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Willatook Wind Farm

Planning Report

July 2026

Willatook Wind Farm

ABN: 27 150 810 978

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Quality Information

Revision History

Revision	Description	Date	Originator	Reviewer	Approver
RevA draft	Planning Report	10/04/2026	G.McGrath	F.Cotter	M. Sale
RevB	Planning Report	13/5/2026	G.McGrath	F.Cotter	M. Sale
RevC	Planning Report	10/7/2026	G.McGrath	F.Cotter	M.Sale



Executive Summary

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This document has been prepared in support of an amendment application in relation to Planning Permit Application No. PA2201620 to use and develop land for the purposes of a wind energy facility and utility installation and associated works referred to as the Willatook Wind Farm project (the project).

Approvals Context

This report forms part of a planning application for the project. There are several approvals required for the project under a variety of acts and legislative instruments that directly relate to the planning approval.

The project was assessed via an Environment Effects Statement (EES) under the *Environment Effects Act 1978* (Vic) (EE Act) in 2022. That assessment process guides the consideration for other approvals processes. There have been some changes in legislation and policy since the consideration of the EES, such as the introduction of the Statutory decision makers need to consider the Minister's assessment in deciding whether to grant planning approval.

Under the *Planning and Environment Act 1987* the Minister for Planning is the Responsible Authority for energy generation facilities with an installed capacity of 1 megawatt or greater, which includes wind farms. A Planning Permit is the principal Victorian approval required to progress the project.

Prior to a planning permit being granted, a Cultural Heritage Management Plan (CHMP) approved by First Peoples – State Relations (a group within the Department of Premier and Cabinet) is required under the *Aboriginal Heritage Act 2006* (Vic) (AH Act).

The project must comply with the requirements of the new *Environment Protection Act 2017* (Vic) (EP Act) including the general environmental duty. As such, it must be demonstrated, among other things, that risks of harm to human health and the environment have been minimised so far as is reasonably practicable.

A range of other secondary approvals and consents would be required following the granting of a planning permit.

Project Site and Surrounding Context

The project is located within the South-West Renewable Energy Zone recognised by the Victorian State Government. This renewable zone is centred on the existing Moorabool to Heywood 500 kilovolt transmission line, which passes through the project site. There are several wind energy facilities that are either operating or approved in the region.

The project is approximately 22 kilometres north of Port Fairy and 32 kilometres to the northwest of Warrnambool. The project is located within an area that is used for agriculture, predominantly sheep and cattle grazing.

The project site is bordered to the north by Woolsthorpe-Heywood Road (Transport Zone 2), an arterial C class road, which extends east from the Henty Highway, Heywood to Warrnambool-Caramut Road, Woolsthorpe. Several local roads used primarily for landholder access also intersect the project site.

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A site analysis and design response have been undertaken to inform the project. The project has been designed in response to the various site opportunities and constraints. The design of the project has evolved since its inception in 2009. Avoidance and minimisation of impacts has been central to the development of the project. The approach has been to firstly avoid potential impacts, if possible, then to minimise the severity of the impact.

Project Description

The project would generate renewable energy through the construction and operation of up to 52 wind turbines. Electricity produced from wind turbines would be fed through underground cables to the on-site substation, from where it will be exported to the NEM via the Tarrone Terminal Station and the existing Moorabool to Heywood 500 kilovolt (kV) transmission line.

The project would generate more than 1,400 gigawatt hours (GWh) of electricity each year. The option for an on-site battery storage facility with a capacity of 200 MW / 400 MWh (megawatt hours) is proposed to be located adjacent to the on-site substation.

The project has been designed to enable a maximum wind turbine blade tip height of 254 metres and associated maximum rotor diameter of up to 175 metres. The minimum tip height would be 60 metres above ground level.

Access tracks (45.6 kilometres) with a final width of 6 metres would provide access to each wind turbine and supporting infrastructure from the public road network. Each wind turbine would be connected to an on-site substation using underground cabling with a total trench length of approximately 55.8 kilometres.

Temporary construction infrastructure would include a construction compound, laydown areas, concrete batching plants and an on-site quarry. The total construction footprint for the project is estimated to be 259.2 hectares. The operational footprint is estimated to be 141 hectares, which represents 3.5% of the project site.

Design response influences

The design response for this project evolved over more than a decade influenced by a range of factors including the findings of specialist consultants, new legislation, and input from community and other stakeholders.

Most recently, the project design has undergone a thorough review in response to the EES recommendations outlined in the Minister's Assessment, and the Handbook for the development of renewable energy in Victoria, which includes species specific guidance relating to the Victorian Brolga and onshore wind energy facilities. This document is effective from 29 May 2025, and supersedes the Interim Brolga Guidelines and the Draft Mitigation Standard which formed the basis of several of the Minister's recommendations for the project.

Avoidance and minimisation of impacts have been central to the development of the project. The approach has been to firstly avoid potential impacts, if possible, then to minimise the severity of the impact over space and time.

A range of sensitive areas and constraints have been mapped within and around the project site, defining areas that can and cannot host wind turbines. The project layout was then determined through various considerations including avoidance of sensitive areas.

Another influence on the project layout was the community consultation and feedback regarding the project. Extensive community engagement has occurred since 2010.

The project layout has evolved from the analysis of the site opportunities and constraints as well as the feedback from stakeholders regarding the project. Extensive engagement has been undertaken with the community, relevant authorities and stakeholders to inform the technical assessments which accompany this planning application.

Planning Provisions

The site is located within the Moyne Shire and is subject to the provisions of the Moyne Planning Scheme. Most of the land is within the Farming Zone with small areas located within the Special Use Zone Schedule 6 (SUZ6). The Environmental Significance Overlay Schedule 4 and 5 (ESO4 and ESO5) affect part of the project site however a permit is not triggered for use and development of a wind energy facility in either overlay. A permit is required for vegetation removal under ESO4 and ESO5.

The Bushfire Management Overlay (BMO) affects a small portion of the land in the south-west of the project site. The BMO does not trigger a planning permit for the project.

A planning permit is required under the following clauses of the Moyne Planning Scheme:

- Clause 35.07 (Farming Zone): Use and development of a wind energy facility; use and development of a utility installation; buildings and works (culvert crossings) within 100 metres of a waterway.
- Clause 36.04 (Transport Zone): Use and development of a utility installation.
- Clause 37.01 (Special Use Zone Schedule 6): Use and development of a wind energy facility, and use and development of a utility installation.
- Clause 42.01 (Environmental Significance Overlay Schedule 4 and 5): Remove, destroy or lop native vegetation.
- Clause 52.05 (Signs): Development of business identification signage in Farming Zone (Category 4 – Sensitive areas).
- Clause 52.17 (Native Vegetation): Removal of native vegetation.
- Clause 52.29 (Land Adjacent to the Principal Road Network): Create or alter access to a Transport Zone 2 (Woolsthorpe-Heywood Road).
- Clause 52.32 (Wind Energy Facility): Use and development of a wind energy facility.
- Clause 52.33 (Post Boxes and Dry Stone Walls): Demolish, remove or alter a dry stone wall.

This application also seeks approval for car parking spaces provided to the satisfaction of the responsible authority in accordance with Clause 52.06-6.

There are a range of policy provisions in the Moyne Planning Scheme that apply to the project, and these have been considered, as relevant, in assessment of the application. *The Planning Guidelines for Development of Wind Energy Facilities* (Department of Transport and Planning, 2023) (Planning Guidelines) are a reference document listed under Clauses 19.01-2S Renewable Energy and 52.32



Wind Energy Facility. Additionally, the *2025 Victorian Transmission Plan* (VicGrid, 2025) is listed as a reference document under Clause 19.01-1S.

Other guidelines most relevant to the assessment of the application include the *Guidelines for the removal, destruction or lopping of native vegetation* (Version 1.1, DEECA 2025) (Native Vegetation Guidelines), Design Guidelines and Model Requirements for Renewable Energy Facilities v4 (Country Fire Authority (CFA), 2023) (CFA Guidelines) and the *Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria – A Guide for Renewable Energy Developers* (DELWP (now DEECA), 2021).

Assessment of the Project

Contribution to policy

The project responds positively to the balance of policies by providing a large-scale renewable energy project in an appropriate location with a high-quality wind resource. Due consideration has been given to the range of potential impacts as demonstrated throughout the following assessment sections of this report. Impacts on the local community and environment have been appropriately minimised.

In particular, renewable energy will be promoted in accordance with Clauses 19.01-1S and 19.01-2S of the Moyne Planning Scheme. Construction of the proposed wind farm will require installation of high voltage electrical plant and the completion of high voltage line works that will contribute to the ongoing strengthening of Victoria's electricity grid.

Zone and overlay provisions

Farming Zone (FZ)

The proposed use and development conform to the stated purposes of the Farming Zone. The proposed wind farm is in an area dominated by grazing and agricultural activities, is located away from areas used for rural living and sensitive agricultural land uses and will not have a material impact on the current agricultural productivity of the site.

Environmental Significance Overlay (ESO4 and ESO5)

The ESOs relate to the permitted Shaw River (Schedule 4) and Tarrone power stations (Schedule 5) within the Special Use Zones. A permit is triggered under the ESO to remove, destroy, or lop native vegetation.

There is no infrastructure associated with the project in the ESO4 however a small patch of "Basalt Shrubby Woodland" is required to be removed. Infrastructure associated with the project in the ESO5 includes access tracks, turbines, underground cables, substation, battery energy storage system, operations and maintenance facility, and grid connection infrastructure. The project is consistent with the environmental objectives under the ESO4 and ESO5.

Amenity

Noise

An environmental noise assessment has been undertaken for the construction operation, and decommissioning of the amended project by specialist acoustic consultants Sonus Pty Ltd, referred

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hereafter as Sonus (2026). The assessment also considers potential cumulative noise impacts from nearby existing and approved wind farms.

The assessment has been prepared in accordance with key noise policies and legislation including:

- The general environmental duty under the *Environment Protection Act 2017*
- The Environment Protection Regulations 2021 which includes the Environment Protection Amendment (Wind Turbine Noise) Regulations 2022
- EPA Victoria Publication 1834.2: Civil construction, building and demolition guide
- Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria and NZS 6808:2010 Acoustics – Wind Farm Noise for the turbines
- EPA Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues
- Willatook Wind Farm Minister's Assessment Under *Environmental Effects Act 1978* July 2023

Operational noise predictions have been conducted using the ISO9613 prediction model and indicate that the project criteria will be achieved at all non-stakeholder dwellings.

Assessment of potential cumulative impacts with nearby existing and approved wind farms conclude cumulative noise will achieve the criteria of the Standard.

The noise predictions associated with ancillary infrastructure such as the on-site quarry, concrete batching plants, transformers, and BESS indicate noise emissions from this infrastructure will comply with the applicable noise criteria.

The assessment of construction noise indicates that all construction activities could be undertaken where justified to be low noise impact or managed impact works between the hours of 6pm and 10pm on Monday to Friday and from 1pm to 10pm on Saturdays. Minimum separation distances are provided for various construction activities to achieve the reference noise levels for works at night.

The environmental noise assessment has been verified, as detailed in the Auditor Verification of Pre-Construction Noise Assessment (Tonkin & Taylor, May 2026) accompanying this amendment application.

Blade glint, shadow flicker and electromagnetic interference (EMI)

Clause 52.32 and the Planning Guidelines stipulate that wind farm planning permit applications must consider the effect of the project on the surrounding area in terms of blade glint, shadow flicker and EMI. A shadow flicker and blade glint assessment has been undertaken by DNV (DNV, 2026a), which considers the amended layout, and identifies 36 dwellings as potentially affected by some shadow flicker resulting from the project (of which 12 are stakeholder dwellings). No non-stakeholder landowners that would experience theoretical or actual shadow flicker impacts in excess of the limits provided in the Planning Guidelines or the Draft National Guidelines. This, along with the theoretically modelled maximum duration of 28.6 hours per year, demonstrate that no non-stakeholder dwellings would receive unacceptable levels of shadow flicker effects.

This is consistent with the findings of the Minister's Assessment, which indicates that shadow flicker and blade glint impacts associated with the project were acceptable and manageable through implementation of proposed mitigation measures.

An updated EMI Assessment has been undertaken by DNV (DNV, 2026b), considering the updated project layout and design.

In their assessment of the project, the Inquiry and Advisory Panel (IAP) found that EMI is managed appropriated through the proposed mitigation measures. The Minister's Assessment supported this finding, concluding that the project's electromagnetic effects are acceptable and manageable.

The updated EMI Assessment concludes that potential EMI impacts associated with the amended layout are generally comparable to, and in some cases lower than, those assessed as part of the EES. While some potential interference pathways were identified, including for fixed point-to-point links, wireless internet, satellite services and television broadcasting, these impacts are expected to be manageable through consultation with service operators and implementation of mitigation measures where required.

Landscape and visual impact

Clause 52.32 and the Planning Guidelines stipulate that proponents of wind farms must address the potential impact of the wind farm on landscape values and visual amenity.

An updated visual impact assessment has been undertaken by Landform Architects (2025 and 2026), which considers the revised project layout and design, including the increased turbine height from 250 metres to 254 metres, as well as the findings of the EES and Minister's Assessment. The Minister's Assessment acknowledges that the project will have visual impacts on dwellings, and when viewed from public roads, but considers these impacts acceptable with the implementation of appropriate mitigation measures.

Noting the project re-design has resulted in a reduced overall scale and reduction in the number of turbines, any change from the findings of the original visual impact assessment for the project generally relates to reduced impacts at nearby sensitive receivers.

Measures to minimise visual impacts to nearby residential dwellings and townships applied in the project design phase include:

- Creating setbacks of proposed turbine locations from neighbouring residences, not participating in the project (i.e., non-stakeholder dwellings), to the nearest wind turbine. This buffer distance is significantly greater than the 1-kilometre buffer required in the Victoria Planning Provisions and mostly exceeds 1.5 kilometres.
- 3-kilometre setback of surrounding townships to the nearest proposed wind turbine location.

Other proposed management measures include:

- Development of an off-site landscaping plan for vegetation screening, in consultation with the landowner on a case-by-case basis
- Re-siting of project infrastructure from sensitive viewing areas and key view lines
- Development of an on-site landscaping plan to screen substations, buildings and lower infrastructure.

Environment

Surface water

There are state planning policies which relate to the environment, water and water quality. Surface water relates to groundwater which also influences ecology.

Key impacts to surface water features during project construction and operation and include physical disturbance from watercourse crossings, reduced water quality from sediment laden runoff from construction works areas during periods of high rainfall, accidental spills of hazardous materials such as fuels and oils and uncovering of acid sulphate soils during earthworks. Construction of project infrastructure also has the potential to alter hydrology of the site.

The Minister's assessment found the project appropriately assessed potential surface water impacts, and that permit conditions and the environmental management measures proposed by the IAP are appropriate for managing any residual impacts to surface water in the context of final design. The Minister's assessment also notes that these impacts can be avoided through the recommended management measures.

An updated hydrogeological and hydrological assessment memorandum has been prepared by Water Technology (2026a) which considers the revised project layout and design. Given the overall project development footprint has been reduced, the memo notes that any potential impacts of the project will be comparable or less than the impacts identified in the original assessment. These impacts were assessed as very low to low and are expected to remain localised and temporary.

To further minimise potential impacts to surface water features (and their supporting values), a range of management controls will be implemented during the design, construction, operation and decommissioning of the project include. The proposed management controls contained within the Updated Environmental Management Framework (Appendix D) incorporate recommendations detailed in the Minister's Assessment, including amended Environmental Management Measures.

Groundwater

The potential for groundwater-related issues associated with the construction and operation of the project relate to the potential for adverse impacts to existing users of groundwater and to Groundwater Dependent Ecosystems, because of reduced levels and associated impacts to the supply of groundwater. Impacts may also occur due to reduced groundwater quality.

These impacts could occur through the following potential impact pathways:

- Dewatering of groundwater during construction, lowering the water table and resulting in groundwater drawdown that affects water availability
- Disruption of groundwater recharge and flow, such as from introduction of impermeable surfaces and physical barriers in the form of wind turbine foundations
- Disruption of groundwater discharge to waterways or waterbodies by intersecting groundwater discharge water features (e.g., natural springs) or from a reduction in groundwater availability (e.g., due to dewatering)
- Groundwater contamination, including from accidental spills or formation of acid sulphate soils.

The updated assessment prepared by Water Technology (2026a) provides an updated groundwater assessment against the current project design, and determines that the changes will not increase residual effects to groundwater values, users, and quality, with any impacts being comparable to, or less than what was identified in the original assessment.

Design measures were put in place, based on known environmental constraints, to avoid potential groundwater impacts to local groundwater users and environmental values. In addition to the design measures described above, environmental management measures will further manage potential impacts to groundwater.

Overall, impacts to groundwater users and groundwater quality from the project construction, operational and decommissioning are considered to be low to very low. The Minister's Assessment

found that effects of the project on groundwater will be acceptable provided these effects are managed in accordance with the proposed design and contingency measures, and the management measures and permit conditions recommended by the IAP.

Native vegetation

A combination of desktop information and field-based survey techniques were used to characterise native vegetation within the project site and surrounding areas. Following the release of the Minister's Assessment and re-design of the project, further field assessments were completed focussing on native vegetation and flora and an updated biodiversity assessment addendum was prepared by Nature Advisory to support the initial assessment.

Within the project site, nine Ecological Vegetation Classes (EVCs) were mapped within the investigation area, covering an area of 909.914 hectares. This includes 183.529 hectares of DEECA-mapped wetlands, which are treated as native vegetation. Areas not supporting remnant native vegetation have a high cover (>90%) of exotic grass species, many of which have been direct seeded for use as pasture. Scattered native grasses are generally present in these areas, however, are less than the required 25% cover to be considered a remnant patch of native vegetation.

A total of 183 scattered trees were mapped in the investigation area.

Native vegetation surveys have progressively refined the understanding of native vegetation coverage and habitat for threatened flora and fauna across the site. Throughout the design process there have been significant efforts made to avoid the clearance of native vegetation.

The proposed construction footprint consists of approximately 259.2 hectares of expected ground disturbance. As the construction footprint has been derived in accordance with the 'avoid' and 'minimise' principles, the majority of the native vegetation has been avoided and would be retained.

Detailed civil engineering and three-dimensional design modelling has further refined the extent of access tracks, hardstands and underground cabling corridors, reducing disturbance footprints and specifically additional avoidance of native vegetation and sensitive habitat features where practicable. The native vegetation removal calculation has been updated to reflect the amended project layout. Construction of the project would result in the loss of 6.109 hectares of native vegetation, comprising 6.015 hectares of native vegetation patches (including 5 large trees in patches) and 0.094 hectares associated with three small scattered trees. This also includes approximately 0.043 hectares of native vegetation removal associated with road upgrades required along the route for over dimensional loads.

Native vegetation unable to be retained during the design and construction phases would be offset according to the Native Vegetation Guidelines. All offsets would be secured before the removal of native vegetation.

The Minister's Assessment notes that native vegetation impacts have been appropriately minimised, are considered acceptable, and can be managed through the IAP's proposed permit conditions and environmental management measures.

Brolga

The potential impact of wind farms on Victoria's Brolga population is seen as a key environmental issue for the wind energy industry in south-west Victoria. This is because a large proportion of the Victorian Brolga population's range occurs in areas proposed for wind farm development.

A new assessment of the impact of the amended project on Brolga has been prepared by Nature Advisory (2026a). This Brolga Impact Assessment applies the new Handbook and supporting Brolga guidelines and responds to the Minister's recommendations.

This document was released following the project's EES and Minister's Assessment, and superseded the Interim Brolga Guidelines which were applied for the original Brolga Impact Assessment.

The modification of the project design and layout following the EES and Minister's Assessment has been informed by the wetland buffers as identified in the Brolga Impact Assessment, together with the guidance in the Handbook and the Minister's recommendations, with the intention to protect Brolga breeding habitat through siting project infrastructure outside of these buffer areas wherever possible. The updated project layout has been designed with expanded and refined exclusion zones (or buffers) around defined Brolga breeding habitats.

Additionally, the change in turbine design, which includes an increased minimum tip height from 40 metres to 60 metres, significantly reduces collision risk as this height exceeds the flight height of 97% of local Brolga flights. Mitigation measures, such as the Bat and Avifauna Mitigation Plan (prepared in consultation with DEECA), will further seek to limit collision risks through monitoring and management strategies.

A Bat and Avifauna Management Plan (BAMP) has been prepared by Nature Advisory (2026c) and accompanies this amendment application. The BAMP includes a comprehensive monitoring program, and adaptive management approach to the reduction of impacts on threatened and migratory bird and bat species, with effective mitigation measures including to reduce the risk of turbine collisions.

Bats

The potential impact of wind farms on Victoria's bat species is a key environmental issue for the wind energy industry. Clause 52.32 requires any application for a wind energy facility to consider the impact on any species (including birds and bats) listed under the FFG Act or the EPBC Act. The Planning Guidelines identify bird and bat casualties resulting from collisions with moving turbine blades as one of the key potential biodiversity impacts for wind farm projects.

