perennial watercourses: Mundy Gully, Gnarkeet Chain of Ponds, Naringhil Creek and Hoyles Creek.<br>Naringhil Creek is proposed to be crossed by underground reticulation (on Rankin Road) and may be trenched. Naringhil Creek is non-perennial and would not have a consistent flow of water year-round. Potential impacts on Naringhil Creek would be short term during construction only and would be mitigated by only trenching the watercourse when the creek bed is dry, and not during wet weather. Appropriate controls would be used to avoid and minimise indirect impacts such as sedimentation. If trenching is used, the creek would be remediated following construction. The other watercourses would not be affected by the Project.<br>Based on the above, extensive, or major effects on the health or biodiversity of aquatic ecosystems, over the long term, are not expected.<br>There are no estuarine or marine ecosystems in or in proximity to the Project site. |
| Potential extensive or major effects on the health, safety or well-being of a human community, due to emissions to air or water or chemical hazards or displacement of residences | **Unlikely.**<br>The Project would not result in extensive or major effects on the health, safety or well-being of a human community, due to emissions to air or water, chemical hazards, or displacement of residences.<br><u>Emissions to air or water</u><br>Operation of the Project would not produce emissions to air or water. Minor dust emissions during construction may occur however are not expected to be extensive or major and would be manageable via standard construction mitigation to be set out in the project Construction Environmental Management Plan.<br><u>Chemical hazards</u><br>Operation of the Battery Energy Storage System would involve the storage of some chemical materials. However, appropriate industry standard design and storage methods would be implemented, which would not pose a risk to the health or safety of the human community.<br><u>Displacement of residences</u><br>No displacement of residences is expected to occur.<br>The Project has agreements with involved landowners to host turbines and other wind farm infrastructure.<br>All wind turbines are set back a sufficient distance from dwellings in consideration of noise criteria for wind energy facilities. |
| Potential greenhouse gas emissions exceeding 200,000 tonnes of carbon dioxide equivalent per annum, directly | **Highly unlikely.**<br>The Project will not emit greenhouse gas emissions exceeding 200,000 tonnes of carbon dioxide equivalent per annum, directly. The Project would reduce the emissions of greenhouse gas by over 800,000 tonnes of $CO_2$ annually. |
| **Referral criteria: a combination of potential environmental effects**<br>A combination of two or more of the following types of potential effects on the environment that might be of regional or State significance, and therefore warrant referral of a project, are: | |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| Potential clearing of 10 ha or more of native vegetation, unless authorised under an approved Forest Management Plan or Fire Protection Plan | **Highly unlikely.**<br>The current impact footprint proposes to remove 0.330 ha of native vegetation.<br>The negligible area of native vegetation removal is a consequence of selecting a site where native vegetation has previously been removed or destroyed, micro-siting project infrastructure to avoid remnant native vegetation, and making alterations to the project design and construction methodology (for instance, spanning waterways with overhead powerlines). MHWF Nominees have demonstrably applied the avoid and minimise approach to ensure effects on native vegetation are acceptable, and offsets will be obtained for residual losses. |

