

Moreton Hill Wind Farm

Approvals Summary

This Summary provides a non-technical overview of the Project and the associated Planning Permit Application and Environment Report.

What is the Project?

Moreton Hill Wind Farm (the Project) is a proposed wind farm located approximately 35 kilometres south-west of Ballarat, Victoria. The Project is designed to include up to 62 wind turbines, a Battery Energy Storage System (BESS), an onsite substation, electrical cabling, and a 15 km underground transmission line to connect the Project into the electricity grid at Berrybank Terminal Station.

The Project will generate renewable energy to support Victoria's transition away from traditional energy sources, providing energy security for the future and reducing greenhouse gas emissions.

Pending selection of the final turbine model during the Project's procurement phase, it will generate 421 megawatts (MW) of renewable energy and power about 260,000 homes annually.



Turbines



**Expected
Generation
Capacity**



**Battery
Storage**



**Construction
Footprint from total
Project Area**

Key Project components -



Up to 62 wind turbines with a maximum height of 252 m.



A 15 km underground transmission line alongside Willowvale Road, to connect the Project to Berrybank Terminal Station.



A network of underground and overhead electrical cabling connecting wind turbines to the onsite substation and BESS.



A 100MW / 4hrBESS enabling the Project to store and schedule dispatch of energy to the grid.



An onsite substation to collect energy generated by wind turbines, and transform the energy to export to the grid or to the BESS for storage.

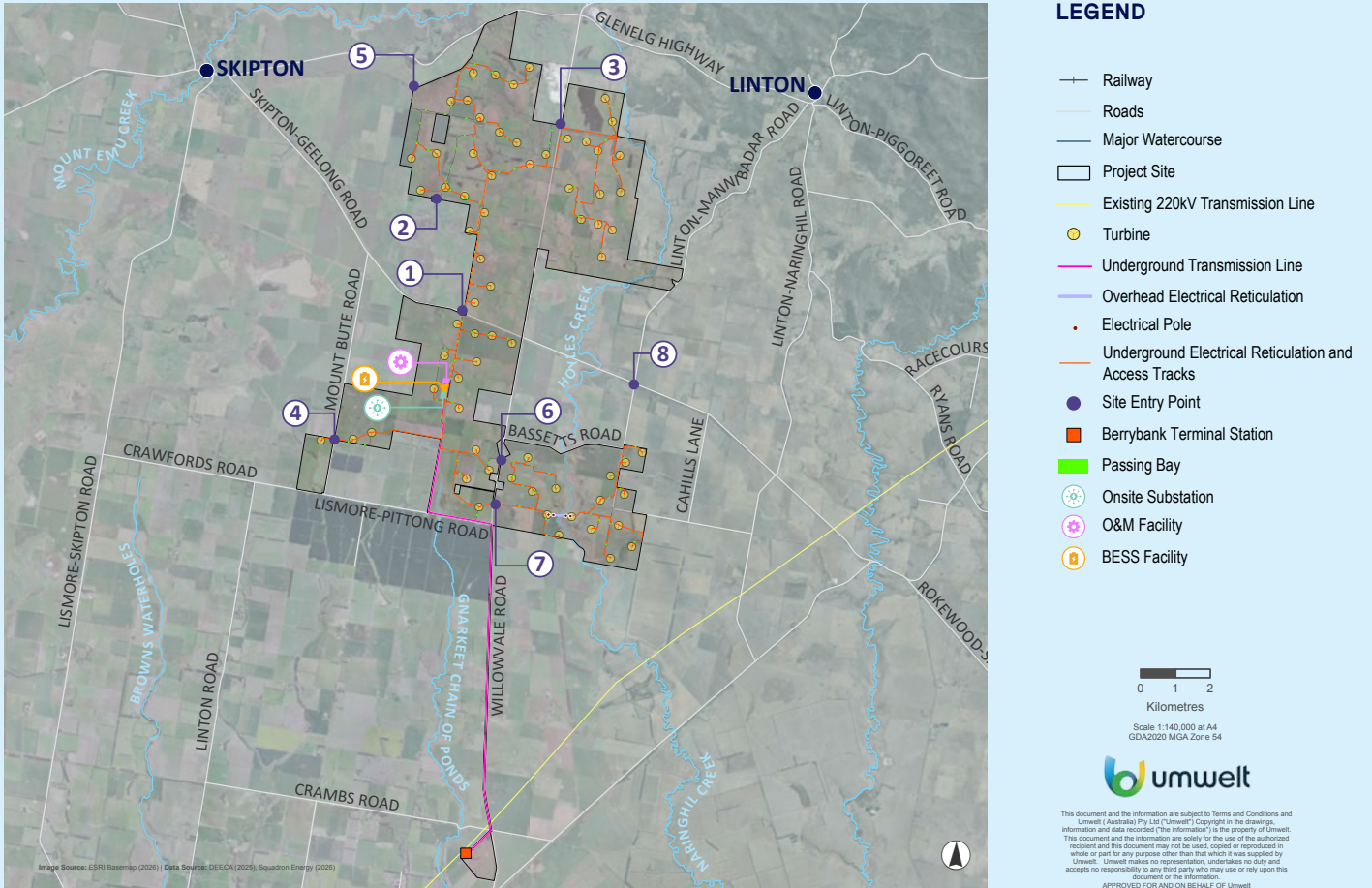


Supporting ancillary infrastructure including operations and maintenance facilities, meteorological monitoring masts, and internal access tracks.

Location

The Project is strategically located within the proposed Central Highlands Renewable Energy Zone (REZ), as identified by VicGrid in its 2025 Victorian Transmission Plan (VTP), and sits across both the Corangamite Shire and Golden Plains Shire local government areas (LGAs). The Project is on Wadawurrung Country, with the Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC) as the Registered Aboriginal Party (RAP) for the Project Site.

The Project Site is located on privately owned freehold land and one Crown land parcel (associated with Hoyles Creek), mostly used for sheep and cattle grazing and cropping. Nearest towns to the Project are Skipton and Linton, around 5km to the west and east of the Project Site, respectively.



Why is the Project needed?

The Project will supply renewable energy to the National Electricity Market (NEM), providing additional electricity regulation and security through provision of energy storage, and supporting Victoria's transition to renewable energy and facilitating Australia's transition towards net zero emissions by 2050. The Project will also strengthen the electricity grid and provide local jobs, investment and direct financial benefits to host landowners, neighbours and the local community.

Benefits include:



More than **1,600 GWh** of renewable energy per year to the electricity grid.



Power to over **260,000** homes per year.



Removal of **350,000** tonnes of carbon emissions per year.



Capital investment of **\$1.5 billion**.



360 full-time equivalent (FTE) jobs (140 direct and 220 indirect) during construction, and 40 FTE (10 direct and 30 indirect) jobs during operation.