The Bat Impact Assessment prepared by Nature Advisory (2026b) considers potential impacts from the construction, operation and decommissioning of the project on bat species of concern, with specific reference to the Southern Bent-Wing Bat (SBWB) as a critically endangered species under the EPBC Act and FFG Act. Measures taken to avoid and minimise these impacts in accordance with DEECA's recently released Handbook, and the findings of the EES and Minister's Assessment are also discussed.

The Minister's Assessment includes several recommendations relating specifically to the SBWB, to ensure any impacts to the SBWB are acceptable and manageable. The Bat Impact Assessment addresses these recommendations, as well as the relevant guidance provided in the Handbook.

The Handbook requires wind farm projects to meet criteria to avoid, minimise, and mitigate impacts to bat species. The project has applied the mitigation hierarchy to appropriately manage the risk of bat collisions with turbines. The project's mitigation approach is informed by the extensive survey work undertaken, the findings of the EES and Minister's Assessment, and guidance contained within the Handbook.

Mitigation measures aligning with the Minister's recommendations include (but are not limited to):

- 200 metres blade-to-habitat buffer for key habitat features and areas of higher concentration of confirmed SBWB activity
- Increasing the minimum wind turbine blade height from 40 metres to 60 metres to reduce the likelihood of bat collisions

- Implementing a night-time cut-in wind speed of 4.5 m/s for all turbines during the main activity period for the species
- Provision of a BAM plan, with adaptive management measures.

A Bat and Avifauna Management Plan (BAMP) has been prepared by Nature Advisory (2026c) and accompanies this amendment application. The BAMP includes a comprehensive monitoring program, and adaptive management approach to the reduction of impacts on threatened and migratory bird and bat species, with effective mitigation measures including to reduce the risk of turbine collisions.

Other Flora and Fauna

A comprehensive flora and fauna assessment was prepared by Nature Advisory to support the EES and initial Planning Permit Application with an updated report prepared to account for the iterative design changes that are incorporated into the amended application request titled “Willatook Wind Farm – Biodiversity Addendum Report”. This assessment was informed by a number of surveys and investigations undertaken over many years, and is a requirement of Clause 52.32.

The biodiversity assessment submitted in support of this amendment application is an update to the Willatook Wind Farm Flora and Fauna Assessment (Nature Advisory 2022a). Since the submission of that report, further vegetation and flora surveys and the desktop assessment of historical records have been completed and is summarised in Section 7.3.3 of this report. Results from BUS, migratory shorebirds, reptiles and fish were not required to be updated, so a summary of the results for those fauna groups has been provided in Section 7.3.3.

Numerous fauna surveys have been undertaken at the project site. The initial surveys were undertaken by Ecology Partners Pty Ltd from 2009 to 2011, and then by Nature Advisory from 2018 onwards. In accordance with a risk-based approach, fauna surveys have focussed on bats, birds, reptiles and amphibians and aquatic fauna.

The flora and fauna investigation area for the database searches of existing flora and fauna species records and potential occurrence of EPBC Act matters was defined as the project site plus a buffer area of at least 10 kilometres from the project site boundary.

To characterise the bird community present within the project site a number of methods were used. Fixed-point bird surveys were completed in 2009, 2018 and 2019. Seasonal wetlands and farm dams were also visited on five separate surveys during spring and summer and assessed for the suitability to provide foraging habitat for migratory shorebirds. All listed migratory birds encountered were identified and the number of individuals was counted. These surveys were completed in accordance with EPBC Act migratory shorebird survey guidelines.

A broad range of other fauna surveys were also completed for threatened fauna including:

- Striped Legless Lizard – habitat surveys and targeted tile surveys.
- Swamp Skink – trapping, active searching, and habitat surveys.
- Growling Grass Frog – targeted frog surveys and habitat surveys.
- Little Galaxias and Yarra Pygmy Perch – targeted fish surveys using bait traps, dip nets and Fyke nets

During construction there is the potential for direct habitat loss from vegetation clearance and physical disturbance associated with construction earthworks, as well as habitat degradation from indirect effects such as hydrological changes. At this time, there would also be increased noise, vibration and lighting that has the potential to disrupting the behaviour of birds. Once operating, impacts to birds

include bird death or injury from collisions with wind turbines, and indirect impacts from habitat disruption and displacement due to the presence of wind turbines.

The project has applied the mitigation hierarchy whereby the approach has been to firstly avoid potential impacts to flora and fauna if possible and practical, then to minimise the severity of the impact, followed by the application of targeted mitigation and management measures.

Adoption of the mitigation hierarchy has included:

- Avoid: measures taken to avoid impacts from the outset using spatial placement of infrastructure away from ecological values (including native vegetation), or scheduling works to avoid impacts.
- Minimise: measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided, as far as is practically possible.
- Offset: measures taken to compensate for any residual, adverse impacts that cannot be avoided, minimised and/or rehabilitated or restored, in order to achieve no net loss or preferably a net gain of biodiversity. The project would offset any clearance of native vegetation.

In response to the findings of the IAP and EES with respect to impacts to bird species (excluding Brolga), the Minister's assessment concluded that "provided significant impact thresholds have not been reached and mitigation measures are adopted should migratory species be impacted by the project during operation, I am satisfied that the project will not have a significant impact on listed migratory species". The Minister's Assessment determined that the project will have an acceptable impact on threatened flora species, subject to the implementation of the recommended environmental management measures which can be partly addressed through the CEMP.

Updated flora surveys identified several threatened flora species within the project site, including Pale Swamp Everlasting and Pale Flax-lily. The project layout has undergone iterative refinement to avoid and minimise impacts to these species wherever practicable, including through micro-siting and detailed civil design refinement. Residual impacts to a limited number of individuals cannot be completely avoided due to overlapping environmental and operational constraints and will be managed in accordance with the mitigation hierarchy and relevant legislative requirements.

A Bat and Avifauna Management Plan (BAMP) has been prepared by Nature Advisory (2026c) and accompanies this amendment application. The BAMP includes a comprehensive monitoring program, and adaptive management approach to the reduction of impacts on threatened and migratory bird and bat species, with effective mitigation measures including to reduce the risk of turbine collisions.

Community and Safety

Aviation

The aviation impact assessment investigation area included the project site and a buffer of 30 nautical miles (or 55.6 kilometres) of the project site to encompass all registered and certified aerodromes within this area as per the Airservices Australia requirements for an Aviation Impact Statement.

The updated Aeronautical Impact Assessment undertaken by Chiron Aviation Consultants considers the modified project layout and design.

The Minister's Assessment found that "Subject to the recommendations of my assessment to ensure no turbines penetrate the minimum safe altitude for Warrnambool airport operations, the project infrastructure will have acceptable effects on aviation safety and aircraft operations."

Since the last assessment under the EES, the 10 nautical mile Minimum Safe Altitude (MSA) for Warrnambool Airport has increased from 2100 feet to 2200 feet which removes the impact of the amended layout to the approach path of this aerodrome. This change occurred after 7 September 2023. The amended design has not resulted in any increased aviation impacts. It is therefore concluded that the amended layout complies with the recommendations of the Minister's Assessment with respect to aviation safety and aircraft operations.

Overall, the impact assessment identified the potential to impact aviation operations in the project region is low and does not pose a hazard to aircraft safety. The obstacle lighting review concluded that wind turbines would not need obstacle lighting. The project wind turbines and meteorological monitoring masts are required to be reported to the Vertical Obstacle Database, managed by Airservices Australia.

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Traffic and Transport

The assessment of traffic and transport impacts are detailed in the Traffic impact assessment prepared by Ratio Consultants (2026) which accompanies this amendment application. A permit is triggered for changes to a road in the Transport Zone 2 pursuant to Clause 52.29.

The project site is bordered to the north by Woolsthorpe-Heywood Road (Transport Zone 2), an arterial C class road. Tarrone North Road is a sealed sub-arterial road running north-south on the eastern side of the project site.

The project site would be accessed via a network of internal access tracks extending from Woolsthorpe-Heywood Road, and Tarrone North Road.

The key findings of the amended Traffic Impact Assessment are provided below:

- Wind Farm traffic generated to external roads during construction will be limited to staff vehicles, heavy vehicle traffic associated with external bulk materials haulage and over-dimensional vehicles associated with wind turbines and other major component delivery. Additional traffic associated with internal wind farm traffic will also be generated to local sections of Woolsthorpe – Heywood Road within the Wind Farm site;
- During peak construction, external wind farm traffic may reach up to 824 vehicle movements per day on Woolsthorpe – Heywood Road, subject to the level of on-site materials sourcing. This traffic can comfortably be catered for within Woolsthorpe – Heywood Road with the exception of the 2.4-kilometre single lane section of road between Poyntons Road and No 2169 Woolsthorpe – Heywood Road, the 2.8-kilometre single lane section of road between Kangaroo Creek and Shaw River, which will require widening, and the 3.2 kilometre single lane section of road between Hamilton-Port Fairy Road and 3261 Woolsthorpe-Heywood Road if western quarries are used, which will require widening;
- Additional traffic generated to Woolsthorpe – Heywood Road to the west of the site will be limited to 107 vehicle movements per day. This additional traffic does not warrant significant road improvements. The increased reliance on Woolsthorpe-Heywood Road and Tarrone North Road reflects the project's response to environmental constraints identified through the EES and Minister's Assessment, which has prioritised avoidance of sensitive areas at the expense of internal road connections within the project boundary.
- Subject to the resolution of specific traffic management requirements, the identified over dimensional vehicle route option from the Port of Portland to the Wind Farm site for the transport for wind turbines and other imported major components have been assessed and are suitable for over-dimensional transport vehicles; and,

- Local traffic impacts within the project area during all project phases can be suitably and safely managed.

The findings of this assessment are consistent with the EES assessment and the Minister's Assessment, which notes that "traffic and transport effects resulting from the project will be acceptable with the management measures identified in the EES and the IAP's report, and that the local and wider road network is capable of accommodating the increased traffic volume and road requirements through the life of the project."

Blade drop

Blade drop is the very rare occurrence of a structural failure to a wind turbine generator during operation resulting in the blade or part of it to fall to the ground.

There are no planning provisions that require the consideration of blade drop however this risk has been considered in the siting of the turbines and setback distances to roads and neighbouring properties. All wind turbines have a minimum setback of 100 metres from any made or all-weather roads and neighbouring property boundaries. The neighbouring properties are absent of structures and generally cropping or grazing land.

Fire prevention and safety

There are no specific permit triggers under the planning scheme that apply to the project site relating to bushfire risk, however Clause 52.32 requires proponents of wind farms to address bushfire risks. The CFA Guidelines are relevant to the project, and along with Clause 13.02-1S and Clause 44.06 (BMO) have been considered in this assessment. It is noted the site is within a designated Bushfire Prone Area under the *Building Act 1993* and that a small area of the project site and proposed works are located within the BMO, however no permit triggered.

A risk management plan was prepared to assess the risk of fire in relation to the project by Fire Risk Consultants (2026). This assessment concluded that with measures in place to minimise the risk of fire, a low residual risk.

The proposed battery is located with suitable fire breaks, and static water supplies will be installed in strategic locations through the project area. Access tracks and project infrastructure are sited so emergency vehicles can easily enter and manoeuvre around the site. Further detailed plans will be prepared in collaboration with the CFA before construction and commissioning of the project and will be influenced by the outcomes of a detailed risk assessment that aligns with the CFA Guidelines.

Access for fire trucks and personnel, is greatly enhanced by the access roads built for the construction and maintenance of the turbines. These roads also act as fire breaks, which can slow fire spread or contain the fire. There are water storages associated with the wind farm that are available for firefighting purposes including on site dams.

The development of a Fire Management Plan and Emergency Management Plan via a standard permit condition, in consultation with the CFA, would suitably manage any residual fire risks posed by the project.

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The Minister's Assessment concluded that any potential impacts to cultural heritage could be addressed and managed through the Cultural Heritage Management Plan (CHMP) and engagement with Registered Aboriginal Parties (RAPs).

Since the release of the Minister's Assessment, the project has engaged with both Eastern Maar and Gunditj Mirring Traditional Owners Aboriginal Corporation, conducting further complex testing of the proposed infrastructure locations to ensure that all proposed wind turbine locations have been subject to complex assessment. The findings of this will inform the draft CHMP that will be submitted under the *Aboriginal Heritage Act 2006*.

Environmental Management

The technical studies for the project make recommendations for the preparation of plans to address management measures during the construction, operation and decommissioning of the wind farm.

The Environmental Management Plan would be prepared to reflect conditions of the planning permit and the Environmental Management Framework, as endorsed by the Minister, before construction starts. The Environmental Management Plan would consolidate all environmental management measures that relate to the project and provides details of how they should be performed.

There will also be several plans and sub plans that will be prepared prior to the commencement of construction of the project. These include a Construction Environmental Management Plan (CEMP), a Decommissioning Plan, Noise and Vibration Management Plan, CHMP, Traffic Management Plan, Water Management Plan, Bushfire Management Plan, and Emergency Management Plan.

The Environmental Management Plan would remain a live document throughout the project pre-construction and construction phases. Some provisions may also apply during the operational phase. The Environmental Management Plan would be updated after the detailed design and pre-construction ecological surveys, and to reflect any changes in legislation, where relevant. All appropriate mitigation and management strategies would be consolidated in the Environmental Management Plan, which would clearly outline what should be done and who has the responsibility for doing it.

The Minister's Assessment made a range of recommendations relating to the proposed Environmental Management Framework. An updated Environmental Management Framework has been developed to address these recommendations and other changes. This is provided at Appendix D.

Conclusion

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The project provides for:

- The generation of electricity through harvesting the power in the wind – that is, sustainable electricity generation, leveraging an excellent wind resource;
- Social benefits of the project relate to the opportunities for local job generation and training from the construction and operation phases;
- Overall long-term benefits include the project's contribution to the local economy and provision of new renewable energy resources to help address climate change;

- Low impact on existing land use, allowing continued farming on the land, and providing an additional income stream; and,
- Community and neighbour benefits.

The project has considered the provisions of Clause 52.32 and the Planning Guidelines and demonstrates a high level of compliance with the relevant planning provisions. The revised project design is responsive to the relevant EES recommendations detailed in the Minister's Assessment, and aligns with the recently published updated Victorian Brolga Guidelines.

Amenity impacts on neighbours are minimised. Impacts such as noise and visual impacts have been considered and appropriate measures proposed to reduce any impacts. The project has considered potential impacts including blade glint, electromagnetic interference and shadow flicker and complies with the relevant regulations.

Other impacts have been avoided or mitigated through the extensive design process. The project demonstrates consistency with the zone and overlay provisions policy framework of the Moyne Planning Scheme.

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Contents

Executive Summary	ii
Abbreviations	xxiv
Glossary	xxvi
Acknowledgement to Traditional Owners	xxxi
1 Introduction	2
2 Project Site and Surrounding Context.....	3
2.1 The surrounds.....	3
2.2 The project site	6
3 Project Description	12
3.1 Overview.....	12
3.2 Components and layout.....	20
3.2.1 Wind turbine generators	20
3.2.2 Access tracks and project site access from public roads	24
3.2.3 Signage.....	24
3.2.4 Electrical reticulation and distribution	26
3.2.5 Battery energy storage system.....	28
3.2.6 Operations and maintenance facility	31
3.2.7 Meteorological monitoring masts.....	31
3.2.8 Temporary infrastructure components and layout.....	32
3.3 Project Phases.....	34
3.3.1 Construction.....	35
3.3.2 Operation	42
3.3.3 Decommissioning and rehabilitation	42
4 Project Design.....	44
4.1 Design Response	44
4.2 Response to Minister's EES Recommendations and Handbook for the development of renewable energy in Victoria (DEECA, 2025)	48
4.2.1 Response to Minister's Recommendations	51
4.2.2 Response to the Handbook for the development of renewable energy in Victoria (DEECA, 2025).....	52

**ADVERTISED
PLAN**

4.3	Community and Stakeholder Engagement.....	54
4.3.1	Community Consultation.....	54
5	Legislative Context	57
5.1	Project approvals context and history	57
5.1.1	Planning and Environment Act 1987	58
5.1.2	Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018.....	58
5.1.3	Mineral Resources (Sustainable Development) Act 1990.....	59
5.1.4	Planning guidelines for development of wind energy facilities (Victorian Government, 2023).....	59
5.1.5	Guidelines for the removal, destruction or lopping of native vegetation.....	61
5.1.6	Design Guidelines and Model Requirements for renewable energy facilities	61
5.1.7	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)	62
5.2	Other relevant legislation.....	64
5.2.1	Environmental Protection Act 2017	64
5.2.2	Heritage Act 2017	64
5.2.3	Water Act 1989	64
5.2.4	Flora and Fauna Guarantee Act 1988 and Flora and Fauna Guarantee Amendment Act 2019	65
5.3	Energy related policies and guidelines.....	65
5.3.1	Victorian Transmission Plan (VicGrid, 2025).....	65
5.3.2	Renewable Energy Zone Orders	65
5.3.3	Victoria's Climate Change Strategy 2026-2030.....	66
5.3.4	Great South Coast Regional Growth Plan 2014.....	66
5.3.5	Moye Shire's Council Plan 2025-2029	67
5.3.6	Climate Action Act 2017	67
5.3.7	Renewable Energy (Jobs and Investment) Act 2017	68
5.3.8	Electricity Industry (Victoria) Act 2005.....	68
5.3.9	Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria: A guide for renewable energy developers.....	68
5.4	Other Planning Schemes.....	69
6	Planning Provisions	70
6.1	Moyne Planning Scheme.....	70
6.2	Land use definition	70
6.2.1	Planning Policy Framework	71

6.2.2	Zones	76
6.2.3	Overlays	77
6.2.4	Additional permit triggers	79
6.2.5	Particular Provisions	82
6.2.6	General Provisions	85
6.2.7	Operational Provisions.....	86
6.3	Permit Trigger Summary	87
6.4	Referral Agencies	87
6.4.1	Department of Transport.....	87
6.4.2	Secretary to DELWP (now DEECA)	88
6.4.3	AusNet Services	88
6.4.4	WorkCover Authority.....	88
7	Assessment of the Project.....	89
7.1	Planning and land use	90
7.1.1	Contribution to achieving government policy objectives.....	90
7.1.2	Consistency with planning provisions	91
7.2	Amenity Impacts	96
7.2.1	Noise and vibration	96
7.2.2	Blade glint and shadow flicker	101
7.2.3	Electromagnetic interference	102
7.2.4	Landscape and visual impact	104
7.3	Physical and natural environment	111
7.3.1	Surface water.....	111
7.3.2	Groundwater	115
7.3.3	Biodiversity.....	119
7.3.4	Bat species of concern	137
7.3.5	Brolga.....	143
7.4	Heritage	151
7.4.1	Aboriginal cultural heritage	151
7.4.2	Historical cultural heritage	153
7.5	Community and safety	154
7.5.1	Aircraft safety	154
7.5.2	Traffic and road impacts	158
7.5.3	Blade drop.....	164

7.5.4	Fire prevention and safety	164
7.6	Community engagement and benefits.....	166
7.7	Environmental management.....	167
7.7.1	Detailed design plans	167
7.7.2	Environmental Management Plan	168
7.7.3	Construction Environmental Management Plan	169
7.7.4	Decommissioning Plan	170
7.7.5	Other management plans	170
8	Conclusion	171
	References	173

Figures

Figure 2-1	project Location	5
Figure 2-2	Overview of changes to subject land.....	7
Figure 2-3	Dwellings within 6 kilometres of the project site	8
Figure 2-4	Woolsthorpe-Heywood, east of Tarrone North Road	10
Figure 2-5	Shaw River within the project site.....	10
Figure 2-6	Aerial view of volcanic lava flows and stony rises	10
Figure 2-7	Depressions within the landscape that form ephemeral.....	11
Figure 2-8	Typical landscape of the project site	11
Figure 2-9	Example of patch of Basalt Shrubby Woodlands within the project site	11
Figure 3-1	project Overview	15
Figure 3-2	project Overview Western Sector	16
Figure 3-3	project overview Southern sector	17
Figure 3-4	project Overview Northern Sector	18
Figure 3-5	project Overview Eastern Sector	19
Figure 3-6	Maximum and minimum wind turbine dimensions.....	22
Figure 3-7	A rotor with three blades with the final blade being lifted onto a wind turbine tower.....	23
Figure 3-8	Site access and road network	25
Figure 3-9	Conceptual substation layout	27
Figure 3-10	Example of wind farm substation and operations and maintenance facility.....	28
Figure 3-11	Example 30MW BESS in Ballarat, Victoria	29
Figure 3-12	BESS Concept Plan	30
Figure 3-13	Conceptual operations and maintenance site plan	31
Figure 3-14	Example Meteorological Monitoring Mast	32
Figure 3-15	Over size and over mass wind turbine component haulage route options	37
Figure 3-16	Typical Internal Access Road	39
Figure 4-1	project Identification and refinement	45
Figure 4-2	Sensitive areas and constraints incorporated into the project design	50
Figure 4-3	Comparison of EES and current design	53
Figure 4-4	Engagement Activities	56
Figure 6-1	Zone and overlay map	81
Figure 7-1	ISO9613 Predicted model noise contours	98