| | |
|---|---|
| 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 as a result of loss or fragmentation of habitats; or<br>• potential loss of critical habitat; or<br>• potential significant effects on habitat values of a wetland supporting migratory bird species | **Unlikely.**<br>**Potential loss of a significant area of a listed ecological community.**<br>Several small patches of the Western (Basalt) Plains Grassland community were recorded within the Assessment Area, however only 0.330 ha of the community is proposed to be impacted and is not considered a significant area. The overall function of the community will not be impacted due to the small and localised nature of proposed impacts and the proposed retention of the remainder of the community which is adjacent to the infrastructure footprint.<br>**Potential loss of a genetically important population of an endangered or threatened species (listed or nominated for listing), including as a result of loss or fragmentation of habitats; or potential loss of critical habitat.**<br>As discussed above, two flora species listed under the FFG Act were recorded, however, Project infrastructure has been designed to avoid direct impact to these species.<br><u>Birds</u><br>Little Eagle *(Hieraaetus morphnoides)* was recorded during BUS within the RSA. This species is considered likely to opportunistically visit the Project site for foraging purposes.<br>There are historical flocking and breeding records for Brolga *(Antigone rubicunda)* within proximity to the Project site. Roaming breeding surveys and flocking surveys did not record/observe any Brolga, however a total of 10 Brolga were recorded opportunistically during BUS. The Project site may be located within an area which may be used by Brolga for diurnal movements between the foraging and roosting sites. There are on-going investigations (Level 2 Assessment) to determine the potential impacts and implications associated with Brolga. The objective of the Brolga investigations is to ensure no net impact to the Victorian Brolga population. Level 3 Brolga assessment will be undertaken if required.<br>Little Eagle and Brolga have a widespread distribution range, and any potential removal of habitat within the Project site would not be critical habitat, or result in fragmentation of habitats. Potential collision risk with turbines is unlikely to result in a long-term loss of a genetically important population of these species within Victoria.<br>The Project is considered unlikely to have a significant impact on the Blue-Winged Parrot. The species primarily forage on/near the ground for seeds from a range of native and introduced grasses, herbs, and shrubs, and is considered to have a low risk of collision.<br><u>Bats</u><br>The call complex for the Eastern Bent-wing Bat *(Miniopterus schreibersii*) was recorded at least once during microbat surveys, however, analysis of the calls indicate they are more likely to be the common Large Forest Bat or Chocolate Wattled Bat. There are no previous records of the species within proximity of the Project site, and the species has been shown to fly consistently below turbine height, with no collision mortalities published in Victoria.<br>Southern Bent-wing Bat (*Miniopterus orianae bassanii*) was not recorded during microbat surveys and there are no records of the species in the local vicinity of the Project. However, during the |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| | fourth round of microbat surveys a call complex for Southern Bent-wing Bat was recorded. Analysis of the recorded calls were found to be more consistent with the Chocolate Wattled Bat. Additionally, it is considered unlikely that the species would visit the Project site for foraging purposes due to the distance of the Project form the nearest known roosting cave (65km+).<br>Any removal of potential habitat within the Project site would not be critical habitat for these bats species, or result in fragmentation of habitats. Potential collision risk with turbines is unlikely to result in a long-term loss of a genetically important population of these species within Victoria.<br><u>Other fauna</u><br>Limited areas of suitable habitat for the Striped Legless Lizard *(Delma Impar)* were present in the Project site, however this habitat is already fragmented, of low quality and isolated from other larger areas of nearby confirmed habitat. This impact will be a one-off impact during construction, and will not result in the modification of habitat, or decrease the quality or availability of habitat to the extent that Striped Legless Lizard will decline as a result of the Project.<br>Due to the lack or records during project surveys, and the isolated, fragmented nature of the areas of potential habitat, a significant population of Golden Sun Moth is unlikely to occur within the Assessment Area.<br>**Potential significant effects on habitat values of a wetland supporting migratory bird species**<br>No species of bird recognised under the migratory provisions of the EPBC Act were recorded during field surveys. Furthermore, migratory bird species are not considered likely to rely on habitat within Widderin Swamp, or other wetlands within close proximity to the Project site. No direct impacts to wetlands within and surrounding the Project site are expected due to the design of infrastructure avoiding proximity to these sensitive habitats. |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| Potential extensive or major effects on landscape values of regional importance, especially where recognised by a planning scheme overlay or within or adjoining land reserved under the *National Parks Act 1975* | **Unlikely.