Ongoing design refinement

The Project has prioritised avoiding potential environmental impacts from original site selection and through iterative design improvements where practicable. Where avoidance was not achievable, impacts have been minimised as much as possible.

This has resulted in progressive layout revisions based on the results of technical studies, design maturity and landholder, community and stakeholder feedback. Accordingly, key project revisions to prioritise impact avoidance include:

- Locating key project infrastructure in cropping land to avoid native vegetation (e.g. access tracks and cables), ensuring ongoing agricultural operations are not compromised.
- Relocating seven wind turbines further away from Lake Widderin in response to biodiversity assessments for Brolga.
- Revising the 15 km transmission line to locate it underground instead of overhead, avoiding visual impacts.
- Co-locating underground cabling and access tracks to minimise ground disturbance and native vegetation removal.
- Re-designing the transmission line across Hoyles Creek to avoid direct impacts on areas of cultural heritage sensitivity and mapped native vegetation adjacent to the creek bed.
- Ongoing micro siting of wind turbines to:
 - ensure compliance with noise and shadow flicker limits
 - avoid areas of cultural heritage sensitivity, and
 - avoid interference with communication links.
- Relocating the BESS, ancillary infrastructure and substation in response to landholder feedback.
- Project technical assessments considered a layout of 68 turbines, six more than the 62 turbines to be constructed and operated as part of the final project. This approach provides flexibility to refine the design in response to technical findings and stakeholder consultation.

Since submission of the EES and EPBC referrals in 2024, the Project Site boundary and layout have changed, with the addition of new host landowners. This expansion increased flexibility in design, offering more choices for turbine and infrastructure placement. It also enabled turbine relocation to reduce potential impacts on Brolga.





How have key stakeholders been consulted?

Community and stakeholder consultation for the Project has been ongoing since October 2023 in accordance with the Project’s Stakeholder Engagement Plan (SEP). Stakeholders consulted have included host landholders, Traditional Owners, neighbours, local communities including Skipton and Linton, Golden Plains Shire and Corangamite Shire Councils, government agencies, as well as community interest groups and community service providers, local businesses and industry.

Feedback and outcomes of consultation and engagement have been integrated into project design and the development of the community investment program and community sponsorship program. Ongoing consultation and engagement will continue throughout the remainder of the assessment process and, if the Project is approved, will continue for the life of the Project.

Key Engagement activity since 2023:



What is the approval process?

In September 2024, the Victorian Minister for Planning determined that the Project does not require an Environment Effects Statement (EES) under the *Environment Effects Act 1978* (Vic) (EE Act), subject to conditions being met to assess and manage specific impacts, including the preparation of an Environment Report.

In July 2024, a delegate for the Commonwealth Minister for the Environment and Water determined the Project to be a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth) (EPBC Act) due to the potential for significant impact on Matters of National Environmental Significance (MNES), including listed threatened species and communities, and listed migratory species.

An Environment Report has been prepared to satisfy the assessment requirements under the EE Act and EPBC Act under the bilateral assessment agreement, and to ultimately inform the Project's planning permit approvals. The Project will require the following primary planning and environmental approvals:

- Approval under the EPBC Act (Commonwealth) by way of bilateral assessment of an Environment Report process at State level, which contains an assessment of impacts to MNES.
- Planning permit approvals under the Corangamite Shire and Golden Plains Shire Planning Schemes in accordance with the *Planning and Environment Act 1987* (P&E Act) (Victoria), via the Development Facilitation Program (DFP) under Clause 53.22 'Significant Economic Development', which deems the Minister for Planning to be the responsible authority for approval.

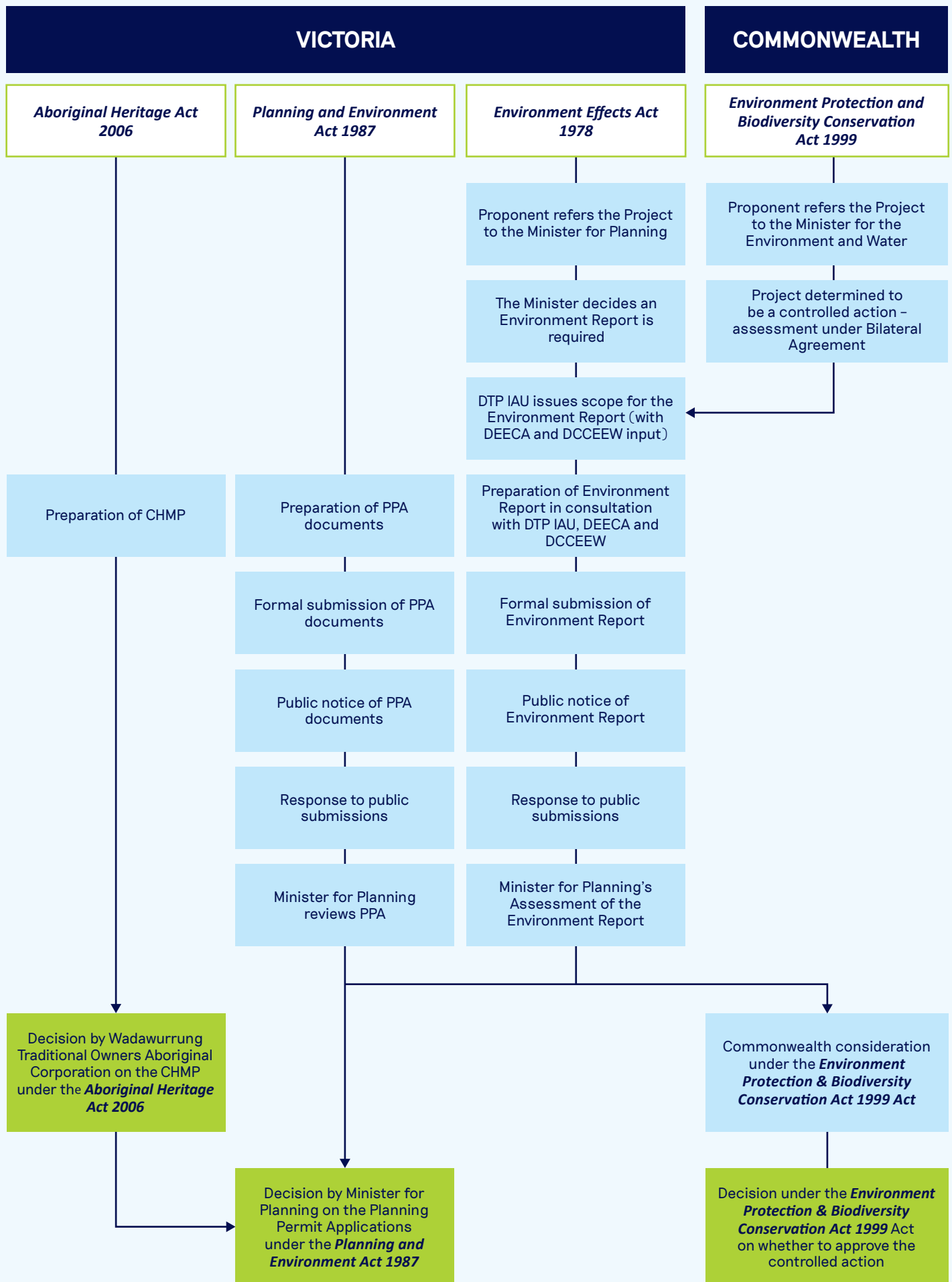
- A Cultural Heritage Management Plan (CHMP) prepared under the *Aboriginal Heritage Act 2006* (AH Act) (Victoria) and approved by the Registered Aboriginal Party.