Figure 7-2 Predicted noise contours from the BESS	99
Figure 7-3 Landscape and visual investigation area and zones of visual influence of the project	108
Figure 7-4 Existing operating and approved wind farms and transmission infrastructure	110
Figure 7-5 Proposed water crossings	114
Figure 7-6 Groundwater bores and potential GDEs	117
Figure 7-7 Mapped vegetation within the project site	122
Figure 7-8 Comparison of current and previous construction footprints and native vegetation clearance and avoided clearance	125
Figure 7-9 Basalt Shrubby Woodland (EVC 642)	128
Figure 7-10 Plains Grassy Wetland (EVC 125)	129
Figure 7-11 Stony Knoll Shrubland (EVC 649)	129
Figure 7-12 Bat Habitat across the project site	139
Figure 7-13 VBA records of Brolga Breeding (Nature Advisory, 2026a)	145
148	
Figure 7-14 Updated Brolga buffers (Nature Advisory, 2026)	148
Figure 7-15 Nesting Brolga	149
Figure 7-16 Aviation assessment investigation area	156
Figure 7-17 Local road network	159
Figure 7-18 Site access and road network	163
Figure 7-19 Environmental Management Framework	169

Tables

Table 2-1 Population centres near the project site	3
Table 2-2 Local roads within the project site	6
Table 3-2 project Phases	34
Table 4-1 Sensitive areas and constraints considered in the EES project design	46
Table 4-2 Post-EES Design Response	49
Table 4-3 Primary IAP recommendations and Minister's response	51
Table 6-1 Summary of zoning permit triggers	76
Table 6-2 Summary of overlay permit triggers	78
Table 6-3 Additional permit triggers	79
Table 7-1 Assessment against the provisions of Clause 52.32 Wind Energy Facility	93
Table 7-2 Summary of impact assessment for significant landscape and vantage points	105
Table 7-3 project offset requirements	126
Table 7-4 Glenelg and Moyne LGA offset requirements	126
Table 7-5 Comparison of the height distribution of birds during two seasons of BUS at two RSA heights (40-230 metres and 60-230 metres)	134
Table 7-6 Mitigation measures in alignment with the Minister's Recommendations (Nature Advisory, 2026b)	140
Table 7-7 Mitigation measures in alignment with DEECA's Handbook (Nature Advisory, 2026b)	141
Table 7-8 Assessment of impacts to Southern Bent-wing Bat, Yellow-bellied Sheath-tail Bat and Grey- headed Flying-fox (Nature Advisory, 2026b)	141
Table 7-9 Brolga management and mitigation measures	149

Appendices

- A Development Plans
- B Land Parcels

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- C Handbook Application
- D Environmental Management Framework

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Supporting Technical Assessments

- Aeronautical Impact Assessment (Version WRv5), prepared by Chiron Aviation Consultants, dated 23 April 2026.
- Brolga Impact Assessment: *Revised to align with the Minister's Recommendations and the Handbook for the development of renewable energy in Victoria (DEECA 2025)* (Report No. 16087.28 (2.5)), prepared by Nature Advisory, dated July 2026; cited herein as Nature Advisory, 2026a.
- Bat Species of Concern Assessment: *Revised to align with the Minister's Recommendations and the Handbook (DEECA 2025) for the development of renewable energy in Victoria* (Report No. 16087.29 (2.5)) prepared by Nature Advisory, dated July 2026; cited herein as Nature Advisory, 2026b.
- Draft Bat and Avifauna Management Plan (Report No. 16087.21 (2.1)), prepared by Nature Advisory, dated May 2026; cited herein as Nature Advisory, 2026c).
- Dry Stone Wall Assessment and Management Plan (Report Version v2), prepared by Ecology and Heritage Partners Pty Ltd, dated 5 February 2026.
- Updated Biodiversity Impact Assessment (Report No. 16087.32 (1.3)), prepared by Nature Advisory, dated June 2026; cited herein as Nature Advisory, 2026d)
- EMI Assessment (Report No. 10589779-AUME-R-01, Rev. B), prepared by DNV Australia Pty Ltd, dated 21 April 2026.
- Fire Risk Management Plan (V4.2), prepared by Fire Risk Consultants Py Ltd, dated July 2026.
- Revised Layout visual review (Report No. PJ000106 Willatook WF Review Final Dec 25 A3.docx), prepared by Landform Architects, dated December 2025.
- Memorandum – Proposed amendments to the assessed turbine layout, prepared by Landform Architects, dated 28 April 2026.
- Noise Assessment (Document reference S3522C39), prepared by Sonus Pty Ltd, dated June 2026.
- Auditor Verification of Pre-Construction Noise Assessment (Version 1.1), prepared by Tonkin & Taylor Pty Ltd, dated May 2026
- Shadow Flicker and Blade Glint Assessment (Report No. 10589779-AUME-R-02-C), prepared by DNV Australia Pty Ltd, dated 17 April 2026.

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- Memorandum – Willatook Wind Farm – EES Review and updated (Document reference 26010096_M02V05_Willatook_Addendum.docx), prepared by Water Technology, dated 25 June 2026.
- Hydrogeological and Hydrological Investigation (Document No. 21030175 v8a Willatook Hydrogeology and Hydrology EES .docx), prepared by Water Technology, dated 20 April 2022.
- Transport Impact Assessment (Version F03 – Document Reference 14558T-REP03), prepared by Ratio Consultants Pty Ltd., dated 2 July 2026.

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Abbreviations

Abbreviation	Expanded form
AEMO	Australian Energy Market Operator
AEP	Annual Exceedance Probability
AH Act	<i>Aboriginal Heritage Act 2006</i>
AH Regulations	Aboriginal Heritage Regulations 2018
BMO	Bushfire Management Overlay
CASA	Civil Aviation Safety Authority
CEMP	Construction Environmental Management Plan
CFA	Country Fire Authority
CHMP	Cultural Heritage Management Plan
CMA	Catchment Management Authority
DBH	Diameter at breast height
EE Act	<i>Environment Effects Act 1978</i>
EP Act	<i>Environment Protection Act 2017</i>
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DTP	Department of Transport and Planning
DEECA	Department of Environment, Energy and Climate Action
Draft National Guidelines	<i>National wind farm development guidelines – draft</i> (Environment Protection and Heritage Council, 2010)
EES	Environment Effects Statement
EHP	Ecology and Heritage Partners
EPA Victoria	Environment Protection Authority Victoria
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERS	Environment Reference Standard
ESO	Environmental Significance Overlay
EVC	Ecological Vegetation Class
FFG Act	<i>Victorian Flora and Fauna Guarantee Act 1988</i>

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Abbreviation	Expanded form
FTE	Full time equivalent
FZ	Farming Zone
GDE	Groundwater Dependent Ecosystem
GWh	Gigawatt hours
Handbook	<i>Handbook for the Development of Renewable Energy in Victoria (the Handbook)</i>
Interim Brolga Guidelines	<i>Interim Guidelines for the Assessment, Avoidance, Mitigation and Offsetting of Potential Wind Farm Impacts on the Victorian Brolga Population 2011</i>
MRSD Act	<i>Mineral Resources (Sustainable Development) Act 1990</i>
The Minister	Minister for Planning
MW / MWh	Megawatt / megawatt hours
The project	Willatook Wind Farm
New Zealand Standard	New Zealand Standard 6808:2010 <i>Acoustics – Wind Farm Noise</i>
Noise Protocol	<i>EPA Victoria (2021) Publication 1826.4: Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues</i>
PM	Particulate matter
Planning Guidelines	<i>Planning Guidelines for Development of Wind Energy Facilities</i>
project proponent	Willatook Wind Farm Pty Ltd
RAP	Registered Aboriginal Party
SUZ	Special Use Zone
TRZ	Transport Zone
VAHR	Victorian Aboriginal Heritage Register

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Glossary

Term	Definition
A-weighting	Frequency adjustment representing the response of the human ear, devised to attempt to take into consideration that human response (or sensitivity) to sound is not consistent across all frequencies.
Acid sulfate soil	Naturally occurring soils, sediments and peats that contain iron sulfides, predominantly in the form of pyrite materials. Without oxygen, these materials remain and do not pose a significant risk to human health or the environment. However, if acid sulfate soil is disturbed and exposed to oxygen, the iron sulfides in the material produces sulfuric acid. The acidification of the soil from this process can impact the environment, land use, infrastructure and human health. See also ' potential acid sulfate soil '.
Annual Exceedance Probability	The probability or risk of a flood of a given size occurring or being exceeded in any given year. A flood with a 1% AEP has a one in a hundred chance of being exceeded in any year, whereas a flood with a 10% AEP has a ten in a hundred chance of being exceeded.
Area of Aboriginal Cultural Heritage Sensitivity	Areas (defined in the Aboriginal Heritage Regulations 2018) that potentially retain Aboriginal cultural heritage. This includes land within 200 metres of named waterways and within 50 metres of registered Aboriginal cultural heritage places.
Bilateral agreement	An agreement between the Australian Commonwealth and Victoria that allows the Commonwealth Minister for the Environment to rely on environmental impact assessments (undertaken in accordance with Victorian legislation) to assess actions under the Commonwealth EPBC Act.
Blade glint	The reflection of sunlight from wind turbine blades.
Broader community	The broader regional community within the entire Moyne Shire. See also ' local community ' and ' near neighbours '
Community Engagement Committee	Committee established by Moyne Shire Council in 2010 to provide a forum for direct engagement between the project team, representatives from the local community, and the Moyne Shire Council (including councillors and staff).
Concept design	Initial project design, developed based on a preliminary understanding of the environment, early stakeholder consultation, and experience developing comparable projects in similar environments. This was the design in the EES and EPBC Act referral submissions. See also ' reference design '.
Crown land	Crown land is land that is owned and managed by the State Government, which is generally not freehold title.

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Term	Definition
Cultural Heritage Management Plan	Required under the <i>Aboriginal Heritage Act 2006</i> when an activity is considered to pose a risk to Aboriginal cultural heritage, being both a 'high impact activity' and occurring in an 'area of cultural heritage sensitivity', or if an EES is required.
Cumulative impact	Combination of effects on the existing environment from multiple projects (or activities) occurring in the same area and over similar timeframes
dB(A)	A-weighted noise level measured in decibels (i.e., unit for expressing sound intensity) See also ' A-weighting '.
dB _{A90} (10mins)	Used in the <i>New Zealand Standard 6808:2010 Acoustics – Wind Farm Noise</i> to assess noise generated by wind energy facilities. It refers to a sound level measurement being the average decibel that, over a 10-minute interval period, was equalled or exceeded 90% of the time.
Draft Standard	Draft Mitigation Standard for the Victorian Brolga Population (now discontinued)
Ecological Vegetation Class	The basic mapping unit for ecosystem assessment, biodiversity planning and conservation management. An Ecological Vegetation Class is described through a combination of its floristic, life form and ecological characteristics.
Electromagnetic interference	Interference with radiocommunication services to communication signals such as television broadcast signals and fixed point-to-point signals.
Environment Reference Standard	The Environment Reference Standard (ERS) identifies environmental values and provides a way to assess those environmental values in locations across Victoria. The ERS is itself made up of 'reference standards' that cover ambient air, ambient sound, land, and water (surface water and groundwater).
Environment Management Framework	Environmental Management Framework has been developed to provide the project with a transparent and integrated framework for managing environmental risk and mitigating adverse effects. The Environmental Management Framework outlines clear accountabilities for the delivery of the project in accordance with the environmental management measures and compliance with all relevant environmental laws, approvals, approval conditions and environmental management plans and procedures to ensure that the environmental risks and potential impacts of the project are effectively managed.
General environmental duty	The general environmental duty was introduced in the <i>Environment Protection Act 2017</i> . The general environmental duty requires any person in Victoria (businesses, industry and the community) engaging in an activity that may risk harming human health and the environment from pollution and waste to minimise those risks, so far as reasonably practicable
Groundwater dependent ecosystem	Ecosystem that relies on groundwater (either permanently or intermittently) to meet some or all of its water requirements to maintain the flora and fauna, ecological processes and ecosystem services it supports.
Hardstand area	An open, hard-surfaced area to on which infrastructure can be constructed, equipment used, and materials stored.

Term	Definition
Instrument flight rules	Rules applicable to the conduct of flight under instrument meteorological conditions and where flight by visual reference is not possible. See also ' visual flight rules '
Large tree	A tree is considered to be a large tree if it is greater or equal to the large tree benchmark diameter at breast height for the relevant bioregional Ecological Vegetation Class.
Local community	Defined as being within 10 kilometres of proposed wind turbine locations. See also ' broader community ' and ' near neighbours '.
Matters of national environmental significance	The EPBC Act provides a framework for the protection and management of defined matters of national environmental significance. Under this Act there are nine matters of national environmental significance, which includes nationally threatened species and ecological communities, migratory species and wetlands of international importance.
Meteorological mast ('met mast')	Lattice tower that includes equipment (anemometers and wind vanes at various heights) to record wind speed and direction, temperature and atmospheric pressure.
Migratory species	Animals that move cyclically and at certain times of the year, passing through or migrating to Australia during their annual migration.
Minimum Safe Altitude	The lowest safe altitude is defined for each air route segment to ensure terrain and obstacle clearance.
Nacelle	Located on the top of a wind turbine tower, where the wind turbine hub is mounted with the three blades attached to the hub. The nacelle houses the generator and gearbox (if there is a gearbox) and shafts to convert mechanical energy to electrical energy.
National Electricity Market	The wholesale generation of electricity, which is transported via transmission lines (incorporating about 40,000 kilometres of state and private assets) to industrial energy users and local energy distributors in all states and territories except Western Australia and Northern Territory. In total, the National Electricity Market supplies around 10 million customers.
Near neighbours	Communities, groups and individuals within 6 kilometres of proposed wind turbine locations. See also ' local community ' and ' broader community '.
Non-stakeholder dwelling	Landowner not hosting wind farm infrastructure. See also ' stakeholder dwelling '.
Obstacle Limitation Surface	Series of planes, associated with each runway at an aerodrome, that define the desirable limits to which objects or structures may project into the surrounding airspace (i.e., the aerodrome airspace to be kept free of obstacles such as vegetation, buildings, large structures or transmission lines). See also ' Procedures for Air Navigation Services – Aircraft Operations surface '.

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Term	Definition
Offset	In Victoria, an offset is generally required when an approval or permit to remove native vegetation is granted. An offset compensates for biodiversity losses arising from native vegetation removal.
Particulate matter (PM) – including PM _{2.5} and PM ₁₀	Refers to particles (solid and liquid droplets) in the air. PM ₁₀ are particles with diameters less than or equal to 10 microns that, when inhaled, can enter the lungs. Smaller than PM ₁₀ particles are those with diameters less than or equal to 2.5 microns (referred to as PM _{2.5}). These particles can pass from the lungs into the bloodstream.
Photomontage	Photomontage is the process and the result of making a composite photograph whereby the visual representation of project infrastructure is incorporated to site based photograph.
Point-to-point links	Often used for line-of-sight connections for data, voice and video (such as on mobile and television broadcast towers). See also ' Point-to-multipoint links '
Point-to-multipoint Links	Provide connections from one location to multiple locations, via multiple paths (e.g., wireless internet connections). See also ' Point-to-point links '.
Potential acid sulfate soil	See also ' acid sulfate soil '.
Procedures for Air Navigation Services – Aircraft Operations surface	Surface that extends further and is higher than the Obstacle Limitation Surface, and provides protection for when a pilot is flying using instruments during poor weather. See also ' Obstacle Limitation Surface '.
project site	Land parcels (mostly defined by land titles) on which the project is proposed.
Quarry Work Plan	The work plan is the primary document describing the permitted activities to be undertaken on a work authority. It is intended to provide guidance to operations staff at the quarry as well as informing other readers such as Council or Government officers in order to facilitate decisions, approvals, compliance, and enforcement functions. See also ' Work Authority '.
Reference Design	project design, refined based on findings from initial technical studies, feasibility investigations and input from stakeholders. This is the design assessed by the technical specialists and presented in this EES. See also ' concept design '.
Registered Aboriginal Party	Recognised under the <i>Aboriginal Heritage Act 2006</i> as having responsibilities to manage and protect Aboriginal Cultural Heritage, being the primary source of advice and knowledge on matters relating to Aboriginal places or Aboriginal objects in their region. The western portion of the project is located in an area that the Eastern Maar Aboriginal Corporation and the Gunditj Mirring Traditional Owners Aboriginal Corporation exercise joint responsibility as Registered Aboriginal Parties. The remainder of the project is located in an area over which the Eastern Maar exercise exclusive Registered Aboriginal Party status.

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Term	Definition
Renewable Energy Target	A Commonwealth Government policy, administered by the Clean Energy Regulator, designed to ensure at least 33,000 gigawatt hours of Australia's electricity came from renewable sources by 2020. Under the Renewable Energy Target, the Large-scale Renewable Energy Target scheme requires high-energy users to acquire a fixed proportion of their electricity from renewable sources (in the form of large-scale generation certificates).
Renewable Energy Zone	Areas identified in the 2025 Victorian Transmission Plan as the best places to host wind and solar projects and batteries for storage.
Rotor diameter	The span of the circle (i.e., diameter) swept by wind turbine blades as they rotate.
Scattered tree	A native canopy tree that does not form part of a patch (can be a large or small trees).
Sensitive receptor	Defined by EPA Victoria as land uses that require protection of the air environment, such as for human health and wellbeing and local amenity. This includes places such as residential dwellings, education facilities and outdoor recreation sites.
Shadow flicker	Caused when the sun passes behind the rotating blades of a wind turbine and casts a moving shadow over the neighbouring areas.
Stakeholder dwelling	A dwelling located on the same land as the wind energy facility, or one that has an agreement with the wind energy facility to exceed the noise or shadow flicker limit. See also ' Non-stakeholder dwelling '.
Swept paths	Analysis of how different parts of a vehicle moves in a steering path. This analysis is used to determine if there is enough room for vehicles to safely make turns.
Victorian Heritage Inventory	A listing of all known historical (non-Indigenous) archaeological sites in Victoria, protected under the <i>Heritage Act 2017</i> . Sites listed on the Victorian Heritage Inventory can also be included on the Victorian Heritage Register. See also ' Victorian Heritage Register '.
Victorian Heritage Register	A listing of historical (non-Indigenous) heritage sites (places and objects), protected under the <i>Heritage Act 2017</i> , that are significant to the history and development of Victoria. Heritage places include buildings, trees and archaeological sites, while heritage objects include items such as furniture and art. See also ' Victorian Heritage Inventory '.
Visual flight rules	Rules applicable to flight under visual meteorological conditions (i.e., weather conditions clear enough the pilot can remain clear of cloud and see the terrain and where the aircraft is going). See also ' instrument flight rules '
Work Authority	A work authority relating to an extractive industry granted under section 771 of the <i>Mineral Resources (Sustainable Development) Act 1990</i> .

Acknowledgement to Traditional Owners

Wind Prospect acknowledges the traditional custodians of the land that the project is located on, being the Eastern Maar and Gunditjmara peoples, and wishes to pay respect to Elders, both past and present. We acknowledge the ongoing connection between the Traditional Owners with the land and waters.

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1 Introduction

This planning application report has been prepared in support of an amendment to Planning Application No. PA2201620 for the use and development of land for the purposes of a 'wind energy facility', 'utility installation' and associated works referred to as the Willatook Wind Farm (the project). The project site spans approximately 3,645 hectares of agricultural land within Moyne Shire in south-western Victoria. There are proposed works to some intersections on the haulage route within the Glenelg Shire, which are subject to a second application P22065.

This report provides an assessment of the project against relevant planning provisions and policies. It also explains the regulatory approvals context, including how the planning application relates to other statutory processes.

The project has progressed through a comprehensive environmental assessment under the *Environment Effects Act 1978* (Vic), with the associated Environment Effects Statement (EES). Following public exhibition (in July-August 2022) and an Independent Panel Hearing/Inquiry (in Oct-Nov 2022), Minister for Planning issued her Assessment of the EES (in July 2023). After reviewing the EES, stakeholder submissions, and the independent panel's findings, the Minister for Planning (Vic) recommended that the project could proceed, provided the design was modified to reduce potential impacts on the Brolga (*Antigone rubicunda*) and Southern Bent-wing Bat (*Miniopterus orianae bassanii*).

Since the conclusion of the EES process and release of the Minister's Assessment (Minister for Planning, 2023), the Victorian Government has undertaken further work to develop new biodiversity policy specifically relating to onshore wind energy, with the publication of the *Handbook for the Development of Renewable Energy in Victoria – Guidance to Avoid, Minimise, Mitigate and Compensate for Impacts on Threatened Bird and Bat Species* (DEECA 2025) (the Handbook). The Handbook provides formal guidance for onshore wind energy on risk mitigation for threatened species, and specifically Brolga and bats. This policy development has provided further clarity to inform the project's revised design and impact management approach.