**<br>The Project site is not within or adjoining land reserved under the *National Parks Act 1975.*<br>No planning scheme overlays which recognise and seek to protect landscape values of regional importance apply to the Project site.<br>One Significant Landscape Overlay under the Corangamite Planning Scheme occurs directly to the west of the Project site near Mount Widderin. This Significant Landscape Overlay – Schedule 1 (SLO1) is associated with a volcanic landscape area. These areas provide visual interest with variation in topography and vegetation and are to be protected from inappropriate development.<br>The Project would not directly impact on the landscape character objectives to be achieved for land subject to the SLO1 under the Corangamite Planning Scheme. There is also unlikely to be extensive or major indirect effects on this land, including on the volcanic features.<br>Some turbines within the Project site are located within a significance investigation area of Southwest Victoria, as defined in the *Significant Landscapes of South West Victoria* (2012).<br>This landscape is defined by open, rolling pastures which are deeply incised by the steep sided basalt gorge of the Woady Yalloak River. However, the Project site itself is largely farming land which has been highly modified by agricultural activities. Therefore, the Project is unlikely to alter the landscape characterised as a significance investigation area. The Project will not impact on the character of any landscapes that have been determined to be of regional or state significance.<br>Design of the Project's transmission line has also been refined from an overhead line to an underground line, which has removed the potential for any visual impacts associated with an overhead transmission line on the surrounding landscape. |
| Potential extensive or major effects on land stability, acid sulphate soils (ASS) or highly erodible soils over the short or long term | **Unlikely.**<br>The Project does not have potential to have extensive or major effects on land stability, acid sulfate soils or highly erodible soils over the short or long term. Topsoils within the Project site may be dispersive, and some topsoil sediment transportation and erosion is possible during construction, however this would be minor and can be managed through industry-standard environmental management measures. There are no records of acid sulfate soils identified within the Project site. |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| Potential extensive or major effects on beneficial uses of waterbodies over the long term due to changes in water quality, stream flows or regional groundwater levels | **Unlikely.**<br>The Project would not result in potential extensive or major effects on beneficial uses of waterbodies over the long term due to changes in water quality, stream flows, or regional groundwater levels.<br>Surface waters within the Project site are classified as part of the Murray and Western Plains segment for inland waters. Environmental values (beneficial uses) associated with this segment include water dependent ecosystems and species that are slightly to moderately modified, agriculture and irrigation, human consumption of aquatic foods, industrial and commercial, water based recreation (primary contact, secondary contact, aesthetic enjoyment) and Traditional Owner cultural values<br>**Potential effects on water quality and stream flows**<br>The Project avoids direct impacts on most waterbodies within the Project site. Potential trenching of one defined non-perennial waterway (Naringhil Creek) to install underground electrical reticulation may result in minor, localised impacts on water quality. due to sediment disturbance. Trenching would be done during periods when this waterbody is not holding water and industry-standard downstream mitigation would be applied to ensure potential impacts are managed.<br>There is negligible potential for extensive or major effects on stream flows, particularly where construction within this waterbody is undertaken during periods where it is not holding water.<br>**Potential effects on regional groundwater levels**<br>Groundwater levels across the Project site are mapped to be on average 5m – 10m below ground level. Excavations for turbine foundations are typically between 4 and 6m. While the potential for groundwater interaction is not known at this stage, based on desktop information is it considered likely the Project can avoid intersecting with groundwater. Should excavations intersect with groundwater, it is unlikely significant amount of dewatering would be required. Excavations with the potential to intersect groundwater (turbine foundations) are relatively small (around 25 metres in diameter) and remain open for a short period of time (up to one month, typically less). When foundations are poured, groundwater ingress ceases. It is not anticipated that ingress into foundations would therefore result in regional-level groundwater drawdown that would constitute extensive or major effects on beneficial uses. |