Following formal submission, the Environment Report will be placed on public exhibition for 28 business days via the Engage Victoria website. The Planning Permit Applications (PPAs) for the Project will also be placed on public exhibition for 28 days via the DTP website. The exhibition periods may occur concurrently or sequentially, subject to the relevant approval processes and timing.

The exhibition periods will provide an opportunity for stakeholders to review the Project documentation and provide feedback. Any submissions received will be considered as part of the Environment Report assessment and planning permit determination processes.

The Victorian Minister for Planning will then provide an Assessment Report to the Commonwealth Minister for the Environment and Water, which will inform their decision on whether the Project is approved, approved with conditions, or refused under the EPBC Act. The Assessment Report will also be considered by relevant Victorian Government authorities including the Minister for Planning to inform decisions on the Project's Planning Permit Applications, noting the CHMP must be endorsed by the Registered Aboriginal Party prior to issuing of the Planning Permits.

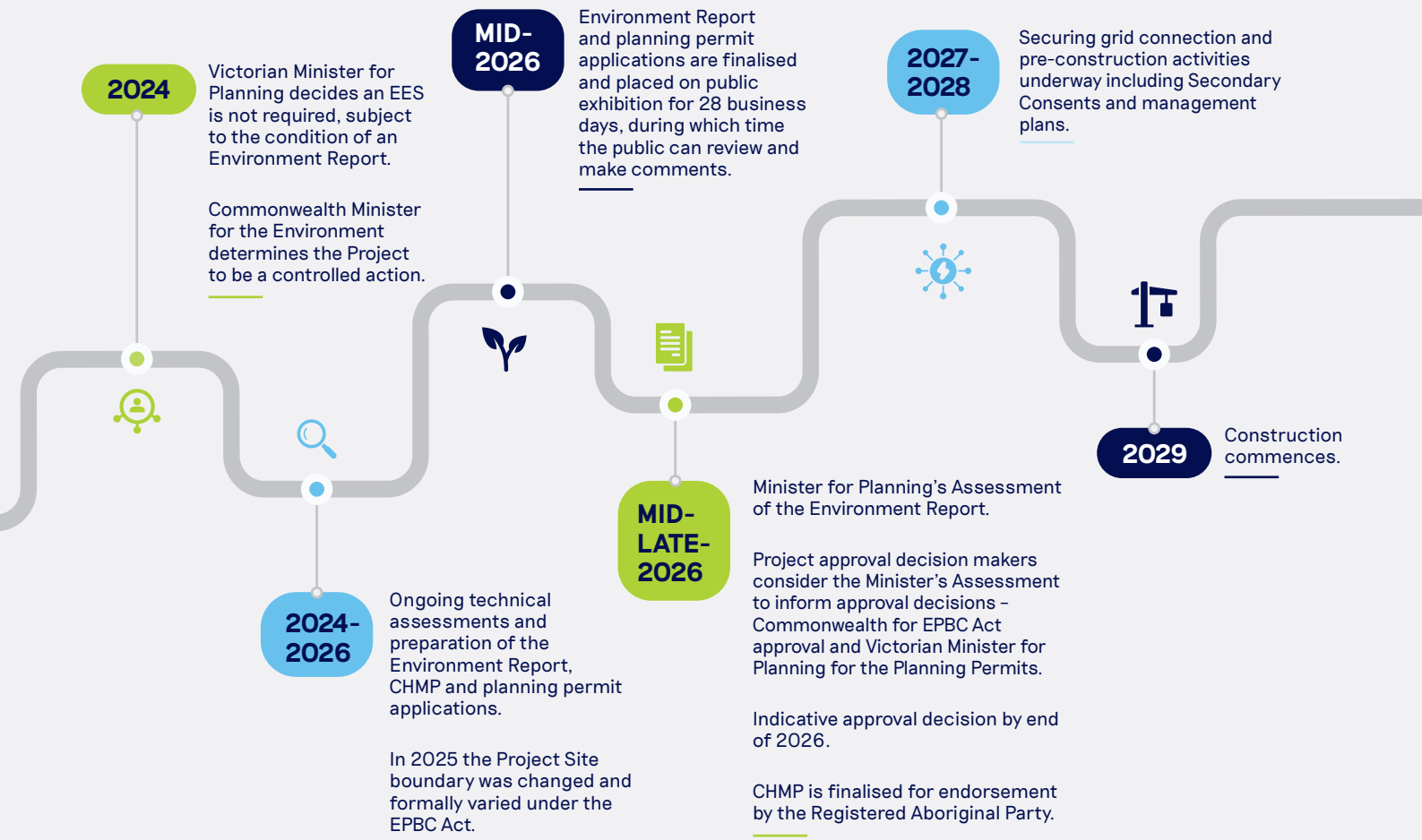




= statutory decisions

Timeline

An overview of the Project's timeline is shown below.



Assessment approach

The Project is seeking approval to construct and operate up to 62 wind turbines, however the Environment Report and Planning Permit Applications have assessed a Project layout with 68 wind turbines to provide layout flexibility.

Wind turbine locations that avoid identified constraints will be prioritised in developing the final layout for the Project. The final layout will be reflected in development plans to be submitted as a condition of planning approval prior to any construction commencing, and will only show locations of the 62 wind turbines to be constructed and operated. These wind turbines will be located in both the Corangamite Shire (18 turbines) and Golden Plains Shire (46 turbines).

Summary of potential impacts

Biodiversity

Ecological investigations have been ongoing since 2020 and have been used to inform project design, resulting in several design refinements to avoid impacts on biodiversity values, particularly Brolga habitat. Where predicted impacts could not be avoided, management and mitigation measures have been developed (including adaptive management responses) to manage potential residual impacts.

Historical clearing practices on the site and surrounding land have seen native vegetation removed for agriculture, with native vegetation predominantly restricted to roadsides or isolated clusters.