The amended proposal is the result of a considered modification to the project design, to address both the recommendations contained within the Minister's Assessment, and the guidance on managing and limiting potential biodiversity impacts contained within the Handbook. The changes include a refined wind farm layout and reduced project scale.

This report describes the project site and surrounding context in Chapter 2 with a detailed project description described in Chapter 3. Chapter 4 describes how the project design was developed. The relevant legislative context and planning provisions are outlined in Chapter 5 and 6 respectively, and a detailed assessment of the project in consideration of the planning provisions is provided in Chapter 7 based on new and updated technical impact assessment reports submitted in support of this amendment application. Plans and maps also support the application and are included in Appendix A.

The project demonstrates a high level of compliance with the provisions of the Moyne and Glenelg Planning Schemes as it provides for a clean renewable energy source, has been designed to avoid environmental impacts and mitigate amenity impacts on sensitive receivers.

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2 Project Site and Surrounding Context

This section describes the project site and surrounding context, and details how the application has satisfied the application requirements of Clause 52.32-4 in relation to a site and context analysis.

2.1 The surrounds

Covering an area of approximately 5,478 square kilometres, the Moyne Shire has a largely agriculturally based economy including dairy, beef and sheep and vegetable production. Quarrying, timber production (blue gum forests) and tourism also provide income sources, as do wind energy facilities.

The project is situated on the traditional Country of the *Dhauwurd Wurrung (Gunditjmara)* and other Aboriginal peoples of south-western Victoria. The project site is predominantly cleared land used for cattle and sheep farming, with some properties also used for dairy farming. The project site also contains stone fences with heritage value, access tracks, and agricultural infrastructure such as sheds. Dwellings are sparsely populated throughout the landscape and are generally associated with agricultural properties. The population density of the Moyne Shire local government area is approximately 3.1 people per square kilometre and considerably lower around the project site. A context plan is included at Figure 2-1.

The project site is within the Glenelg Hopkins Catchment Management Authority area. Bound by the Great Dividing Range to the north and coastline to the south, the region supports agriculture, supplies water to neighbouring regions, and includes national parks and state forest. Three river basins form the Glenelg Hopkins region: Hopkins, Portland Coast and Glenelg basins. The project is located within the Portland Coast basin, within which large areas have been cleared for agriculture, primarily for sheep and cattle grazing.

The nearest population centres, as measured from the nearest site boundary, are summarised in Table 2-1

Table 2-1 Population centres near the project site

Township	Approx. distance and direction from project	Population ¹
Orford	3.0 kilometres south-west	115
Hawkesdale	9.8 kilometres north-east	311
Macarthur	12.8 kilometres north-west	532
Kirkstall	12.5 kilometres south-east	406
Woolsthorpe	16.8 kilometres east	437

¹ Australian Bureau of Statistics. 2021 *Census of Population and Housing*: Data for Australia. Available at <https://www.abs.gov.au/census/find-census-data>

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There is good access to an existing network of major roads with the nearest port being Portland approximately 70 kilometres to the south-west. Woolsthorpe-Heywood Road, an arterial C class road, borders the project site to the north and extends east from Henty Highway, Heywood to Warrnambool-Caramut Road, Woolsthorpe.

The 500 kilovolt Moorabool to Heywood transmission line and the 132 kilovolt Macarthur Wind Farm high voltage transmission lines traverse the project site from west to east and north to south respectively, the latter connecting the Macarthur Wind Farm to Tarrone Terminal Station.

An approved gas-fired power station is proposed by AGL adjacent to the Tarrone Terminal Station, though there are no immediate plans by AGL to begin construction. The permit for the Shaw River Power Plant proposed by Santos (located in the south-west portion of the project site) has expired.

Operating wind energy facilities including the Macarthur wind farm to the north, Hawkesdale wind farm to the north east and Ryan Corner wind farm to the south west in the wider area are shown in Figure 2-1 below.

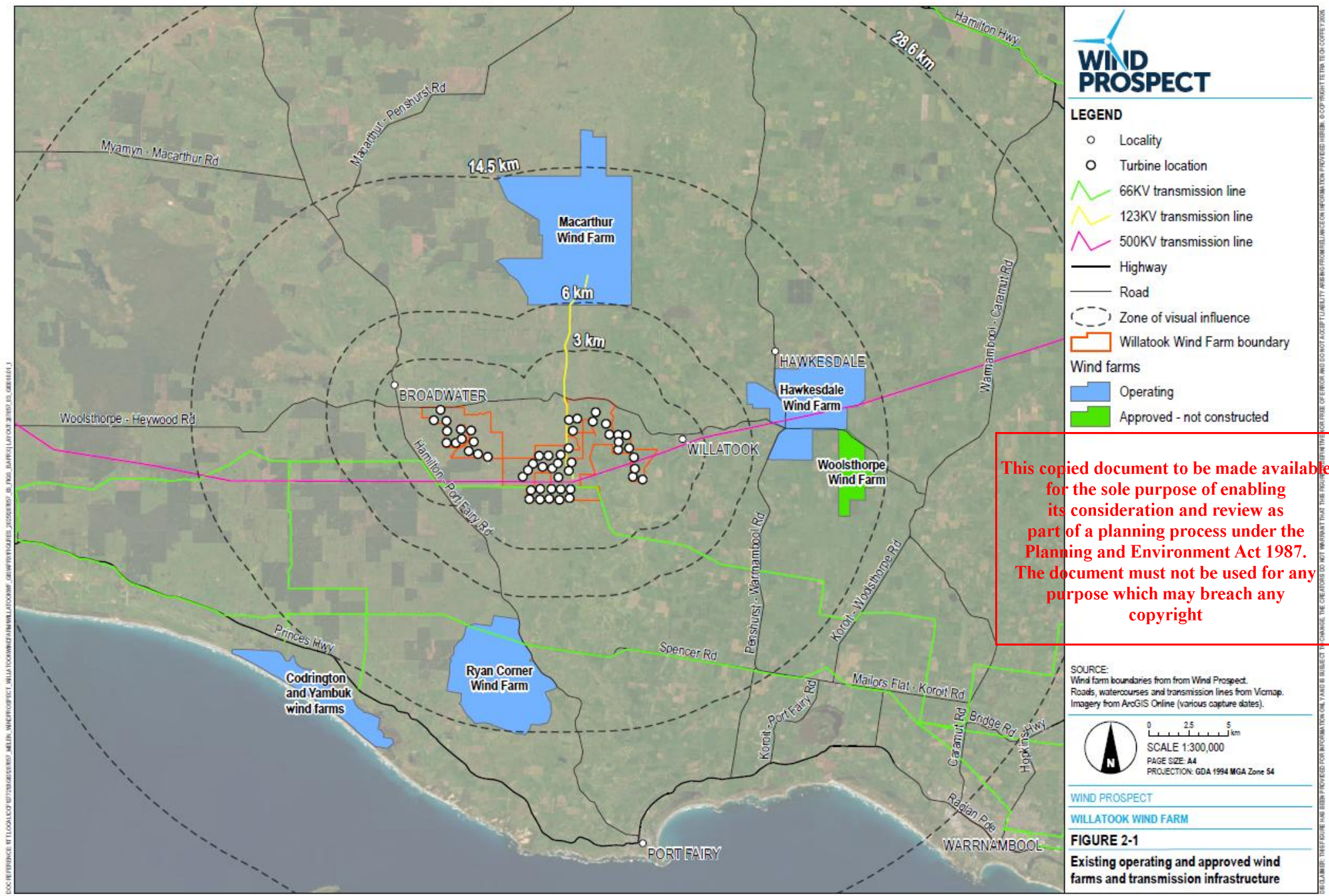
The project is located within the Victorian Volcanic Plain bioregion. Budj Bim National Park (formerly known as Mount Eccles National Park) and Mount Napier State Park are located approximately 10 kilometres and 23 kilometres north-west of the project site, respectively. Other reserves within 20 kilometres of the project include Eumeralla (Yambuk) Coastal Reserve and Yambuk Wetlands Nature Conservation Reserve, Woolsthorpe Nature Conservation Reserve and Tower Hill Wildlife Reserve, as well as other smaller bushland and flora reserves.

Regionally, large patches of remnant vegetation exist in the reserves, including the Budj Bim National Park, nearby State forests (including Mount Napier State Park) and Woolsthorpe Nature Conservation Reserve. Most of the land within and surrounding the project site is comprised of exotic pastures and grasses for grazing, with trees mostly cleared. Planted trees of primarily exotic species are present within shelterbelts along property and paddock boundaries.

Overall, species diversity of this region is low due to pastoral and agricultural history. In most areas native plants have been replaced by pasture grasses and clovers, crop plants, and weeds. Remnants of the native flora are fragmented and mostly confined to the sides of roads and railways, rocky areas that have not been cultivated or modified, sheltered gorges, cliff crevices or caves, or to small forest reserves.

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Figure 2-1 project Location

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2.2 The project site

The project is situated to the south of Woolsthorpe–Heywood Road and lies between Penhurst–Warrnambool Road to the east and Hamilton–Port Fairy Road to the west. The project site, defined as the area within the project boundary, covers an area of 3,644.8 hectares in the central western region of Moyne Shire in western Victoria. The project also includes intersection works resulting in the removal of native vegetation within Moyne Shire and Glenelg Shire (the latter is the subject of a separate Planning Permit Application). Table 2-2 provides a summary of the local roads within the project site.

Table 2-2 Local roads within the project site

Road	Section	Classification	Construction standard	Used by project traffic
Department of Transport				
Woolsthorpe–Heywood Road	Hamilton–Port Fairy Road to Warrnambool Road	Arterial C class	Mix of single and two lane sealed road	Used
Moyne Shire Council				
Tarrone North Road	Woolsthorpe–Heywood Road to Tarrone Substation Access	Sub Arterial	Sealed – Two lane	Used
	Tarrone Substation Access to Tarrone Lane	Sub Arterial	Sealed – Single lane	Potentially*
Kangertong Road	West of Nargorckas Road	Sub Arterial	Sealed – Single lane	Not used
Riordans Road	West of Tarrone North Road	Access	Gravel (Level 2)	Used
	East of Tarrone North Road	Access	Gravel (Level 1)	Not used
McGraths Road	East of Hamilton–Port Fairy Road	Access	Gravel (Level 2)	Used
Landers Lane	North of Riordans Road	Access	Unformed	Not used

The area is highly suited to wind farm development, with strong prevailing winds, and provides a short link to the existing Moorabool to Heywood 500 kilovolt transmission line via the Tarrone Terminal Station.

The project site is mostly used for sheep and cattle grazing. Single farm dwellings associated with agricultural land use are common and are sparsely populated throughout the landscape. Five occupied dwellings exist on the project site (plus four dilapidated non-inhabited dwellings). Within the project site there are 15 stakeholders (hosting project infrastructure) with land parcels of varying sizes. The land parcel details are listed in Appendix B along with certificates of title.

With the revision of the project design, two separate landowner properties have been removed. Four titles, all of which are owned by participating landowners, have been added. This is shown in Figure 2-2 below. The location of stakeholder and non-stakeholder dwellings near the project site is shown in Figure 2-3.

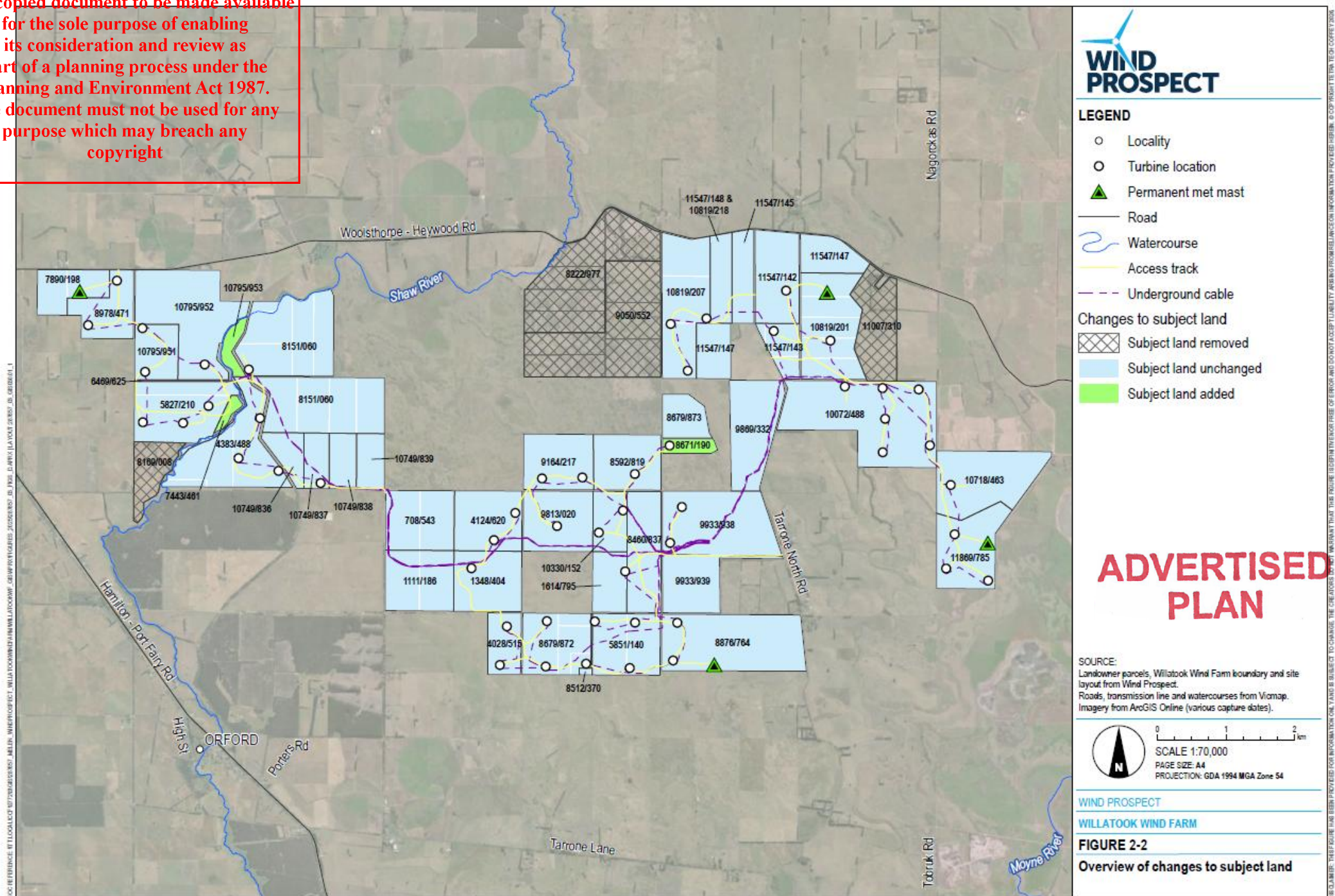


Figure 2-2 Overview of changes to subject land

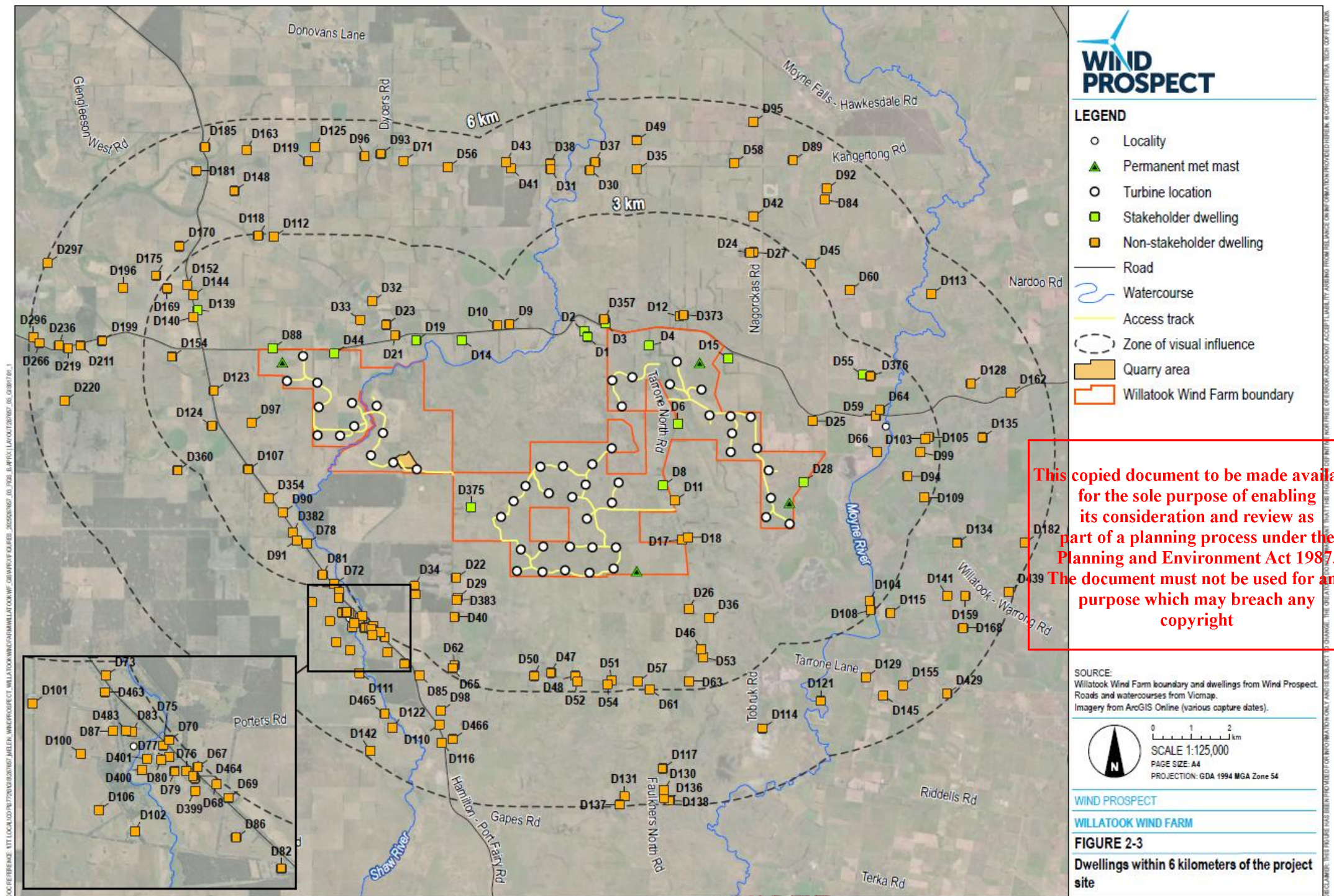


Figure 2-3 Dwellings within 6 kilometres of the project site

The topography of the site can be described as generally flat to slightly undulating, with most of the project site consisting of stony rises, undulating plains, and low swampy ground.

The project is situated within the Shaw River and Moyne River catchments. The Shaw River, Back Creek (a tributary of the Moyne River), and the Moyne River are the main surface water features in the local area. There are also several smaller tributary drainage lines that join the Shaw River and Back Creek. The Shaw River and Back Creek are subject to grazing within the project site, with the riparian and in-stream vegetation consisting of both introduced and endemic grasses and rushes.

Due to the flat topography and influence of lava flows and stony rises, there are depressions that become inundated during winter and spring, forming ephemeral wetlands during some years. The largest wet depression area is the Cockatoo Swamp complex mostly situated outside the project site to the north and, west of Landers Lane. During wet periods the ephemeral wetlands provide habitat to waterbirds including Brolga. These areas then dry and form modified grasslands, which are grazed by sheep and cattle during drier months.

Native vegetation within the project site has largely been cleared. Remnant vegetation is generally restricted to roadside reserves and highly modified isolated occurrences along waterways, gullies, and stony knolls. Exotic shelterbelt plantings are common throughout the landscape and on the project site, particularly around farm dwellings. The landscape and visual study investigation area (i.e., 28.6 kilometres from the closest turbine, where project wind turbines would comprise 5% of the vertical field of view) has been extensively modified predominantly by broad-acre farmland comprising cropping, grazing, and timber plantations.

The project is situated on the traditional Country of the *Dhauwurd Wurrung (Gunditjmarra)* and other Aboriginal peoples of south-western Victoria. Within the western portion of the project site, both the Eastern Maar Aboriginal Corporation and the Gunditj Mirring Traditional Owners Aboriginal Corporation hold joint Registered Aboriginal Party (RAP) appointments. The remainder of the project site falls within an area where the Eastern Maar Aboriginal Corporation is the appointed RAP.

One previously registered Aboriginal heritage place (a mound) is located within the project site; however, this place could not be found during the site surveys and is assumed to have been unintentionally destroyed. One additional place, comprising an isolated artefact, was identified during the complex assessment.