| EES referral criteria | Likelihood for the criteria to be met |
|---|---|
| Potential extensive or major effects on social or economic well-being due to direct or indirect displacement of non-residential land use activities | **Unlikely.**<br>The Project site is located in a rural area (Farming Zone) where the land use is predominantly agricultural (cropping and some grazing).<br>Agricultural land use is compatible with development of a wind farm as agricultural practices can continue to operate around the wind farm once operational. The wind farm and transmission line have a very minimal disturbance footprint overall and will not prevent ongoing agricultural activities on land within the Project site and surrounding land.<br>No extensive or major effects relating to the direct or in-direct displacement of non-residential land use activities (agriculture) are expected to occur as a result of the Project.<br>The Project would also establish a community benefits fund as well as provide direct investment into the regional economy. |
| Potential for extensive displacement of residences or severance of residential access to community resources due to infrastructure development | **Unlikely.**<br>No residences will be displaced as a result of this Project and no impacts to access of community resources will occur.<br>All wind turbines are set back a sufficient distance from dwellings and would not cause any displacement. |

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| Potential 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 | **Unlikely.**<br>Preliminary assessments have indicated no substantial or long-term changes to visual, noise or traffic conditions.<br><u>Visual</u><br>It is not anticipated that there will be significant effects on the amenity of a substantial number of residents as a result of the Project.<br>Areas of land in excess of 6 km of the Project site have been identified as having views to the Project that are screened by topography. This includes Linton to the north-east, Pitfield and Cape Clear to the east and south east of the Project, and Wallinduc to the south. Steep undulating topography associated with Linton / Nawright – Widwid State Forest and Scarsdale Plantations to the north-east of the turbines may conceal some views of the Project from towns such as Happy Valley and Snake Valley. Views from the outskirts of Skipton may be available, however undulating topography and vegetation cover are likely to limit some views from the town centre. Intervening vegetation will play a key role in significantly reducing visibility of the Project from surrounding areas, particularly Skipton and Linton.<br>Several non-involved dwellings were identified within 6km of the Project site:<br>• 20 non-involved dwellings withing 2km of a proposed turbine<br>• 68 non-involved dwellings between 2-4km of a proposed turbine<br>• 43 non-involved dwellings between 4-6km of a proposed turbine.<br>Of these dwellings, several were found to have potential visibility of the Project, however, majority of these views are likely to be screened by topographic elements such as vegetation and/or other structures which will help limit the view of the Project.<br>With Stockyard Hill, Chepstowe and Berrybank wind farms already in operation (and Golden Plains under construction) it is likely that the landscape character of the region is likely to change from an agricultural landscape to an agricultural landscape with wind energy. The Project will likely be viewed an extension of these wind farms.<br><u>Noise</u><br>Predictive noise modelling determined the Project would be compliant with the applicable noise limits as set out in NZS 68080. The Project would be:<br>• Compliant with the applicable base noise limit of 40 dB $L_{A90}$ by at least 4.2 dB at all **non-involved** receivers<br>• Compliant with the applicable base noise limit of 45 dB $L_{A90}$ by at least 5.4 dB at all **involved** receivers within the Project site.<br>Predicted noise levels at involved receivers within the Project site are predicted below the reference noise level of 45 dB $L_{A90}$, by at least 5.6 dB.<br>Additionally, this modelling showed that cumulative wind farm noise considerations between the Project and other nearby wind |

| EES referral criteria | Likelihood for the criteria to be met |
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| | farms (Stockyard, Chepstowe, Berrybank and Golden Plains) are not applicable. Individual predicted 30 dB $L_{A90}$ contours of each nearby wind farm operating in isolation were compared to determine if there was any overlap. The results demonstrate that the predicted 30 dB $L_{A90}$ contour of the Project (using the candidate turbine model) do not overlap with the predicted 30 dB $L_{A90}$ contour of the Chepstow, Berrybank and Golden Plains Wind Farm. However, the predicted 30 dB $L_{A90}$ contour of the Project does overlap with the predicted 30 dB $L_{A90}$ contour of Stockyard Hill wind farm. Despite this, both projects would still achieve noise compliance and would not be affected by the noise contribution from the other project.<br><u>Traffic</u><br>Traffic levels associated with the Project are expected to be adequately accommodated by the existing external road network. The Project is estimated to generate in the order of 541 daily vehicle movements during peak construction (comprising 121 heavy vehicles, 416 light vehicles and 4 OD vehicles). This additional traffic is not considered likely to impact on the amenity of nearby residents.<br>Relevant sections of local gravel roads (and newly constructed access track) will be upgraded from dry weather to all weather roads during the Project's construction period to better equipped for haulage of construction vehicles and to mitigate any construction delays. A detailed Traffic Management Plan (TMP) will be prepared for the Project prior to the commencement of construction, to ensure potential traffic impacts are managed appropriately. |
| Potential exposure of a human community to severe or chronic health or safety hazards over the short or long term, due to emissions to air or water or noise or chemical hazards or associated transport | **Unlikely.**<br>The Project would not produce significant emissions to air or water or noise or chemical hazards or associated transport over the short or long term.<br>Operation of the Project would not produce emissions to air or water. As outlined above, noise emissions are compliant with applicable noise limits defined in NZS 6808 and would not result in the exposure of human community to severe or chronic health or safety hazards relating to noise.<br>Operation of the Battery Energy Storage System would involve the storage of some chemical materials. However, appropriate industry standard design and storage methods would be implemented, which would not pose a risk to the health or safety of the human community. |