Native Vegetation, Flora and Threatened Ecological Communities (TECs)

A total of 15.80 hectares (ha) of native vegetation was recorded during surveys and the Project will result in the direct removal of 1.62 ha of native vegetation. Native vegetation impacts are primarily associated with roadside vegetation clearing required for road and access track upgrades, underground cabling and transmission. Electrical cables and tracks have been co-located where possible to reduce vegetation impacts.

Construction works requiring vegetation clearance are anticipated to impact on two threatened ecological communities (TECs):



Impacts on 1.056 ha of Natural Temperate Grassland of the Victorian Volcanic Plain (Critically Endangered under the EPBC Act) found in low to moderate quality patches of vegetation along the road reserve of Willowvale Road. As the Project would reduce the extent of this TEC, it is considered a significant impact. Offsets will be secured in accordance with the EPBC Act offsets policy.



Impacts on 1.41 ha of Western (Basalt) Plains Grassland (Flora and Fauna Guarantee Act listed) are not considered a significant impact on this TEC, representing minor reductions across 35 patches of the Project Site.

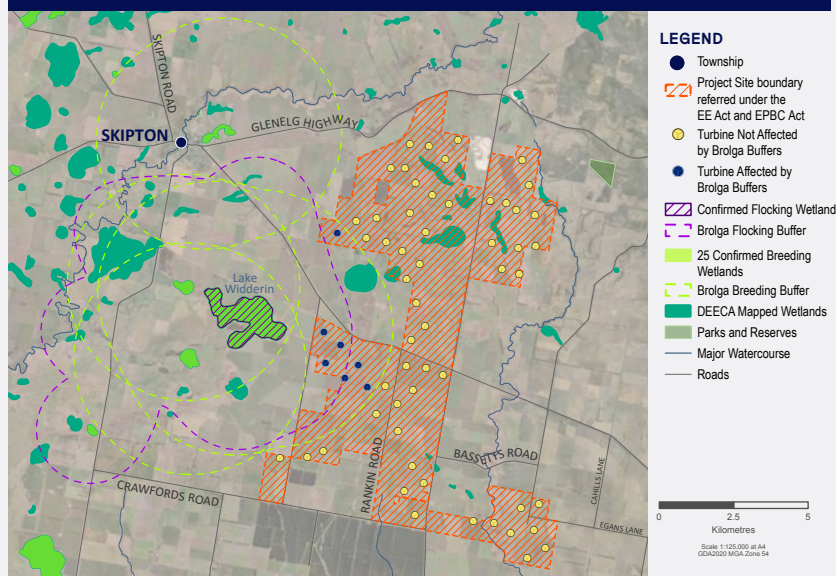
No EPBC Act listed flora species would be directly impacted by construction of the Project. The Project is expected to impact only one *Flora and Fauna Guarantee Act 1988* (FFG Act) listed flora species, Pale Swamp Everlasting (Critically Endangered), removing seven individuals.

Fauna and Associated Habitat

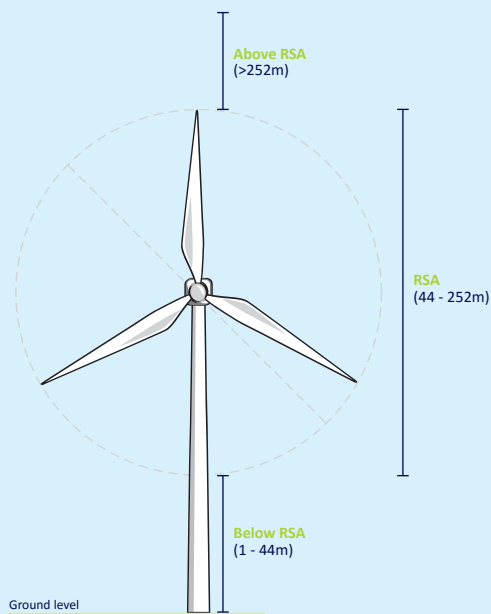
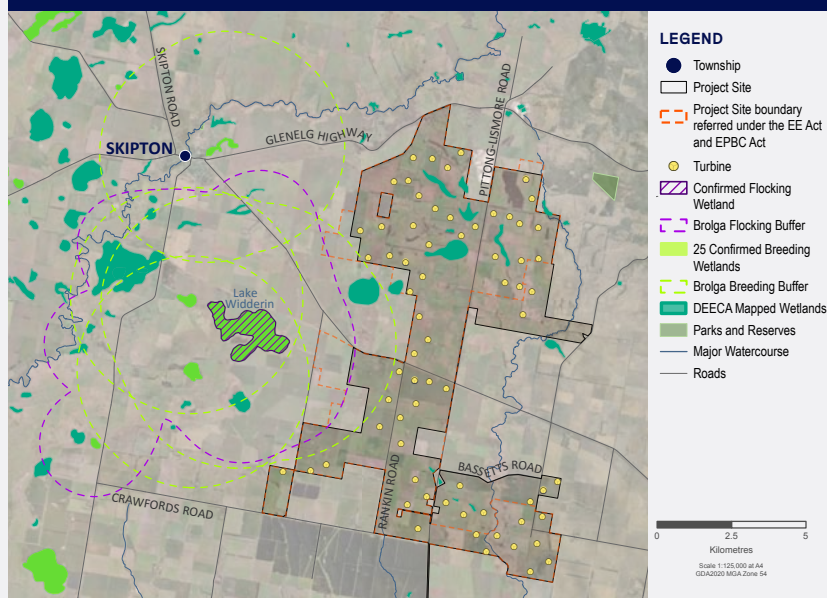
The Project has been assessed as unlikely to result in a significant impact on any listed threatened or migratory fauna species, reflecting the ecologically sensitive design of project infrastructure, developed in consultation with subject matter experts.

 Lake Widderin, identified during project investigations as a key Brolga breeding and flocking site, has been a primary focus of the Project's design response to ecological values. Turbine-free buffers have been applied to confirmed Brolga breeding and flocking sites to reduce the potential for collision risk, given this species is listed as Endangered under the Victorian FFG Act. Application of a 3.586 km turbine free buffer on Lake Widderin, in the direction of the Project Site, resulted in the relocation of seven wind turbines outside of this buffer and away from Lake Widderin. This refinement resulted in a very low overall predicted collision risk for Brolga. Additional mitigation is proposed in the form of a Trial Plan which will be developed and incorporated into the Bat and Avifauna Management Plan (BAM Plan) involving an on-site trial of a selected automated detection system technology on wind turbines located within 5 km of Lake Widderin. The trial will explore how turbine operations (speeds or operating hours for instance) can be tailored in response to the detection of Brolga nearby. The Project will also investigate the ability to increase the minimum rotor swept area height, increasing the clearance distance beneath turbine blades to avoid typical Brolga flight heights.