No scarred trees were identified within the project site. Additionally, no caves, cave entrances or rock shelters were identified.

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Figure 2-4 Woolsthorpe-Heywood, east of Tarrone North Road



Figure 2-5 Shaw River within the project site



Figure 2-6 Aerial view of volcanic lava flows and stony rises

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Figure 2-7 Depressions within the landscape that form ephemeral



Figure 2-8 Typical landscape of the project site



Figure 2-9 Example of patch of Basalt Shrubby Woodlands within the project site

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3 Project Description

3.1 Overview

Willatook Wind Farm Pty Ltd (the proponent) is developing the proposed Willatook Wind Farm in Moyne Shire, Victoria. The project will harness strong and reliable winds to generate renewable energy through the construction and operation of up to 52 wind turbines generators and would operate for a period of at least 25 years.

The project is located within the proposed South West Renewable Energy Zone 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. The project is located within an area that is used for agriculture, predominantly sheep and cattle grazing.

Electricity produced from wind turbines would be fed through underground cables to the on-site substation, where it will be exported to the NEM via the Tarrone Terminal Station And the existing Moorabool to Heywood 500 kilovolt (kV) transmission line.

Other project infrastructure would include:

- On-site quarry for basalt rock that will be used to provide crushed rock
- Battery energy storage system (BESS) located immediately to the west of the substation.
- Operations and maintenance (O&M) facility consisting of site offices and amenities.

The project has progressed through a comprehensive environmental assessment under the *Environment Effects Act 1978* (Vic), with the associated Environment Effects Statement (EES). Following public exhibition (in July-August 2022) and an Independent Panel Hearing/Inquiry (in Oct-Nov 2022), Minister for Planning issued her Assessment of the EES (in July 2023). The project was recommended for approval provided there were key modifications to the project relating to turbine free areas around habitat for the Brolga and Southern Bent-wing Bat.

Since the conclusion of the EES process, the Victorian Government developed new biodiversity policy specifically relating to onshore wind energy publishing the *Handbook for the Development of Renewable Energy in Victoria – Guidance to Avoid, Minimise, Mitigate and Compensate for Impacts on Threatened Bird and Bat Species* (DEECA 2025). In response, the project proponent has refined the wind farm layout and reduced the overall project scale to align with the Minister's recommendations, and applying the new Handbook. This removed 7 proposed wind turbine generators and shifted several others. There were also changes to the proposed track, cable and quarry designs.

A detailed list of all project design and layout modifications which have occurred since the release of the Minister's Assessment and the new Handbook is provided in chapter 4. The amended project layout is provided in Figure 3-1, Figure 3-2, Figure 3-3, Figure 3-4, and Figure 3-5 below, and the set of development plans at Appendix A.

The project is now at the stage of submitting a revised Planning Permit Application incorporating the updated layout and supporting assessments.

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Table 3-1 Summary of the project's main features

project's main features	Details
Location	The project is located within the Moyne Shire between the townships of Orford and Hawkesdale. The project site is situated to the south of Woolsthorpe-Heywood Road between the Hamilton-Port Fairy Road to the west and the Penhurst-Warrnambool Road to the east.
Setting	The main land use with the project site is agricultural (predominantly sheep and cattle grazing). Native vegetation is largely restricted to roadside reserves and highly modified isolated occurrences along waterways, gullies and stony knolls, which would largely be avoided.
Landowners	15 landowners with project infrastructure on their land.
Wind turbines	Up to 52 with a maximum tip height of 254 metres, minimum tip height of 60 metres, and maximum rotor diameter up to 175 metres. Wind turbine blade length of up to 86.5 metres.
Annual generation	Over 1,400 GWh per year
Pre-construction and Construction period	Approximately 3 years of pre-development and construction activities.
Electrical reticulation	Approximately 55.8 kilometres of trenches to house underground 33 kV electricity cables with fibre-optic cabling connecting the wind turbines to the on-site substation.
On-site substation	The on-site substation would consist of a series of electrical transformers, switchgear, circuit breakers, a control room and switch room, amenity facilities, including a toilet, and fire services. The on-site substation would be connected to the Tarrone Terminal Station via an overhead transmission 300 metres in length. Single yard with footprint of up to 70 metres by 220 metres.
Permanent met masts	Up to four permanent meteorological masts are proposed, accessed via a single lane track.
Operations and maintenance facility	An operations and maintenance facility would be located adjacent to the on-site substation and provide office, storage, and maintenance facilities. Nominally 70 metres by 220 metres.
Access tracks	Approximately 45.6 kilometres in length. The final access tracks would be 6 metres wide. The construction footprint of accessways would be 20 metres wide.
Battery Energy Storage System (BESS)	The option for an on-site battery energy storage facility with a capacity of 200 MW / 400 MWh is proposed to be located adjacent to the on-site substation. The BESS would consist of a series of 20-foot containerised batteries with transformers, high voltage AC (HVAC) coolers and other electrical plant. The BESS would be sited on a hardstand area of up to two hectares (nominally 250 metres x 200 metres).
Transport	Transport of wind turbines and ancillary components (e.g., BESS and substation infrastructure) would primarily be from Portland and via the regional road network.

project's main features	Details
Site access and access roads	4 designated project site access points are proposed from the Woolsthorpe-Heywood Road and Tarrone North Road.
Development footprint	The project site encompasses an area of approximately 3,645 hectares of private and public land. The construction footprint is estimated to be 259.2 hectares of which 6.109 hectares is native vegetation. The operational footprint is estimated to be 141 hectares, which represents 3.5% of the project site.
Raw materials / quarry	The project is estimated to require approximately 300,000 cubic metres of quarried aggregate for roads, hardstands, and foundations. This would either be sourced from an on-site quarry or existing commercial quarries, the closest being Tarrone Quarry located approximately 3 kilometres to the southeast of the project site.
Temporary components	A construction compound would be located within the project site and include office facilities, amenities, and car parking. Three concrete batching plants would be established to supply concrete for the wind turbine foundations, the on-site substation, and the BESS. Laydown areas would also be established for the storage of wind turbine components and other equipment
Life	At least 25 years following a period of up to 3 years of pre-development and construction activities. Pre-development would include detailed design and early works, where permitted.
Decommissioning	Within 12 months of wind turbines permanently ceasing to generate electricity, the wind farm would be decommissioned. This would include removing all above ground equipment, restoration of all areas associated with the project, unless otherwise useful to the ongoing management of the land, and post-decommissioning revegetation with pasture or crop.
Environmental benefits	The project would generate the equivalent to the average electricity usage of more than 240,000 Victorian households. Savings of approximately 1 million tonnes of CO₂ equivalent annually.

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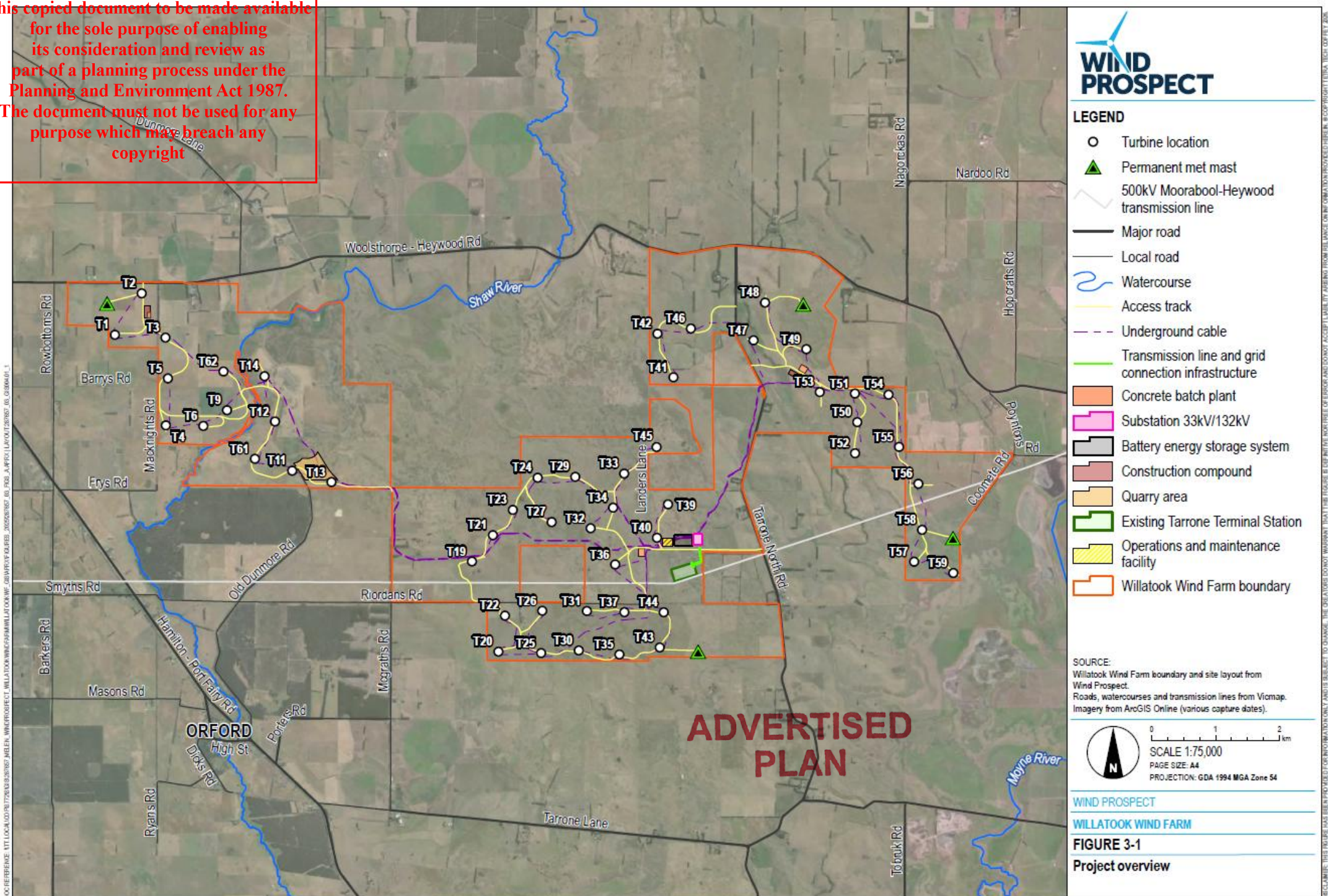


Figure 3-1 project Overview

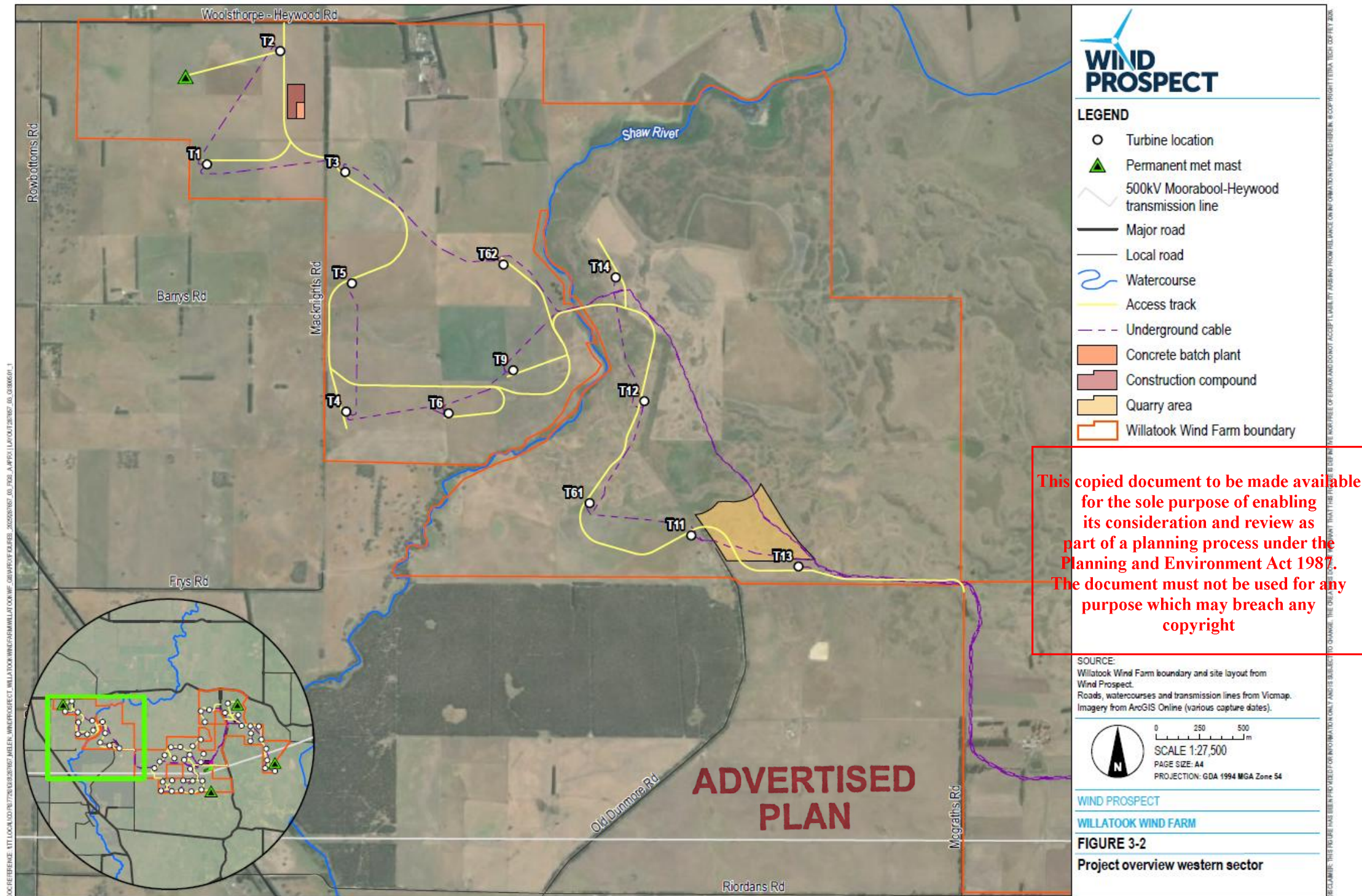


Figure 3-2 project Overview Western Sector

DOC REFERENCE: WTT-LOCAL-001781772030326767-MELEA-WINDPROSPECT-WILLATOOKWINDFARMWILLATOOKWF-2025020607-00-2006_A-APP1-LAYOUT201807-00-03006001-1

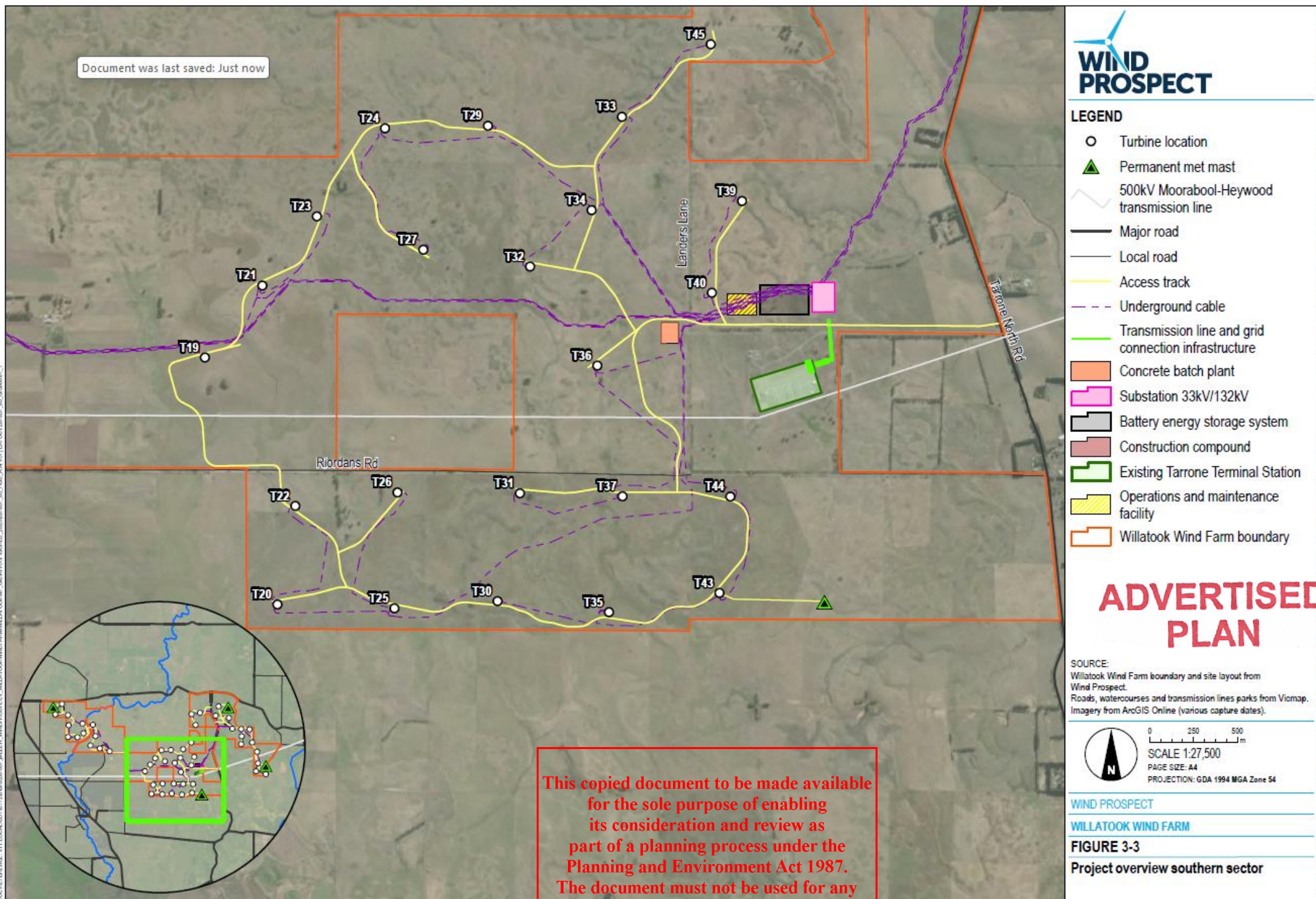


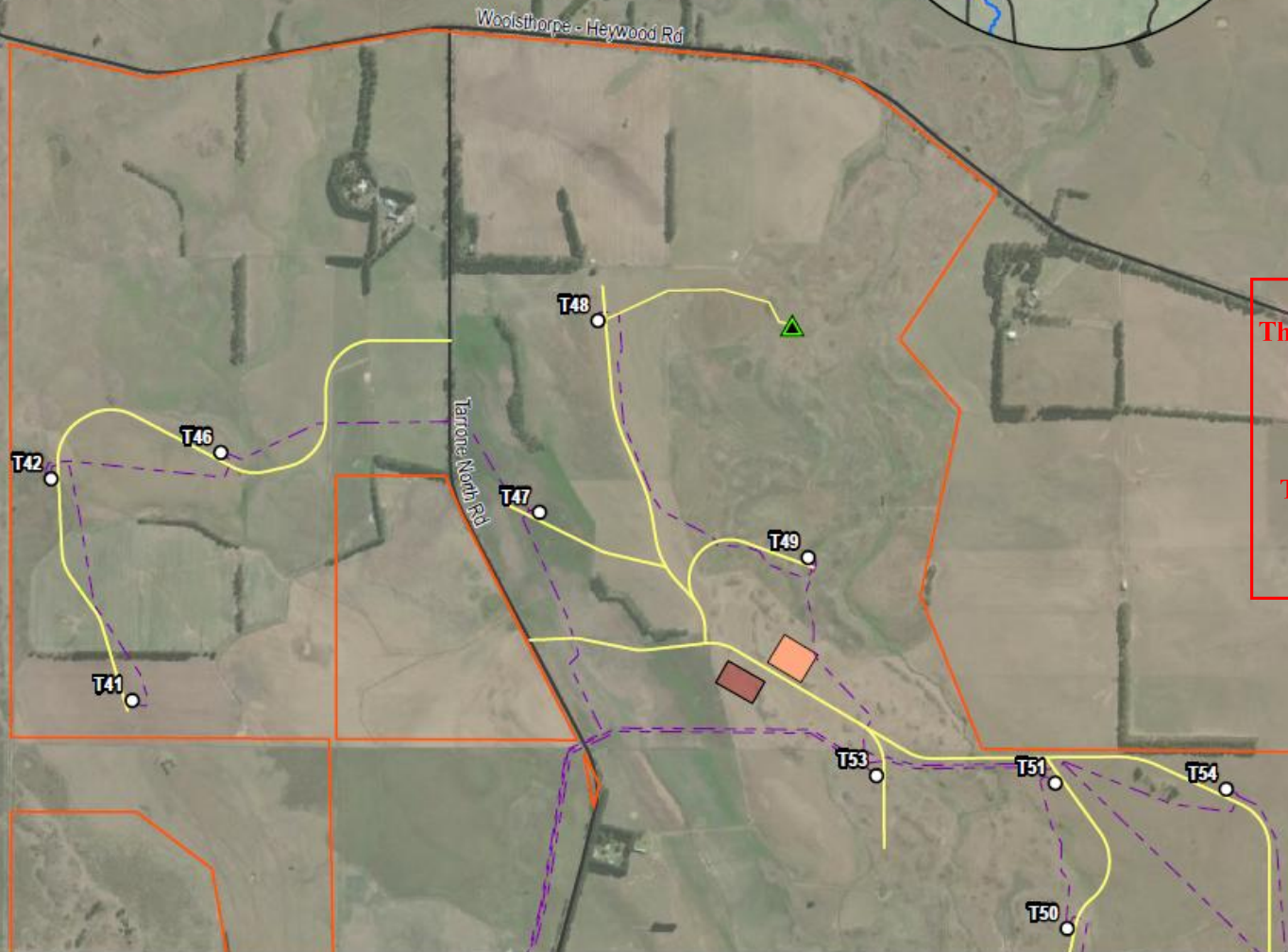
Figure 3-3 project overview Southern sector

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LEGEND

- Turbine location
- ▲ Permanent met mast
- Major road
- Access track
- - - Underground cable
- Concrete batch plant
- Construction compound
- Willatook Wind Farm boundary



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SOURCE:

Willatook Wind Farm boundary and site layout from Wind Prospect.
Roads, watercourses and transmission lines parks from Vicmap.
Imagery from ArcGIS Online (various capture dates).