| EES referral criteria | Likelihood for the criteria to be met |
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| Potential extensive or major effects on Aboriginal cultural heritage | **Unlikely.**<br>It is unlikely the Project would have extensive or major effects on Aboriginal cultural heritage.<br>There are no registered Aboriginal places within 200 m of the Project site. There are several areas of Aboriginal cultural heritage sensitivity within the Project site, mostly associated with waterways.<br>It is likely for Aboriginal cultural heritage to be present within the Project site, as it hosts numerous sensitive landforms.<br>The field survey component of the standard assessment has been undertaken, and a complex assessment will be required to review these sensitive landforms and to further assess the likely occurrence of Aboriginal cultural heritage within the Project site. The CHMP will make recommendations in relation to measures to manage and protect Aboriginal cultural heritage.<br>Based on assessments to date, most, if not all, adverse cultural heritage impacts due to the Project can be avoided through layout refinement. Residual effects are not likely to be extensive or major and the CHMP will manage and protect Aboriginal cultural heritage during construction and operation. |
| Potential extensive or major effects on cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* | **Unlikely.**<br>No listed cultural heritage places are in proximity to or within the Project site. |

# 4.0 Conclusion

The findings of this self-assessment indicate that the Project is unlikely to trigger any of the individual or combination referral criteria set out in the Guidelines. There is low likelihood of regional or State significant adverse effects on the environment, established through detailed studies undertaken on the Project site and surrounds since 2020 and progressive design development to avoid and minimise potential impacts.

Notwithstanding the above, MHWF Nominees is referring the Project under the EE Act and in accordance with the Guidelines as a precautionary step, such that the Minister can review the documentation that has informed this self-assessment in making an informed decision on whether an EES for the Project is required.

The character of the potentially affected environmental assets is predominantly of local or negligible significance, due to past and ongoing land practices (predominantly agricultural) and separation distances from features of conservation and landscape significance. The Project site is also buffered from nearby residential receptors.

Remnant native vegetation is sparse due to previous clearing for agricultural practices, and the extensive assessments and development of the Project layout has sought to avoid native vegetation to the extent possible, such that the residual effect is proposed to be 0.33 hectares of removal.

The values and importance of some environmental assets are recognised by their conservation status, including Brolga and Little Eagle. Ongoing studies in accordance with well-established guidelines and scientific practice will consider potential effects on habitat and the potential for collisions with project infrastructure. Habitat for threatened species has been substantially avoided during design development. Further studies for key species such as brolga may result in the establishment of turbine-free buffers, which would ensure areas of key habitat are avoided and impacts are not significant. A Bird and Bat Adaptive Management Plan will also be developed and implemented to ensure ongoing management and responsiveness to any residual impacts.

A CHMP is being developed to ensure Aboriginal cultural heritage values within the Project site are understood and that harm on these is avoided and minimised. The CHMP will include management measures to manage and protect Aboriginal cultural heritage during construction and operation.

The potential for significant (State and/or regional) environmental effects on environmental assets in an individual or cumulative sense is unlikely with the application of industry-standard mitigation and adaptive management. The Project is consistent with applicable policy, is permissible with consent, and avoids areas of landscape significance and areas where dwellings and other sensitive receptors are concentrated. For potential residual issues on protected environmental values such as brolga, there are well-established assessment and mitigation processes.

The level of public interest in the Project is not likely to be significant. MHWF Nominees have undertaken consultation with Project neighbours, local businesses in the area, as well as Golden Plains and Corangamite Shire Councils. Feedback from the community has been generally in support of the Project. There is significantly high level of interest in the Community Benefit Program and the Neighbour Benefit program.

The Project will need to obtain planning permission for use and development, as well as native vegetation removal. A CHMP is also being prepared which will be assessed and determined under the *Aboriginal Heritage Act* 2006. The Project's location and design means that the statutory processes for consenting the Project are well-understood, and sufficiently interactive and comprehensive. It is expected that the assessment and approval mechanisms established under the relevant Acts are sufficient to ensure relevant objectives are met and environmental and social impacts are avoided and minimised in an acceptable manner.

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