Referral layout showing seven turbines identified within the Brolga habitat buffer



Revised turbine layout with applied turbine-free Brolga habitat buffer - turbines relocated south-east



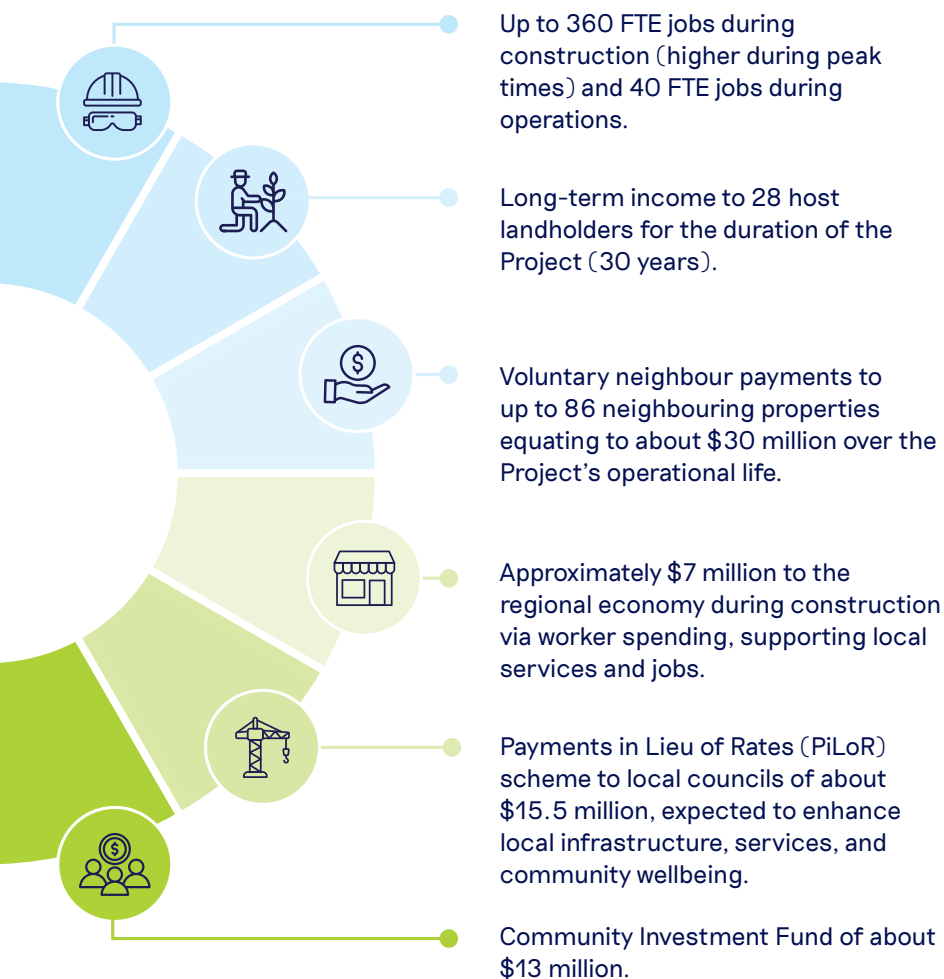
Other bird and bat species recorded during surveys are expected to have a low collision risk with the proposed wind turbines. Most bird activity observed during site investigations occurred below turbine blade height (92.3%), with only a small proportion within the rotor swept area (3.1%). Listed threatened species recorded include the Brown Treecreeper, Blue-winged Parrot, Grey-headed Flying-fox, White-throated Needletail, Brolga, Little Eagle, Black Falcon and Eastern Bent-wing Bat. No significant impacts are anticipated on these species due to the low collision risk assessed. A BAM Plan will be implemented for the management of potential impacts to these species, including a five-year monitoring program and targeted monitoring for Brolga and White-throated Needletail. Overall, impacts on fauna are predicted to be low and effectively managed through design, monitoring, and adaptive mitigation measures.

Social and Economic Impacts

The Project’s potential social and economic effects (positive and negative) during construction, operation, and decommissioning phases have been assessed within the immediate locality (within 6 km) as well as the wider region. Relevant policies in the Corangamite Shire and Golden Plains Shire LGAs as well as regional trends (population change, employment, housing, and socio-economic conditions) were reviewed to inform the assessment. Outcomes from stakeholder engagement informed the assessment, including a community survey and targeted interviews to identify public sentiment toward the Project.

Targeted stakeholder engagement indicated generally neutral to positive sentiment toward the Project. Key concerns raised related to visual changes to the landscape, temporary construction impacts (e.g. noise, dust, traffic), and possible effects on community cohesion due to differing stakeholder views. Broader insights highlighted regional employment challenges, acceptance of existing wind farms, and the importance of visible local benefits. The degree of negative impacts has generally been assessed as moderate, and will be managed through the implementation of mitigation measures such as landscaping, construction management plans, and ongoing community engagement.

The Project represents significant positive economic impacts to the local community and region, and will provide:



Overall, it is expected that the Project will result in a net positive social and economic outcome for the local community and wider region.





Photomontage of predicted view from location VP25

Landscape and Visual Impact

The Project's potential effects on landscape character, public viewpoints, private dwellings, and cumulative impacts with nearby wind farms have been assessed, and visual impacts can be managed and reduced to an acceptable level, to not significantly alter the character of the surrounding landscape.

Based on a wind turbine tip height of 252 m, the Project may be visible from surrounding areas due to predominantly flat terrain, but actual visibility will be reduced for many properties and public areas, including Linton and Skipton, due to intervening vegetation and built form.

The Project's wind turbines will introduce a new and noticeable element, however broader rural landscape character and agricultural land use are expected to remain intact. The Project is not on land having state or regional landscape significance and is unlikely to diminish the scenic value of nearby significant landscapes.

Of the 25 public viewpoints assessed, most were rated low or moderate visual impact from the Project, with one rated high; Flagstaff Hill Lookout (VP25). High visual impact means that the turbines will be prominent in the view so that the landscape is noticeably different for viewers. This can be perceived positively or negatively by viewers. Higher visual impacts were typically associated with views in closer proximity (within 3 km) and direct lines of sight to the Project, whilst for most viewpoints vegetation and the landform reduced visibility of the Project.



**Dwellings within
6km of the Project
were assessed**



**Assessed as
moderate**



**Assessed as
high**

A detailed assessment of 151 non-involved dwellings within 6 km of the Project found that most benefit from existing screening such as vegetation and built form. Only one dwelling was assessed as having a high visual impact, with four assessed as moderate. The majority were rated as low or negligible impact. Where moderate to high impacts occur, mitigation measures such as screen planting in consultation with landholders are proposed.

Given the presence of several nearby wind farms within the wider region, the Project's contributions to cumulative visual impacts to the wider area was assessed as low. While some locations will experience views to multiple wind farms, the Project is expected to be perceived as part of an emerging renewable energy landscape in the area, particularly given the Project's turbine design is visually similar to other wind farms operating in the area.