0 250 500 m
SCALE 1:22,500
PAGE SIZE: A4
PROJECTION: GDA 1994 MGA Zone 54

WIND PROSPECT

WILLATOOK WIND FARM

FIGURE 3-4

Project overview northern sector

Figure 3-4 project Overview Northern Sector

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3.2 Components and layout

The total construction footprint for the project is estimated to be up to 259.2 hectares. This includes an area of up to 127.5 hectares that would be used for the life of the project, and 118.2 hectares that would be rehabilitated once construction is complete.

The project design will be subject to detailed design during the pre-construction phase, incorporating the results of geotechnical investigations and the detailed design work undertaken by the selected wind turbine manufacturer and civil and electrical contractors.

As such, a micro-siting allowance of a 100-metre radius from the current wind turbine locations is proposed to facilitate refinements for this detailed design. The micro-siting of any wind turbines would require that the routes of access tracks and underground cables are also adjusted, and this would occur whilst ensuring that there are no greater impacts than those assessed during this assessment process. Where there is an existing dwelling, turbines will not be moved any closer.

3.2.1 Wind turbine generators

The project has been designed to enable a maximum wind turbine tip height of 254 metres and associated maximum rotor diameter of up to 175 metres. The minimum blade clearance from ground level would be 60 metres. A range of current and future wind turbine models would be considered that fit within those parameters.

Each wind turbine would have foundations, a tower, nacelle, rotor and transformer and is expected to have a generating capacity of approximately 7 megawatts or more.

The maximum and minimum parameters described above have been adopted for this planning application are shown in Figure 3-6.

Each wind turbine would have a matte white, non-reflective, finish to achieve visual consistency throughout the landscape. No unnecessary lighting, signage or logos are proposed.

Wind turbine foundations

The wind turbine foundations would be either a gravity foundation or rock anchor foundation and remain in place for the life of the project. The final designs of individual foundations for each wind turbine would be determined by detailed geological and geotechnical investigations.

Hardstands

Hardstands are needed next to each wind turbine for the assembly, erection, maintenance, repowering and decommissioning of a wind turbine. Each hardstand area would be approximately 1.3 hectares, which includes the foundation, laydown areas, and crane pads. Hardstands would be surfaced with material to the required load-bearing specifications for the selected crane. This would likely consist of crushed rock. After construction, the hardstand would be retained and used for periodic maintenance of the wind turbines throughout the life of the project. The exact hardstand

arrangement would be designed for the specific requirements of the wind turbines, the crane, and local topography.

Tower

Each wind turbine tower sits on a foundation and comprises several bolted steel sections that would remain in place for the life of the project. Typically, towers that could accommodate the proposed maximum blade tip height of 254 metres would have base diameters between 5 and 6 metres, tapering to 3 metres at the top. Towers would be transported in sections for on-site assembly.

Nacelle

On the top of each tower sits the nacelle onto which the wind turbine hub is mounted, with the three blades attached to the hub. The wind turbine tower, nacelle, and rotor would all have the same matte white colour.

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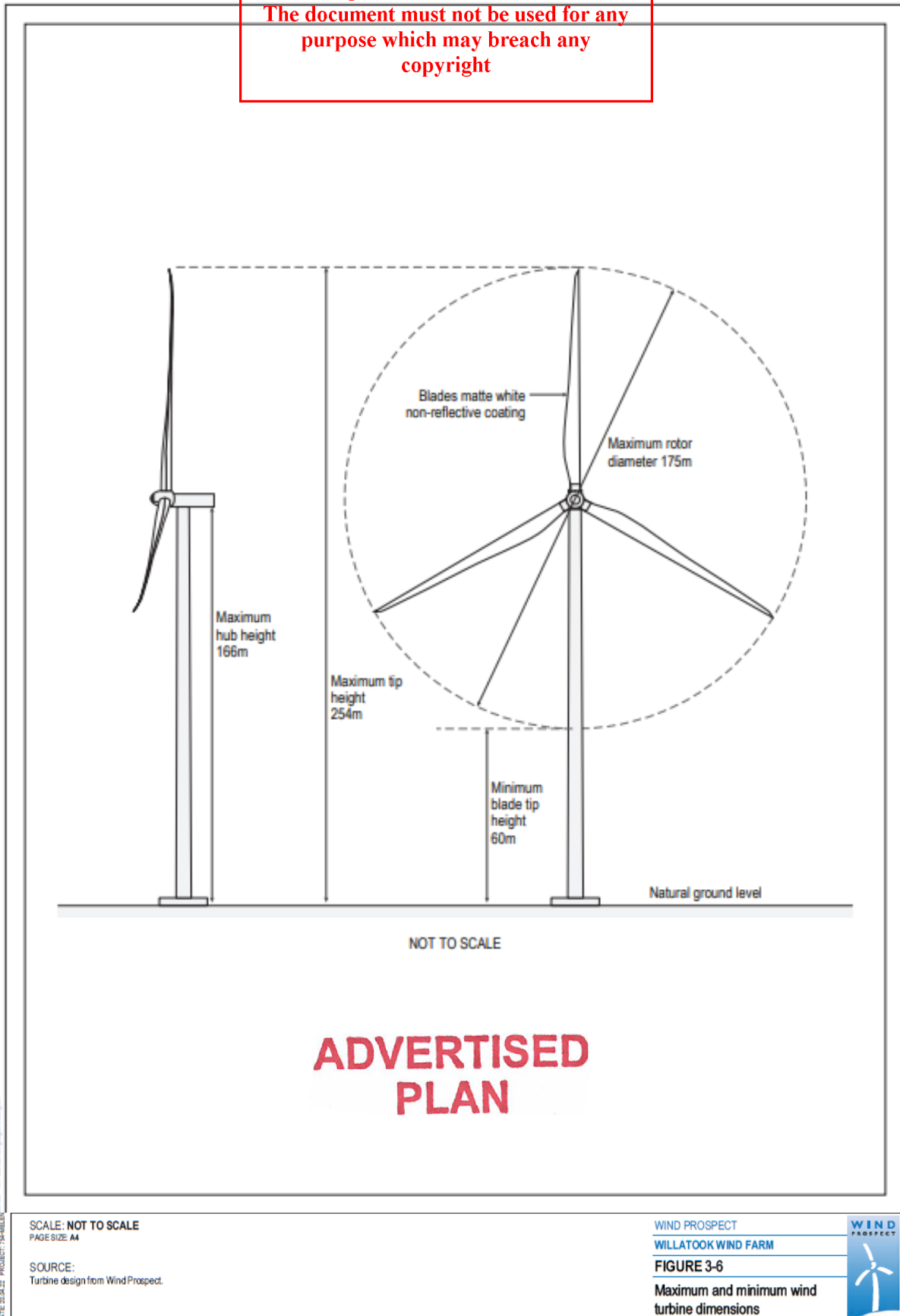


Figure 3-6 Maximum and minimum wind turbine dimensions

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Rotor

The project is designed to include wind turbine rotors of up to 175 metres in diameter with an individual swept area of approximately 24,064 square metres. However, it is possible that smaller rotors would be used depending on the specifications of wind turbines on the market at the time of construction and their suitability to the project. The project has assessed blade lengths of 86.5 metres in a single piece.

An example of a blade being lifted onto a wind turbine tower is shown in Figure 3-7.

Transformer

The transformer may be in either the nacelle, within the base of the tower, or next to the base of the tower on a concrete pad. Provision would be made in the design for containment of any oil that may leak or spill from the transformers. If placed on the hardstand area this would typically be achieved via a concrete bund.



Figure 3-7 A rotor with three blades with the final blade being lifted onto a wind turbine tower

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3.2.2 Access tracks and project site access from public roads

A total of four site access points from public roads would be established to bring project materials and equipment onto site, all of which would remain in place for the life of the project. These access points would be from Woolsthorpe-Heywood Road, Tarrone North Road, and Old Dunmore Road. There are also five crossing points of Riordans Road and Landers Lane.

Woolsthorpe-Heywood Road is managed by Regional Roads Victoria (as a Class C arterial road), while the others are local roads managed by Moyne Shire Council. Access points would be established at various times prior to construction to allow the wind turbine components to be brought onto the project site. All site access points would be gated and have wash down facilities or rumble grids in some instances. Figure 3-8 shows the project site access points and access tracks.

Approximately 45 kilometres of internal access tracks would be needed to provide access to each individual wind turbine and other infrastructure associated with the project. Access tracks would connect all the project infrastructure, provide access for construction and maintenance vehicles, as well as emergency vehicles, and may also be used by stakeholders for their farm operations.

Access tracks would have a final width of approximately 6 metres. The construction footprint for access tracks would be 20 metres wide. Nine staging areas of up to 320 metres in length would be constructed next to the access tracks, thereby doubling the width in those locations. Several passing lanes would also be needed throughout the site. These would have a length of up to 25 metres.

3.2.3 Signage

A small business identification sign is proposed to be located at the site main entrance on Tarrone North Road. The sign will be non-illuminated, 2 metres by 1.33 metres (total area of 2.66 square metres).

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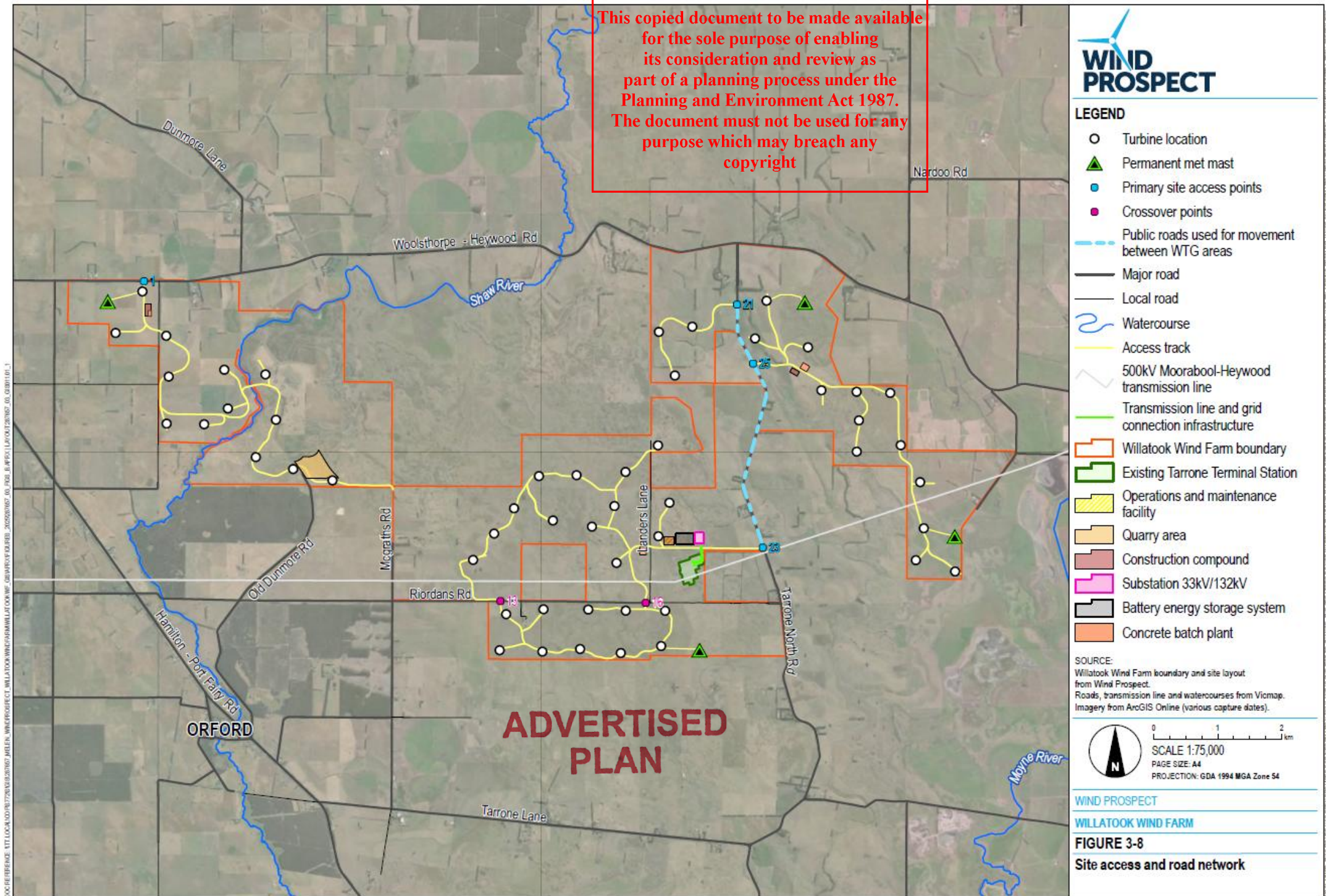


Figure 3-8 Site access and road network

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3.2.4 Electrical reticulation and distribution

Underground 33 kilovolt cable and fibre optic network

Electricity produced by each wind turbine would be transformed from low voltage to medium voltage (nominally 33 kilovolts) by a transformer located within or adjacent to each wind turbine. The electrical network would comprise 33 kilovolt circuits (called strings) between the wind turbines and the on-site substation.

It is proposed that the internal electrical network between the wind turbines and the substation would be an underground distribution network (i.e. buried cables). It is estimated that this would entail approximately 55.8 kilometres of trenches with 33kV electricity cable with fibre-optic cabling installed alongside. The cable trenches would have a width of up to one metre within a work area of seven metres for the excavator to operate and for stockpiling of soil. The trenches would either be next to the access tracks or directly across open paddocks, with a depth of approximately one metre, unless this is not feasible due to the presence of rock, in which case the cables would be installed in cable ducts. There are two locations where cables are proposed to be attached to newly constructed bridges over the Shaw River and Back Creek to avoid additional disturbance at these locations.

Overhead transmission line

An overhead transmission line of up to approximately 300 metres would be required to connect the on-site substation to the Tarrone Terminal Station. The project will include works on the Tarrone Terminal Station land associated with the connection. The transmission voltage is expected to be nominally 132 kilovolts (although 220 kilovolts is an alternative option) with the overhead dual circuit transmission line consisting of a single pole line (i.e., single poles up to 26 metres high, with conductor circuits on each side).

On-site substation

A single on-site substation would be needed for the project to receive electricity generated by the wind turbines and to increase the voltage to 132 kilovolts (or 220 kilovolts) to enable connection to the grid. The on-site substation would be on a parcel of land next to the existing Tarrone Terminal Station which would enable a simple integration into the Tarrone Terminal Station and then electricity network via the short span of overhead transmission line.

The on-site substation would be a single yard with a footprint of up to 70 metres by 220 metres and include infrastructure with a height of up to 8 metres (excluding the poles for the overhead transmission line) Figure 3-9.

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Proposed substation
system layout
FOR PLANNING PURPOSES ONLY

General notes:

1. The layouts are indicative only
2. Stormwater discharge point to be determined by agreement with council
3. Layout is subject to receipt of AEMO functional requirements and subject to detailed design
4. The incoming voltage from the wind farm is anticipated to be 33kV and the outgoing voltage from the substation is anticipated to be 132kV
5. Maximum generation connected to common busbar (via No. 1 & No. 2 transformers) 500mW
6. Water tank capacity of at least 48,000 litres
7. Substation dimensions are approximate. Actual dimensions may vary.

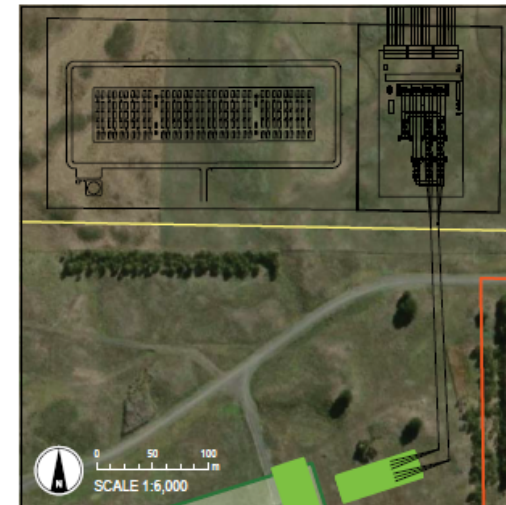
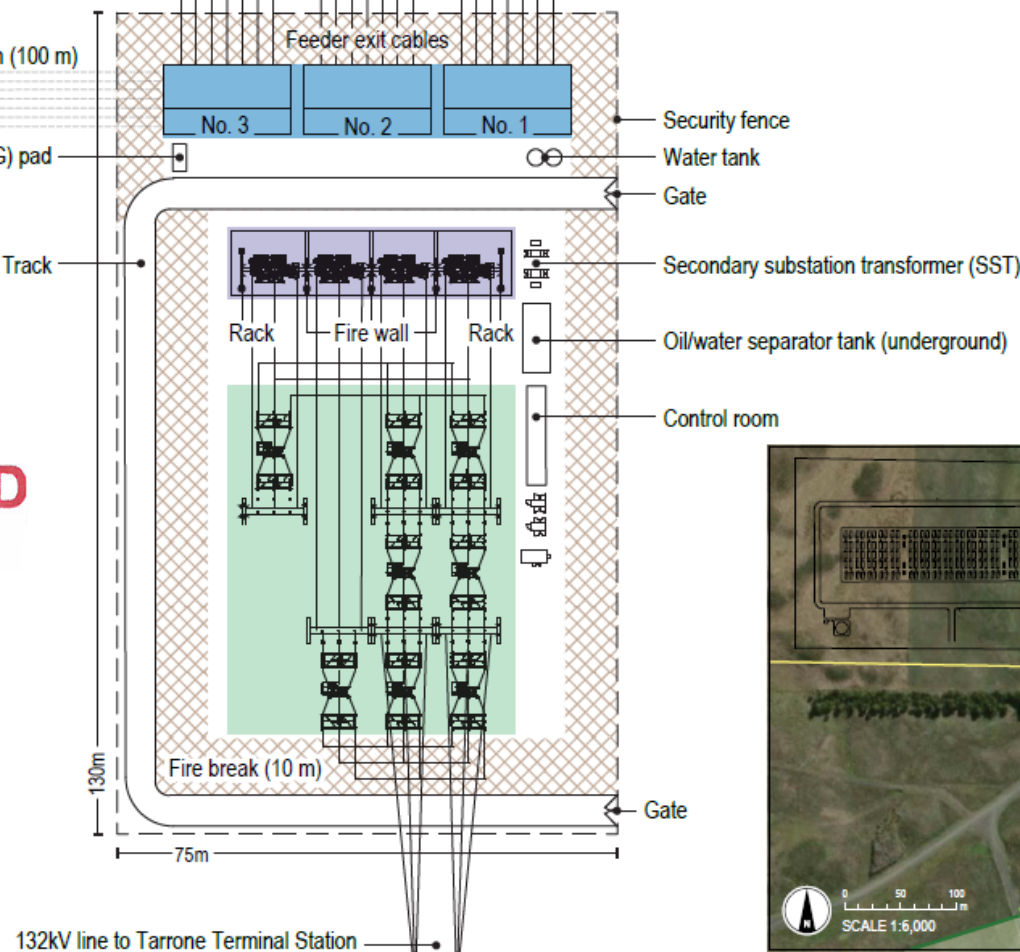


LEGEND

- Substation layout design
- 132kV switchyard
- Transformer area
- 33kV switchyard
- Fire break (10 m)

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SOURCE:
Willatook Wind Farm boundary and battery design
from Wind Prospect.
Imagery from ArcGIS Online (various capture dates).