Consistent turbine design, off-site planting at specific properties for screening and the reinforcement of existing vegetation using native species will effectively manage visual impacts.

Traffic

Traffic assessments, including transporting wind turbine components from Port of Portland, and potential increased vehicle movements locally during construction and operations, have been conducted. Assessments concluded that traffic impacts can be effectively managed through a Traffic Management Plan. The existing road network can safely accommodate Project-related traffic.

Construction traffic will comprise light vehicles for staff, heavy vehicles for materials, and over-dimensional vehicles for wind turbine components delivery. Construction access will be provided via local roads and purpose-built access tracks designed to accommodate over-dimensional (OSOM) vehicles in all-weather conditions. Eight entry points are proposed, with primary access via Rokewood-Skipton Road and Rankin Road which will feature laydown areas for deliveries. Most construction personnel are expected to travel from Ballarat and Geelong, while materials such as gravel, water, concrete and steel will be sourced regionally.

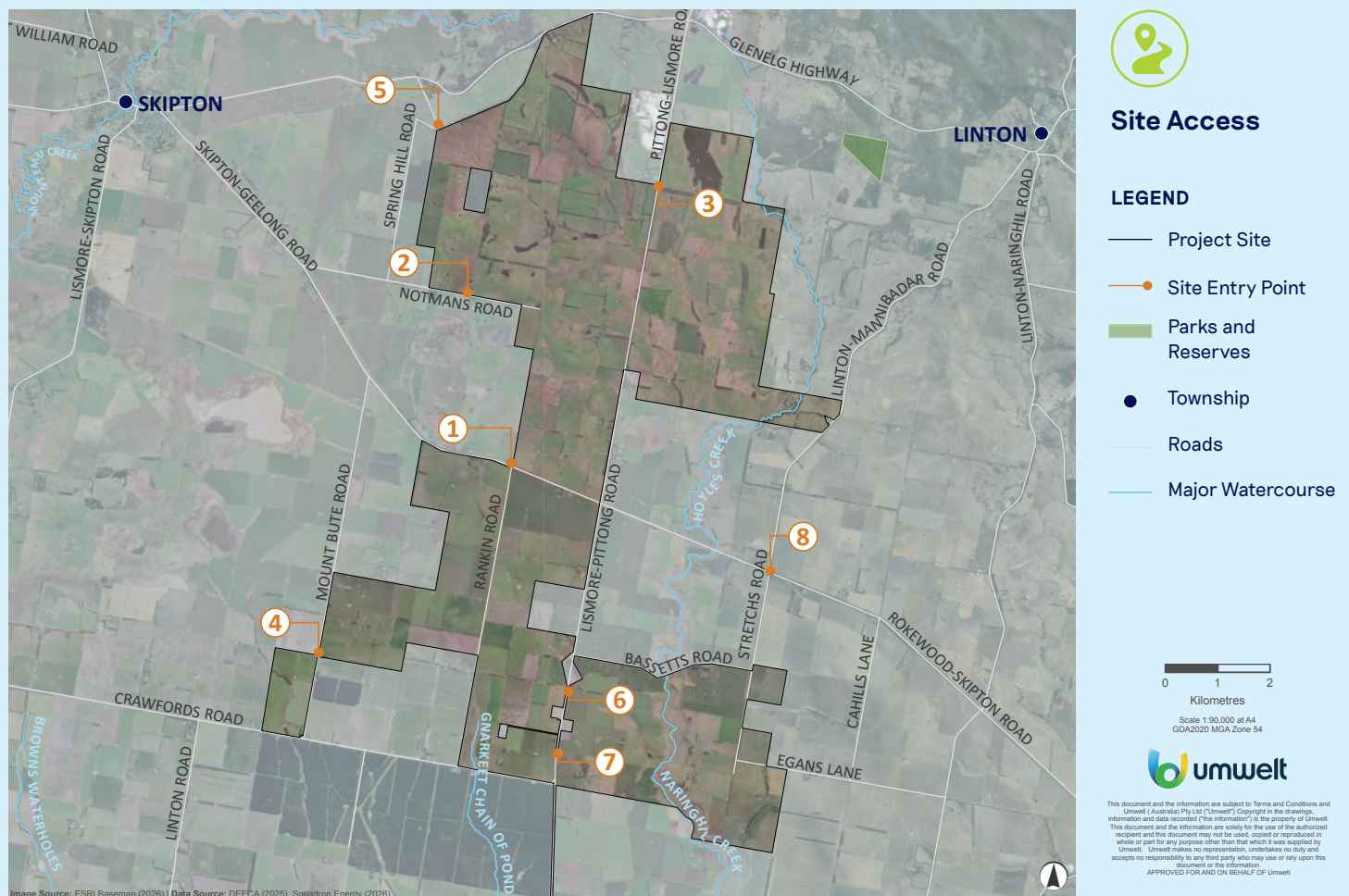
Major wind turbine components (including turbine blades up to 86 m long) will be delivered from the Port of Portland. Assessment of 29 intersections along the delivery route found that the existing road network is predominantly

suitable for over-dimensional transport and will not require permanent upgrades. Some minor temporary works (i.e. localised widening, additional fill, or temporary removal of signage) may be required.

Construction over a 24-month period will increase traffic volumes, and key arterial roads such as Glenelg Highway and Rokewood-Skipton Road are considered to have sufficient capacity to accommodate this additional traffic without long-term performance impacts. Local roads may require temporary upgrades, maintenance agreements, and targeted widening at key intersections to manage construction traffic safely.

During operations, traffic will be minimal and limited to daily staff (approximately 30 light vehicle movements per day) and occasional major maintenance, resulting in negligible operational traffic impacts.

A Traffic Management Plan will be prepared prior to construction in consultation with relevant authorities, to confirm traffic controls, road upgrades, and maintenance responsibilities, ensuring safety.



Noise

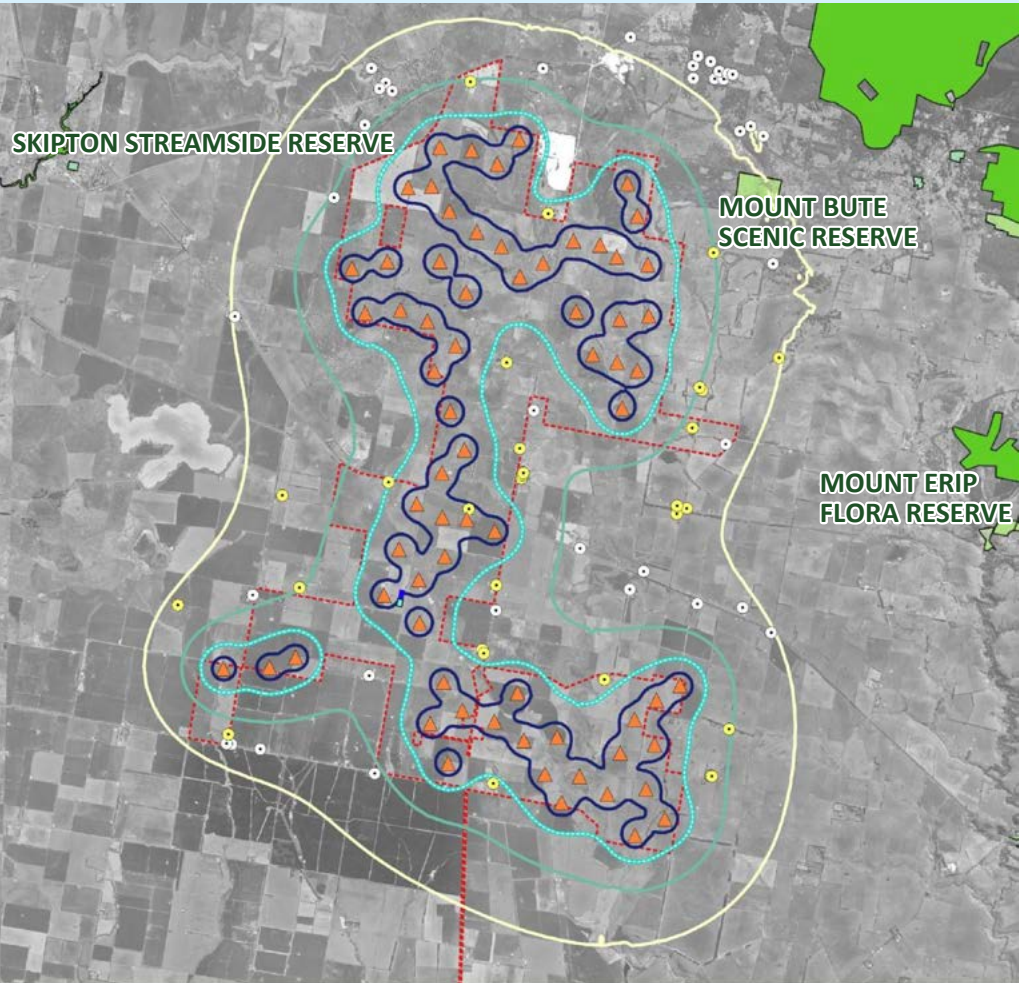
The Project can be designed and operated to comply with Victorian noise regulations, with minimal impact on nearby dwellings and surrounding natural areas.

Background noise levels were recorded at representative locations around the Project Site to confirm existing noise conditions and to establish appropriate noise limits for assessment. Noise modelling was undertaken to predict the Project’s operational noise levels at 67 nearby sensitive locations within 3 km of the proposed wind turbines, including neighbouring and host dwellings.

Predicted wind turbine noise levels from the Project comply with applicable limits at all assessed neighbouring residences and host landholder dwellings, except for one host dwelling planned to be removed (demolished) as part of the Project. Cumulative impacts from nearby wind farms were assessed and found to be compliant. Potential noise impacts on the nearby Mount Bute Scenic Reserve were assessed and predicted noise levels were found to be low and comparable to quiet rural environments.

Noise from the onsite substation and BESS were assessed separately. These facilities are designed to operate continuously, so the most stringent night-time noise limits were applied. Predicted noise levels at the nearest residences and nearby natural areas are comfortably below these limits.

Assessments found that the Project can meet all regulatory noise requirements and will implement a range of noise management measures, including construction noise management, compliance testing during operation, equipment selection to minimise emissions, and detailed noise assessments prior to construction.



LEGEND

- ▲ Wind turbine
- Project boundary
- Stakeholder receiver
- Non-stakeholder receiver
- Natural area
- PCRZ
- PPRZ

Predicted noise level,
dB L_{A90} V162-6.8 MW –
166 m HH [RRLK1207]

- 30 dB
- 35 dB
- 40 dB
- 45 dB

Hydrology and Flood Risk

Flood risks associated with Project construction and operations are low and can be effectively managed through appropriate design and mitigation measures.

Detailed hydraulic modelling of the Project (pre- and post-development) was undertaken to understand potential flood risks, guide design of the Project's layout, and identify flood impacts on surrounding properties or dwellings. Modelling assessed local terrain, rainfall patterns and catchment characteristics to simulate flood behaviour under a range of storm events.

The Project Site is assessed as having low susceptibility to flooding and flood damage. Modelling of the Project Site identified key flow paths and flooding areas, particularly along Hoyles Creek. Most Project infrastructure is sited outside these areas, however, seven wind turbine locations fall within the modelled 1 in 100 year flood extent where inundation depths are shallow (0.06–0.22 m) and not considered a significant risk due to elevation of electrical infrastructure (designed to site above flood levels) and drainage design.

The assessment concluded that the Project will result in minor changes to local flood levels and extents, with no significant offsite impacts. Localised changes in flood behaviour may occur near access tracks which can be managed through culvert and drainage design to maintain natural flow paths.

Impacts to water quality have also been considered through avoidance of direct interaction with waterways such as overhead transmission over Hoyles Creek and application of erosion and sediment controls and spill response procedures during construction.

Aviation

Aviation studies confirmed that the Project would not have an adverse impact on aviation operations in the region, including at Ballarat Airport and nearby aerodromes.

Aviation risks were deemed acceptable without obstacle lighting on wind turbines, however, meteorological monitoring towers (met masts) installed prior to wind turbine installation, and met masts that are not in close proximity to a wind turbine, will be lit with medium intensity steady red obstacle lighting to manage aircraft safety.