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PROJECTION: GDA 1994 MGA Zone 54

WIND PROSPECT

WILLATOOK WIND FARM

FIGURE 14

Conceptual substation layout

Figure 3-9 Conceptual substation layout

The on-site substation would consist of a series of electrical transformers, switchgear, a control room and switch room, amenity facilities, including a toilet, and fire services. A security fence of up to 2.4 metres high would be installed around the perimeter of the on-site substation, battery system, and operations and maintenance facility. The whole area would be accessed via locked gates. The exact fence and gate specifications and their location would be agreed with Energy Safe Victoria during the pre-construction stage and be compliant with relevant legislation.

Areas within the on-site substation would be covered partly with a layer of crushed rock and partly by concrete slabs. The transformers within the on-site substation would be banded to contain any spills, and fire barrier walls would be installed to protect workers and the community from any incidents. These measures are standard for all transformers within electrical substations in Australia and are governed by strict standards.

An example substation and operations and maintenance facility is shown in Figure 3-10.



Figure 3-10 Example of wind farm substation and operations and maintenance

3.2.5 Battery energy storage system

A battery energy storage system (BESS) is proposed adjacent to the on-site substation (example of battery shown in Figure 3-12). The battery system would have a nominal capacity of up to 200 MW / 400 MWh and would include the battery units, inverters, transformers, ventilation/cooling systems, and fire protection systems.

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The BESS would consist of a series of modular batteries with transformers, high voltage current (heating, ventilation and air conditioning) coolers and other electrical plant. The BESS would be sited within an area of approximately 5 hectares (nominally 250 metres x 200 metres), as indicatively shown in Figure 3-13. This area provides flexibility for different battery supplier module designs, layouts and orientations, and provide room for emergency access, fire breaks, and firefighting equipment (static and mobile) in accordance with the *Design Guidelines and Model Requirements: Renewable Energy Facilities 2023 (v4.4)* (CFA Guidelines).

The battery energy storage system would include a fire protection system that includes, as a minimum, a fire water supply in static storage tanks, where:

- The fire water supply would be of a quantity no less than 288,000 litres or as per the provisions of *AS 2419.1-2021: Fire hydrant installations* for open yards flowing for a period of no less than four hours at 20L/s, whichever is the greater
- The quantity of static fire water storage would be calculated from the number of hydrants required to flow from AS 2419.1-2021, Table 2.2.5(D)
- Fire hydrants would be provided and located so that every part of the battery energy storage system is within reach of a 10-metre hose stream issuing from a nozzle at the end of a 60-metre length of hose connected to a fire hydrant outlet
- The fire water supply would be located at vehicle entrances to the facility, at least 10 metres from any infrastructure (electrical substations, inverters, battery energy storage systems, buildings)
- The fire water supply would be reasonably adjacent to the battery energy storage system and would be accessible without undue danger in an emergency. (e.g., fire water tanks would be located closer to the site entrance than the battery energy storage system)
- The fire water supply would comply with AS 2419.1-2021: *Fire hydrant installations* - Section 5: Water storage tanks.
- Water retention system to capture any run-off during an emergency event

A fire break of at least 10 metres would be established and maintained around the perimeter of the battery energy storage facility from the boundary of the facility or any vegetation screening inside the property boundary. Separation distances from other project infrastructure, non-project infrastructure, property boundaries and vegetation will be incorporated into the final design that ensures a maximum radiant heat flux of 12.5 kW/m²



3.2.6 Operations and maintenance facility

An operations and maintenance facility would be built next to the on-site substation and battery energy storage system. It would require an area of about 1.3 hectares (nominally 70 metres by 220 metres), and include an office, storage and maintenance facility housed on a concrete base, with adjoining car parking. The facility would be occupied during normal office hours and potentially outside these hours at times, while the wind farm and battery energy storage system would be monitored remotely 24 hours per day, 7 days per week. A conceptual layout of the proposed operations and maintenance facility is shown in Figure 3-13.

The project is proposing a series of carparks adjacent to the site office shown in Figure 3-14. The car parking spaces would be provided to the responsible authority in accordance with Clause 52.06-6.

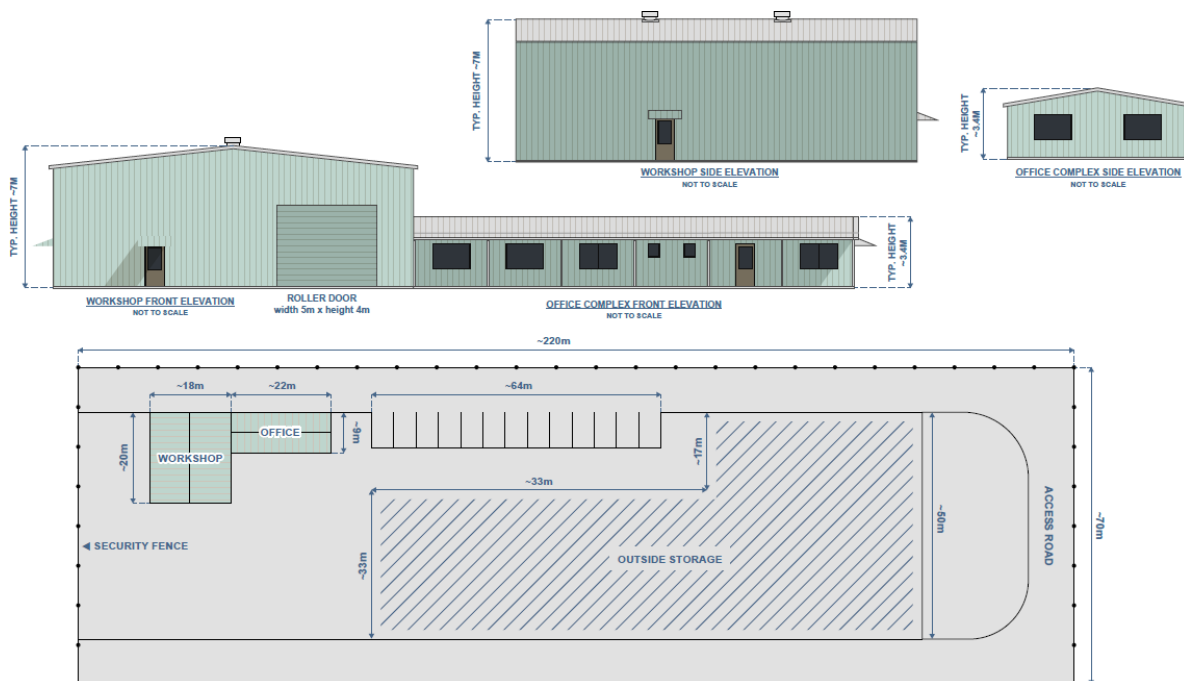


Figure 3-13 Conceptual operations and maintenance site plan

3.2.7 Meteorological monitoring masts

Up to four meteorological monitoring masts ('met masts') would be constructed around the edges of the project site and remain in operation for the life of the project. Each met mast would be a lattice tower, with a height equal to the wind turbine hub height (maximum height of 166 metres). Equipment installed on the met mast would include anemometers and wind vanes at various heights to record the wind speed and direction, temperature and atmospheric pressure, and have prominent aviation markers to ensure visibility for any low flying aircraft, such as those used for crop spraying or firefighting. A single-lane access track roughly 3 metres in width would be constructed to provide access to each met mast. Figure 3-15 shows an example met mast and an associated equipment.



Figure 3-14 Example Meteorological Monitoring Mast

3.2.8 Temporary infrastructure components and layout

Quarry

The project includes the preferred option for temporary on-site quarry. This would require a work authority (i.e., approval) from Earth Resources Regulation, a part of the Victorian Department of Jobs, Precincts and Regions.

The temporary on-site quarry would provide basaltic rock aggregate for construction, including tracks, hardstands, and the temporary construction compounds. Aggregate may also be used for wind turbine foundations if the rock is of suitable quality. The quarry would be in the western part of the project site, east of Old Dunmore Road and about 4 kilometres to the north-east of Orford. The proposed quarry location and design avoids community, environmental, hydrological, cultural,

biodiversity and geo-morphological constraints, and has gone through several iterations after feedback from stakeholders.

The alternate option to supply aggregate material for the project is to source material from nearby commercial quarries including the Tarrone Quarry. The Tarrone Quarry is around 3.6 kilometres south-east of the project site boundary.

Construction site office and compounds

A main construction compound and site office would be established during the enabling works and would be in the central part of the project site. The compound would be a fenced area of up to 4 hectares. The temporary construction compound would consist of:

- Cleared construction lay down areas
- Temporary site buildings (site offices)
- Ablution facilities
- Site parking for vehicles and mobile plant
- Storage of machinery and construction materials.

The construction site office would be staffed during normal office hours and would include a sign-in/sign-out area for visitors to the project. There would be two additional construction compounds located on the east and western sides of the project site.

Additional laydown hardstand areas would be established for the storage of wind turbine components and other equipment.

Staging areas

Temporary staging areas are those where components are placed on the ground in preparation for moving around the project site during construction. Their locations are dependent on detailed design and construction programming but would be selected to minimise the project footprint and to avoid environmental constraints and impacts.

Staging areas would be needed next to each wind turbine, construction compounds and access tracks for the storage and assembly of wind turbine components and equipment. The area allocated for hardstands and crane assembly areas would be used wherever possible to minimise the footprint and impacts, however in some instances dedicated staging areas will be needed.

Concrete batching plants

Three temporary concrete batching plants are proposed for the construction of the project and would be positioned to provide convenient access to all wind turbine locations. These plants are needed for the construction of wind turbine foundations and would also supply concrete for the construction of building foundations, the pad for the on-site substations and other project infrastructure. Each concrete batching plant would have a footprint of about 50 metres by 100 metres and would contain the concrete batching equipment, stockpiled materials, a cement silo, water tanks, a slump stand, washout facility and bunding for the containment of water runoff.

Washdown facilities

Washdown facilities or in some instances rumble grids would be installed at all access points from public roads and at crossing points between neighbouring properties. Each washdown facility would

consist of a bunded area capable of retaining all excess water runoff as a result of any wash down activity.

3.3 Project Phases

Subject to receiving all planning and environmental approvals, permits and consents, the construction of the project is estimated to take around two years. The earliest construction could commence is mid 2027, with commissioning of the project in 2029.

The project consists of four discrete phases: pre-construction, construction, operation and decommissioning. These phases and associated activities are described in Table 3.2.

Table 3-2 project Phases

project Phase	project Activity
Pre-construction (12-18 months)	- Grid connection application made, and approval received - Geotechnical assessment - Tendering for wind turbine supply and construction, and balance of plant civil works - Discharge of planning conditions, including preparation of the Environmental Management Plan, Construction Method Statement and Traffic Management Plan, with production of other mitigation plans, as required - Financing and other commercial activities.
Construction (2 years)	- Enabling works, including project-specific local road upgrades, construction of site access points, temporary construction compounds and on-site quarry - Construction of access tracks and wind turbine hardstands - Construction of wind turbine foundations and installation of wind turbines - Installation of underground cabling, on-site substation and battery - Testing and commissioning of the wind farm - Maintenance of local road network in consultation with Regional Roads Victoria and Moyne Shire Council in accordance with the Traffic Management Plan - Removal of all temporary infrastructure from the project site, including the on-site quarry infrastructure and construction compound - Rehabilitation of the on-site quarry area and the wider project site.
Operations (25-35 years)	- Commencement of electricity export - Operation and maintenance of the project.
Decommissioning and rehabilitation (1 year)	- Removal of wind turbines and all other above ground equipment and infrastructure - Restoration of the project site in accordance with the Decommissioning Plan and in consultation with the relevant landowners, Earth Resources Regulation and Moyne Shire.

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3.3.1 Construction

Construction of the project is anticipated to take around two years. Public road upgrades would start after completion of the detailed engineering design. Key site establishment activities will then include:

- Establishing the on-site quarry to supply crushed rock
- Delivery of key plant and construction vehicles
- Construction of the initial access tracks required for the delivery of materials and goods for construction
- Establishment of temporary concrete batching plant and temporary construction offices. Next would be the civil works, which would include the construction of:
 - The balance of internal access tracks
 - Wind turbine hardstand areas and footings
 - Underground cables
 - On-site substation and battery facilities.

The final construction activities would involve wind turbine delivery, installation, demobilisation of key plant and rehabilitation of temporary construction areas and commissioning. Significant overlap between activities would occur, with site preparation and civil works, and wind turbine delivery and installation being completed on a rolling basis.

Construction hours of operation

EPA Victoria Publication 1834.2 (September 2025): *Civil construction, building and demolition guide* supports the civil construction, building, and demolition industries to eliminate or reduce the risk of harm to human health and the environment through good environmental practice. This guideline includes the working hours that should be applied to various activities. The project would be constructed in accordance with this guideline, with construction generally being carried out during the specified normal working hours:

- Monday to Friday, 7 am to 6 pm
- Saturday, 7 am to 1 pm.

Work outside these normal hours may be required for some activities, including:

- Wind turbine installation, which is weather dependent
- Concrete pouring, which may need to be completed during a fixed period and/or within specific temperature conditions
- Transport of over-sized equipment, such as the wind turbine tower sections and blades, which is sometimes performed during lighter traffic periods (e.g., at night).

Work would be planned and conducted in consultation with the Responsible Authority and other relevant stakeholders and would be guided by EPA Publication 1834.2. The project's Noise and Vibration Management Plan would outline how activities are controlled and managed outside normal hours (see Section 7.2.1 *Noise and vibration*).

Construction workforce

It is anticipated up to 180 direct and 290 indirect full time equivalent jobs would be created during construction. It is predicted that most of the construction workforce would be accommodated in the surrounding towns of Warrnambool, Port Fairy and Koroit.

Transport route

The wind turbine towers would be manufactured in sections and transported to the project site for installation. The tower sections, along with the wind turbine blades and other large project infrastructure, require specially planned transport routes.

The proposed over-dimensional route starts at Portland and ends at the various project site access gates after travelling along Woolsthorpe-Heywood Road from the west, as described in Section 7.5.2 of this report and detailed in the Transport Impact Assessment (TIA) prepared by Ratio Consultants Pty Ltd (Ratio 2026), which accompanies this amendment application.

In consultation with Department of Transport and Moyne Shire Council, Option 1 (shown in Figure 3-16 below) 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.

Five intersections within the Moyne and Glenelg Shires along this route would need some roadside infill works, potential roadside furniture removal, native vegetation removal and traffic management works. The intersections 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
- Woolsthorpe-Heywood Road/Tarrone N Road, Tarrone.

The proposed works would be finalised in consultation with the haulage contractor, Regional Roads Victoria and Moyne and Glenelg Shire Councils. A Traffic Management Plan would be developed before the start of construction to document the detailed requirements for safe transport of equipment and materials for the project with minimal disruption.

Other material that would be brought to the project site and the associated traffic impacts are described in Section 7.5.2.

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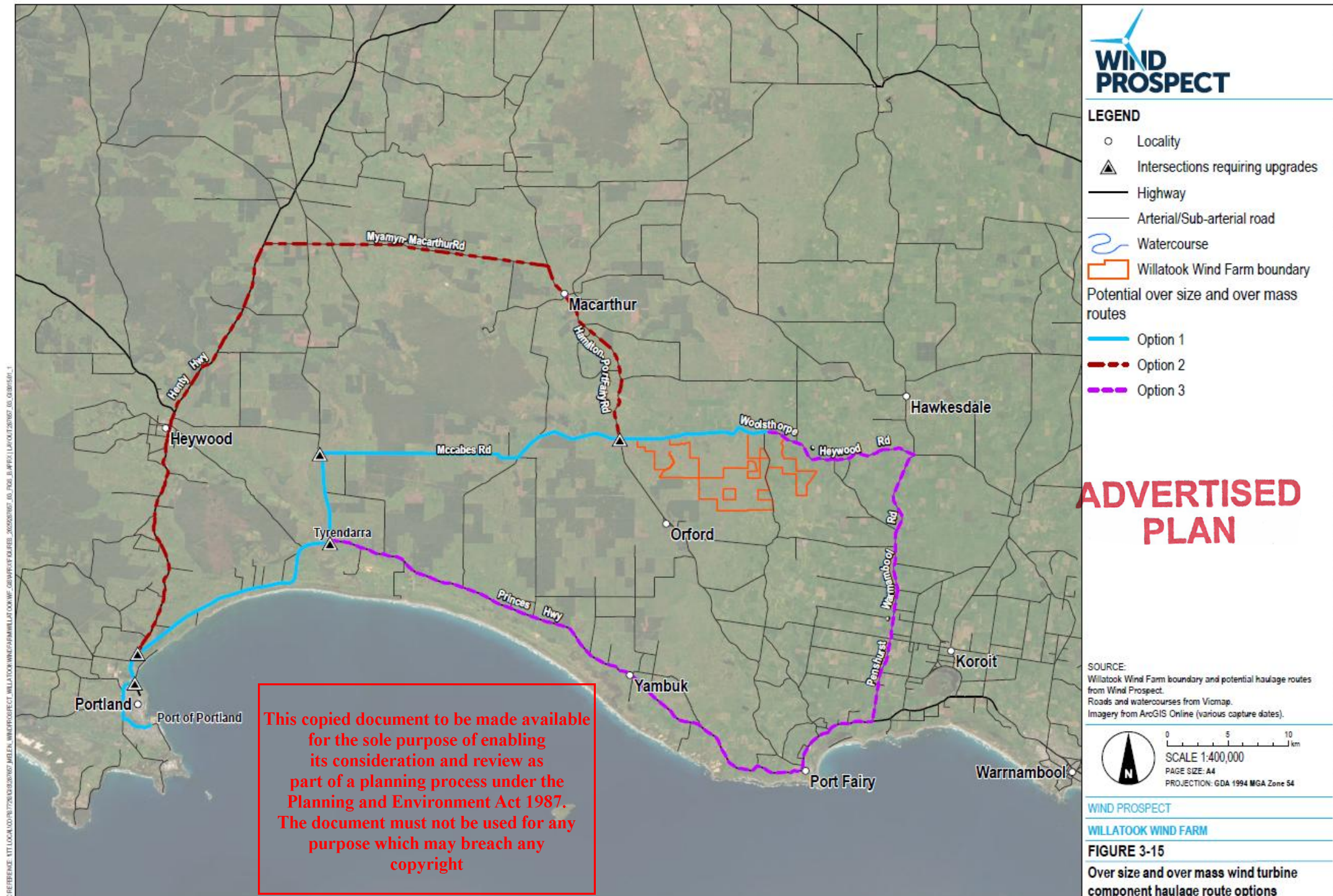


Figure 3-15 Over size and over mass wind turbine component haulage route options

Public road upgrades and site access

To facilitate the mobilisation of construction teams, equipment and project infrastructure to site, site access works would be needed at intersections along the over-dimensional access route (as described above) and at project site access gates. Local road upgrades would also be needed in some locations. Improvements to local roads would be completed as required in consultation with Regional Roads Victoria and Moyne Shire Council to ensure safe and efficient traffic movements (including that of the public).

Site access works required for the project would include:

- Trimming some trees and shrubs at intersection upgrade locations and along some road sections to allow transport of over-dimensional project components
- Intersection upgrades along the over-dimensional route and the local road network to enable safe access to the project site
- Upgrades of local roads to accommodate over-dimensional vehicles and heavy vehicles and to allow safe turning into the project site by all vehicles, as needed
- Construction of access gates from local roads onto private property.

Upgrades have been identified based on a theoretical maximum wind turbine blade length of 86.5 metres and a maximum tower base of between 5 and 6 metres.

Internal access tracks

Around 45.6 kilometres of internal access tracks would be needed for construction but would be left in place and maintained for use during project operation. Access tracks would be developed on private property, maximising the use of existing farm tracks, or being positioned next to existing fence lines where this is preferred by the relevant landowner. A number of access tracks would cross unnamed government roads known as 'paper roads', which are Crown land.

Internal access tracks would be established using heavy earthwork machinery to excavate these areas to a depth determined under the relevant standards, before laying a compacted gravel. Sediment and erosion control measures would be established during civil construction works.

Access tracks would have a final width of six metres and a minimum 30 metre turning radius. The construction footprint of access tracks would be 20 metres wide, within a 40-metre-wide corridor that has been surveyed by ecologists and heritage consultants. The road base would be crushed rock aggregate sourced from the project's on-site quarry or an existing commercial quarry. Rock excavated from wind turbine foundations and other infrastructure areas would also be used for the subgrade road base subject to meeting the relevant functional specification. Access tracks would be constructed to enable water to shed directly to table drains to avoid scouring, with drainage culverts built at determined flow paths informed by hydrological modelling.

The access tracks would be built to a standard which enables all weather access to the wind turbines and would satisfy the requirements of the CFA Guidelines. The CFA Guidelines contain several provisions to enable access for fire vehicles, including minimum width, maximum grade and number of access points.

Twelve crossings of waterways (mostly tributary creeks and drains) would be needed for access across the project site. Although these have been minimised by appropriate siting of the access tracks, the proposed crossings are necessary to provide access to infrastructure and would prevent vehicles, including trucks from the quarry, being diverted onto public roads.