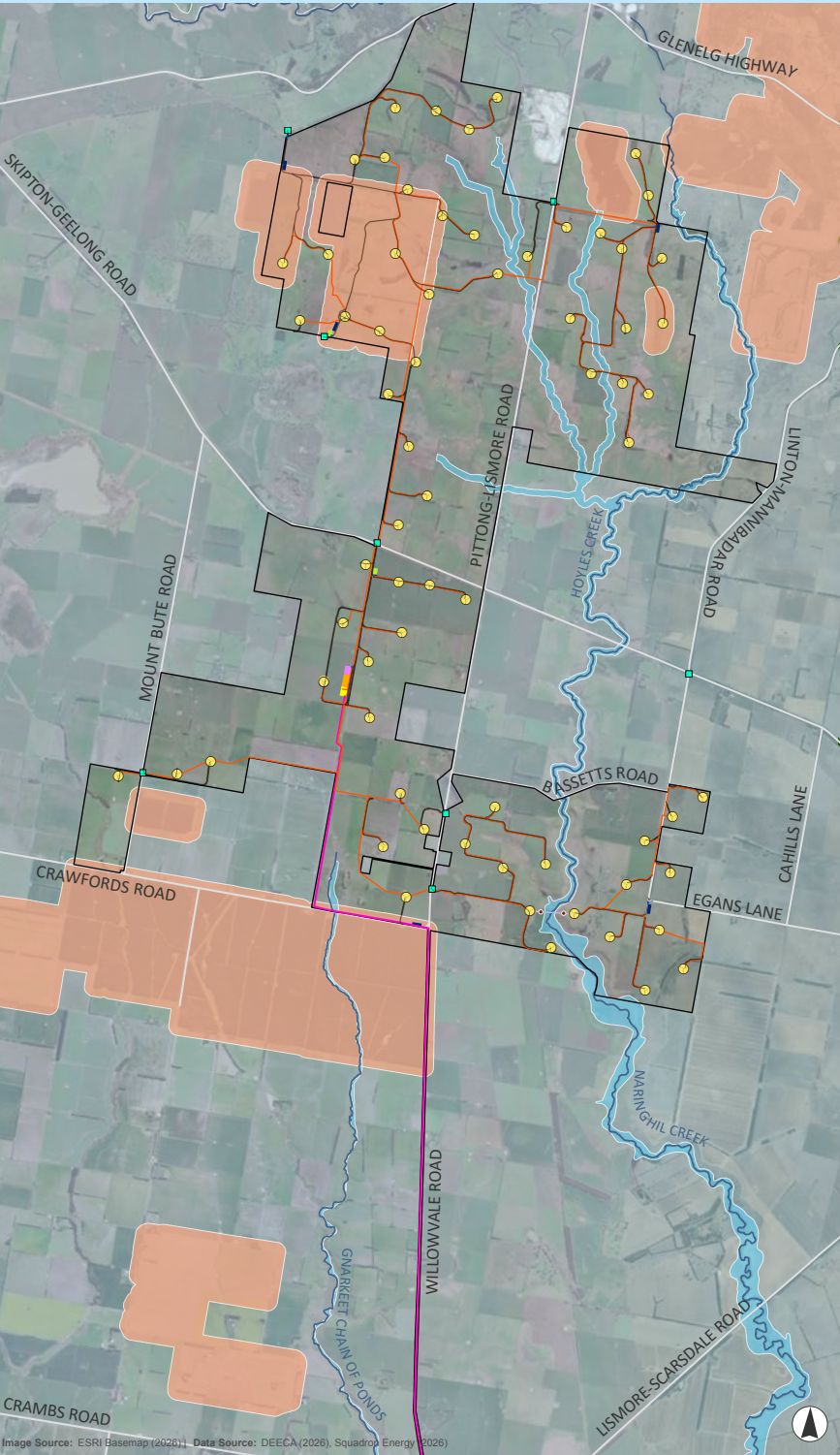
Engagement with local aerial agricultural operators and aerial firefighting operators will address any potential interactions near the Project.



Bushfire

The Project’s potential fire safety and bushfire risks have been assessed in accordance with Country Fire Authority (CFA) guidelines and provisions under the Corangamite and Golden Plains Planning Schemes. The assessment and consultation with CFA concluded that the Project can be safely developed and operated, following implementation of specific mitigation measures, design standards, and operational controls. Fire risk is considered manageable due to the cleared nature of the Project Site, surrounding land uses, and limited vegetation connectivity.

A Bushfire Management Overlay (BMO) affects parts of the Project Site, to the north near Moreton Hill Road and at additional areas nearby. This BMO mapping reflects historical vegetation conditions and former plantations which have since been cleared and replaced by agricultural grassland, resulting in a lower bushfire intensity risk. Some wind turbines fall within mapped BMO areas, however these locations are cleared and do not represent a significant hazard. No key infrastructure, including wind turbines, the substation, or BESS, have been located in areas of elevated bushfire risk.



The BMO across the site is fragmented, limiting connection between mapped areas of BMO or vegetated areas of elevated bushfire risk, reducing the potential for fire to spread across the site. This is further mitigated by natural and built features such as roads, farm tracks, and Project Site access tracks which will function as effective firebreaks and support emergency access, slowing or halting the spread of bushfire should one occur. Consultation with the CFA indicated they are comfortable with the turbine layout from a fire risk perspective.

A Fire Management Plan and Emergency Plan will be developed post-approval to formalise responsibilities and response procedures to manage potential fire safety risks.



LEGEND

Project Site

- Project Site
- Roads
- Major Watercourse

Project Infrastructure

- Site Entry Point
- Turbine
- Watertank
- Transmission Line
- Underground Electrical Retiulation
- Electrical Pole
- Overhead Electrical Retiulation
- Laydown Area
- Temporary Concrete Batch Plant
- Onsite Substation
- O&M Facility
- BESS Facility
- Access Tracks

Planning Overlays

- BMO - Bushfire Management Overlay
- LSIO - Land Subject to Inundation Overlay

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

0 1 2
Kilometres

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Shadow Flicker

The Project's potential for shadow flicker effects on nearby dwellings (within 1.2 km of wind turbines) was assessed in accordance with the *Draft National Wind Farm Development Guidelines* (2010) and *Planning guidelines for development of wind energy facilities* (DTP, 2023). The Project was found to be compliant with these guidelines.

No shadow flicker exceedances were identified at any neighbour dwellings.

Findings of the assessment indicated exceedances at three host landholder dwellings. These landholders have entered into agreements with Squadron acknowledging and accepting potential shadow flicker impacts. One of the three affected dwellings is due for demolition and not affected.

Electromagnetic Interference

Electromagnetic interference (EMI) can occur when a wind turbine is positioned in a way that can block the signal of a radio communications system, reducing the signal power at the receiver. Several wind turbines were re-sited to avoid interfering with point-to-point communication links. Other systems, including land mobile radio, digital TV, FM broadcast, mobile networks, radar, aircraft communications, and scientific and defence radio, were found to have minimal or no impact from the Project. Pre- and post-construction signal surveys will be undertaken for nearby dwellings to ensure the Project does not impact on telecommunications.

Historic Heritage

The Project has a very low likelihood of impacting on significant historical (non-Aboriginal) heritage places.

There are no listed or registered historical heritage places within the Project Site including remnants of early agricultural or pastoral activities (i.e. old tracks, stone features, stock enclosures, or former dwellings).

A targeted field survey identified no historically significant features within, or near to the construction footprint, however the Project will mitigate potential impacts on any unidentified heritage features, including dry stone walls protected under the Planning Schemes or archaeological sites protected under the *Heritage Act 2017*.

Aboriginal Cultural Heritage

A Project Cultural Heritage Management Plan (CHMP) under the *Aboriginal Heritage Act 2006* (Victoria) has been produced and will seek approval by the Project's Registered Aboriginal Party, Wadawurrung Traditional Owners Aboriginal Corporation (WTOAC), in parallel with the planning permit application process.