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The construction footprint of the water crossings has been designed to avoid impacts to waterway flows and to protect the integrity of the waterway banks as much as possible. All waterway crossings and culvert and bridge designs would conform to relevant local guidelines and be approved by Glenelg Hopkins Catchment Management Authority before the start of construction.

Access track crossings of minor drains would be sized to accommodate the required design capacity, based on peak water velocity and depth estimates predicted by hydrological modelling (see Hydrological Report prepared by Water Technology Pty Ltd) The exact design specifications to maintain water flow at each drainage line would be determined as part of the detailed design during the pre-construction phase.

The construction of water crossings would adhere to a project erosion and sediment control management plan, as well as other relevant environmental management measures, to enable the project to develop the necessary infrastructure in line with legislation, approval requirements and industry best practice.

Any works to cross waterways would be discussed with the landowners and relevant authorities. Permissions for waterway crossings, including permits for works on waterways from Glenelg Hopkins Catchment Management Authority, would be obtained before crossing works begun. Final designs of waterway crossings would be refined during the detailed design when the balance of plant contractor is engaged, and the requirements of the crossing are better defined.



Figure 3-16 Typical Internal Access Road

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Wind turbine generator installation

The wind turbine foundation type would be determined after detailed geotechnical surveys are completed. The foundation type would be either be gravity or rock anchor foundations. The excavated area needed for both types of foundation would be about 27 metres by 27 metres, potentially requiring low-level blasting where firm rock is encountered. Blasting would be carried out by qualified specialists subject to relevant statutory requirements being met.

Gravity foundations would involve the excavation of ground material to a depth of 3.5 metres or more. Steel reinforcement is installed before concrete is poured into the excavated area in-situ and allowed to cure.

The wind turbine components would be delivered to the project site progressively using oversize/over-mass truck and trailer combinations. Erection of wind turbines is generally a two-stage process, with the base and first two tower sections lifted into place. This generally takes one day to complete. Once this has been completed various minor works are carried out before the remaining tower sections, nacelle, generator, hub and blades are lifted into place. This can take three days to complete depending on the weather conditions.

Construction typically involves the use of a small auxiliary 200 tonne crane for vehicle offloading and preliminary assembly. A larger main-lift crane, with about 1,000 tonnes of lifting capacity, and a 100-tonne trailing crane would be used to erect the wind turbines once preliminary assembly has been completed. Hardstands would be surfaced with pavement material to the required load-bearing specifications.

Electrical cable reticulation

The project design provides for the undergrounding of electrical cabling wherever possible in response to feedback from stakeholders to minimise the visual impact, provide an important bushfire safety mitigation, and protect birds from accidental collisions.

Around 55.8 kilometres of trenches would be needed to bury the cables up to one metre below the surface. The only exception for underground cables is at two watercourse crossings (Shaw River and Back Creek) where it is proposed that cables would be run along-side the bridge structures.

Several parallel cables would be needed in each trench, the number of which would be confirmed during detailed design. It is possible that some of the strings (i.e., groups of wind turbines connected via a single cable route) can be merged to result in fewer, larger cables, resulting in a smaller total cabling trench length.

Once a trench has been excavated, bundled cables would then be laid within a bed of protective sand and warning tape added to alert the presence of electrical cables at the required depth. Trenches would then be backfilled and compacted with previously excavated material using a vibration plate compactor. On completion, the underground transmission lines may be marked with small marker posts.

It is estimated this trenching would cause a seven-metre-wide surface disturbance area during construction, which would be rehabilitated to be consistent with the surround landscape. In certain

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locations, to avoid disturbance to infrastructure and environmental values on the surface, horizontal directional drilling or directional boring may be used.

Underground cables would cross several designated waterways, drainage lines, and public roads. There are a range of methods that would be used for these crossings. Proposed crossing methods for watercourses have been based on an assessment of the environmental, cultural heritage and technical constraints. Geotechnical conditions would influence the design of an appropriate crossing method, and these future investigations at specific sites would inform the final crossing method of each watercourse. All crossings of designated waterways would require a waterways licence from the Glenelg Hopkins Catchment Management Authority.

The three options for crossing watercourses, drainage lines and roads are:

- Open cut excavation: For this method, the trench is excavated through the feature, which involves excavating soil to form a trench, enabling new infrastructure to be laid/ repaired/ removed, and is then backfilled. This method is typically employed on minor watercourses and local roads. Where this method is used to cross a local road, one lane or a deviation is always kept open for emergency vehicle access. Where this method is used to cross watercourses, the water (when flowing) is diverted around the excavation to ensure stream flows are maintained.
- Directional boring: This method involves a small tunnel being drilled through soil enabling new infrastructure to be laid. Provided there are suitable geotechnical conditions, this method can limit disruption to the watercourse bed and banks. To enable a directional boring to occur, sumps or bell holes are excavated either side of the feature. The boring machine is placed in one sump and then drills under the feature to the other sump.
- Aboveground conduits: It is proposed that cables would be run along-side the proposed bridges/culverts on Shaw River and Back Creek. These would be designed in accordance with electrical standards to ensure protection from debris and flooding.

Final designs of waterway crossings would be refined during detailed design when the balance of plant contractor is engaged, and the requirements of the crossing are better defined.

On-site substation and battery energy storage system

The on-site substation and battery areas would be cleared and then excavated to the depth required. Reinforced concrete foundations would then be constructed to support electrical infrastructure and buildings. Infrastructure required within these yards would include transformers, switchgear, power conditioning equipment, energy storage technology, switch room, cabling and backup generators.

The on-site substation would be designed and constructed in accordance with relevant technical, electrical, and planning standards and in consultation with relevant stakeholders. On-site trafficked areas would be limited to the site entrance and surrounding the switch room and control building. The electrical compound areas would be finished with coarse gravel.

Temporary facilities

Temporary buildings and facilities would be needed for construction personnel and equipment. Within each temporary construction compound (three in total), a portable site office, amenities and parking bays would be established. Rock crushing and batching plant facilities and staging and storage areas

for plant, equipment and wind turbine components would also be established. Arrangements would be made for power, potable water, and communications at the site office during the construction period.

Concrete batching plants would be developed and operated in accordance with EPA Victoria Publication 1806 (December 2019): *Reducing risk in the premixed concrete industry*. The concrete batching plants would be decommissioned and removed at the end of the construction phase, and the land would be rehabilitated and returned to the landowners.

3.3.2 Operation

Wind turbines generally start to generate energy at wind speeds of around 3 metres per second (or 11 kilometres per hour). This is known as the cut-in wind speed. The output increases in a linear trend with increasing wind speed until the wind reaches 13 to 14 metres per second (or 47 to 50 kilometres per hour). At that point, the power is regulated at rated power (i.e., 6 megawatts if using the nominal rated capacity of a 6 megawatt wind turbine). If the average wind speed exceeds the maximum operational limit (about 25 metres per second, or 90 kilometres per hour), the wind turbine is shut down and the blades are feathered (i.e., locked in a set position).

During periods of operation, wind turbines generate noise and shadow flicker. The project is required to operate within regulated limits and to demonstrate compliance via predictive modelling and on-ground monitoring. See Section 7.2 for further details on these aspects.

Once the wind turbines are in operation, the project would be monitored by both on-site staff and remote monitoring. Around nine staff, mostly involved in technical maintenance, would be located on-site. These on-site staff and specialised contractors would carry out routine and responsive operation, maintenance and repair activities.

The site office would be occupied during normal office hours, except when required to respond to unplanned equipment failures that may occur outside these hours. Remote monitoring would occur via control systems to monitor the performance and control the operation of the wind turbines. Major planned servicing of the wind turbines would be carried out about twice per year. This would involve additional on-site staff to undertake these works.

Light vehicles and small trucks would travel from the site office and maintenance yard to individual wind turbines and substation, mostly via internal access tracks. Large vehicles may occasionally deliver replacement wind turbine components to the project site and a crane may be needed to install them.

3.3.3 Decommissioning and rehabilitation

The wind turbines would have an operating life of around 25 years, at which stage there are three main options for consideration:

1. Continue to use the project site as a wind farm using the existing wind turbines potentially with some refurbishment and subject to their condition at that time.
2. Replace the existing wind turbines with more modern wind turbines and continue to operate the wind farm.
3. Decommission the project by removing all above ground infrastructure and rehabilitating hardstand areas and access tracks (except where landowners want them retained for their farm operations) so the land can be returned to agricultural use.

The decision on whether to refurbish or replace the wind turbines would be subject to an assessment of the economic viability closer to the time, and in consultation with the landowners and approval authorities.

Long-term leases have been entered into with landowners with stringent decommissioning obligations. Ongoing fees are payable to landowners until decommissioning is properly completed, providing a strong incentive for this to occur once the wind farm ceases operation.

Decommissioning activities would result in similar potential impacts to construction activities and is expected occur over a period of 6 to 12 months. Decommissioning activities would involve large equipment (e.g., cranes, excavators and graders) and the transport of large project components from the site (e.g., wind turbine towers and blades).

Most above ground components of the project can be recycled at the end of their life, including the steel towers and copper contained within each wind turbine. The ability to recycle some wind turbine components, including blades, is expected to be significantly improved (technologically and economically) by the time decommissioning of wind turbines is required.

Upon decommissioning, below ground infrastructure, including wind turbine foundations and underground cables, may be left in situ and covered with at least 500 millimetres of clean fill material. The ground surface would be rehabilitated to reflect the natural surface that existed pre-development and to avoid soil erosion. A map of below ground infrastructure would be provided to each landowner hosting wind farm infrastructure.

Non-stakeholder landowners and the local community would be engaged with whatever the decision on the project's future, seeking to address any issues, minimise impacts and maximise benefits.

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4 Project Design

The design response for this project developed through a long evolution influenced by a range of factors including policy and legislation, the preliminary findings of specialist consultants, and input from community and stakeholder engagement. The amended proposal reflects a design which has been modified to respond to the recommendations contained within the Minister's Assessment, and adopting elements of the recently released Handbook for the development of renewable energy in Victoria, as they pertain to Brolga and bats. This chapter describes the design evolution of the project from these influences.

4.1 Design Response

The project has been designed in response to the various site opportunities and constraints. The design of the project has evolved since inception in 2009, from assessing various wind turbine models, designing numerous wind turbine layouts, and assessing different site access and transport routes. Avoidance and minimisation of impacts have been central to the development of the project. Figure 4-1 outlines the process used to refine the project design.

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Project Identification and Refinement

Extensive search for suitable wind farm locations within Victoria with a short list of potential sites selected

Following detailed analysis to establish the suitability of the sites, Willatook selected as the preferred project location with an initial design developed

Concept design developed based on preliminary investigations, which was referred to State and Commonwealth Governments

Further project refinement based on technical assessments concluding with the design presented within the EES

Revision of project design following the release of the Minister's Assessment and the Victorian Handbook for Renewable Energy Development, including:

- Adoption of updated guidelines for Brolga and bat impact avoidance and mitigation
- Design refinements responding to the Minister's Assessment and Panel recommendations

Constraints Considered

Preliminary assessment of locations based on:

- Wind resources
- Proximity to grid connection with capacity
- Low dwelling density
- Environmental constraints

Detailed analysis to establish the suitability of the sites considering:

- Supportive host landowners
- Potential for significant environmental effects
- Condition of road network
- Transport route to port for turbine components
- Avoidance of coastal areas (high amenity value and usually higher population density)
- Appropriate planning zone(s)

Preliminary on-site assessments of site constraints including:

- Flora and fauna
- Aboriginal heritage
- Stakeholder engagement

Detailed assessments of site constraints including:

- Noise
- Landscape and visual amenity
- Flora and fauna
- Aboriginal heritage
- Traffic and transport
- Social and economic
- Hydrology and hydrogeology
- Aviation
- Electromagnetic interference
- Shadow flicker
- Geoheritage
- Air quality
- Land use and planning

Completion of targeted ecological studies to support post EES design refinement, including:

- A revised Brolga assessment reflecting the Victorian Handbook for Renewable Energy Development and further field and technical investigations
- Preparation of a new standalone bat impact assessment adopting handbook guidance and recent research
- Application of study outcomes and Minister's recommendations resulting in refinement of the turbine layout and project design

Update of detailed technical assessments to reflect the revised project design, including:

- Noise including background noise data collection
- Landscape and visual amenity
- Flora and fauna
- Aboriginal heritage including complex site investigations for altered proposed turbine locations
- Historical heritage
- Traffic and transport
- Hydrology and hydrogeology
- Aviation
- Electromagnetic interference
- Shadow flicker
- Fire risk

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Figure 4-1 project Identification and refinement

Key criteria driving the design development include:

- Wind speed – sufficient electricity generating potential is a fundamental requirement for any wind farm and therefore wind speed is a core element of the project design. Optimising the conversion of wind energy to electricity is influenced by the positioning and spacing of wind turbines.
- Access to land – contracts were completed with landowners that agreed to participate in the project, enabling a wind farm to be developed on their land.
- Constraints – there are a range of constraints that must be considered including:
 - the location of existing dwellings
 - potential noise and shadow flicker
 - historical and Aboriginal cultural heritage within and near the project site
 - patches of native vegetation on the project site
 - fauna habitats such as the nationally listed Growling Grass Frog (*Litoria raniformis*)
 - geology and geomorphology of the land
 - visual sensitivity of the landscape.

Known sensitive areas with constraints and buffers incorporated into the design of the project presented in the EES and initial Planning Permit Application are listed in Table 4-1.

Table 4-1 Sensitive areas and constraints considered in the EES project design

Sensitive areas	Potential impact or risk	Design response
Dwellings	The Victoria Planning Provisions prevents wind turbines being sited within 1 kilometre of a dwelling without the written consent of the owner of that dwelling.	A buffer of 1.5 kilometres was initially applied to non-stakeholder dwellings, and a buffer of 2 kilometres to some non-stakeholder dwellings in response to feedback ² .
Neighbouring property boundaries	There is the potential for the wind turbine blades to overhang into the airspace above neighbouring properties or adjoining public land.	A 100-metre buffer was applied around the perimeter of the site to prevent wind turbine blade overhang into the airspace above neighboring properties or adjoining public land.
Townships	There is usually an increased density of dwellings in townships and therefore an increased potential for adverse impacts.	A 3-kilometre buffer was applied to all Township Zones as defined in the Victoria Planning Provisions to minimise potential impacts to township residents.
Aboriginal cultural heritage sites and places	Aboriginal cultural heritage sites and places could potentially be impacted. One existing registered Aboriginal site was identified and assessed by experts and areas of Aboriginal cultural heritage sensitivity were extensively surveyed uncovering one additional Aboriginal site for registration.	All existing and newly identified registered Aboriginal sites have been buffered to avoid any impact. Areas of potential Aboriginal cultural heritage sensitivity defined by heritage specialists were buffered to avoid potential impact.

² Subsequent refinements of the design to address the Minister's recommendations has resulted in three dwellings between 1.2 kilometres and 1.5 kilometres.

Sensitive areas	Potential impact or risk	Design response
Brolga breeding habitat	Nesting and foraging Brolga could potentially be disturbed by the construction and operation of wind turbines. There is also a risk of collision if wind turbines are operating too close to where Brolgas are active.	Buffers were developed by technical experts for potential Brolga breeding and roosting habitats. This included creating home range buffers for defined breeding wetlands and other functional wetlands within 2 kilometres and then adding a 700-metre buffer around the perimeter.
Native vegetation, threatened flora species and habitat for listed fauna species	The removal of native vegetation in the form of Ecological Vegetation Classes (EVCs), EPBC Act listed ecological communities and FFG and EPBC Acts threatened flora species should be avoided and minimised.	Vegetation was mapped and ground-truthed and several specific habitats for threatened species also defined and mapped (e.g., Growling Grass Frog). This mapping provides the basis for avoidance and minimisation of impacts throughout the design process.
Wetlands	Wetlands are important for a variety of threatened flora and fauna and are often locations with higher probability of Aboriginal heritage sites and hold intangible values to Aboriginal people.	A 100-metre buffer was applied around mapped wetlands on the Victorian wetland inventory to limit potential impacts to these areas.
Watercourses	Watercourses and riparian zones are important for a variety of threatened flora and fauna, are often locations with higher probability of Aboriginal heritage sites and hold intangible values to Aboriginal people.	Crossings of watercourses by access tracks and cable routes have been minimised as part of the design process and watercourses have been buffered as follows to avoid impacts: 100 metre buffer applied to watercourses (excluding drainage channels) 30 metre buffer applied to drainage channels. Where watercourse crossings are needed, further mitigation has been developed.
Existing powerlines	project infrastructure could interfere with existing powerlines if placed too close.	Existing powerlines were buffered as follows to minimise potential interference: 500 kilovolt transmission line buffer easement width plus 200 metres = 230 metres 132 kilovolt and 66 kilovolt transmission line buffer is easement width plus 100 metres = 115 metres 22 kilovolt distribution line buffer is easement width plus 100 metres = 110 metres 12.7 kilovolt distribution lines are not buffered.
SEA Gas pipeline	The SEA Gas pipeline that traverses a portion of the site is a significant part of the regional energy network. project infrastructure could interfere with the SEA Gas pipeline if not appropriately buffered.	The SEA Gas pipeline has been buffered by 453 metres, approximately 3 times the maximum hub height in accordance with a request by the owners and operators of the SEA Gas pipeline.
Roads	project infrastructure could interfere with existing roads.	To avoid potential interference to existing roads: a 100-metre buffer has been applied to public roads

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Sensitive areas	Potential impact or risk	Design response
		a 25-metre buffer has been applied to access roads on Crown Land (also known as paper roads).
Local airstrips	Wind turbines have the potential to impact the operation of local airstrips.	Buffers are applied to local airstrips based on Civil Aviation Advisory Publication CAAP 92-1(1), guidelines for aeroplane landing areas and advice from an expert aviation consultant.
Communications links	Wind turbines could interfere with communications links if they are not appropriately buffered.	A single point to point communication link crosses the site therefore a buffer was applied, as recommended by an expert consultant in consultation with the operator of the link, as follows: 20 metres plus rotor radius (86 metres) + 20 metres uncertainty (total 126-metre buffer).

4.2 Response to Minister's EES Recommendations and Handbook for the development of renewable energy in Victoria (DEECA, 2025)

The amended proposal continues to align with, and respond to the findings of the specialist environmental and amenity assessments undertaken for the original project design, as well as the updated specialist assessments which assess the updated design and layout. Notwithstanding, the recommendations outlined within the Minister's Assessment of the project's EES, and the updated policy and guidelines contained within the Handbook, are the key influences toward the proposed modifications to the project's design, construction and operation.

Appendix C provides further details to demonstrate how the project has applied the Handbook. Appendix D details to the updated Environmental management Framework in alignment with the recommendations in the Minister's Assessment.

These modifications have ultimately resulted in the removal of 7 proposed wind turbines (from 59 to 52), and the shifting of several others. Additionally, amendments have been made to the designs of the proposed access tracks, cabling, and quarry. The key design work which has occurred since the EES and Minister's Assessment is outlined in Table 4-2. A comparison of the EES project design, and the amended design is shown in Figure 4-3 below.

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Table 4-2 Post-EES Design Response

Sensitive Area	Design Response
Brolga	Buffers Brolga buffers have been expanded based on the recommendations in the Minister's Assessment and following the Brolga Guidelines that support the Handbook for the development of renewable energy in Victoria. This involved additional fieldwork and surveys, to assess habitat characteristics such as surface water cover, drainage, emergent vegetation present and grazing pressures. Additional on-ground breeding surveys were undertaken in 2024 and 2025. Further hydraulic and hydrological modelling was also undertaken, involving water balance modelling of wetland to estimate runoff volumes and wetland levels. This work assisted to identify breeding and potential breeding wetlands within the 5 kilometres investigation area, applying the criteria contained within the Handbook. This work also informed the updated buffers provided in the modified project layout. For a rationale for the buffering method see Section 7.3.5 and the Brolga Impact Assessment (Nature Advisory, 2026a).
Southern Bent-wing Bat	Buffers A 200-metre blade-to-habitat buffer around high quality Southern Bent-wing Bat habitat was applied following the bat Guidelines that support the Handbook for the development of renewable energy in Victoria. The turbine-free areas included in the modified project design have sought to minimise overlap with potential SBWB habitat. This was addressed through considered siting of turbines to avoid overlap wherever possible. The project will seek to minimize any overlap further through micro-siting of turbines. For a rationale for the buffering method see Section 7.3.4 and the Bat Species of Concern Assessment (Nature Advisory, 2026b) Wind speed curtailment Additionally, a night time cut-in wind speed of 4.5m/s has been applied for all turbines between September to May when ambient temperatures exceed 10 degrees. Turbine design The modifications to the project also include a change in turbine design, with an increased minimum tip height from 40 metres to 60 metres. This change has been made because it will significantly reduce collision risk since most flight activity is predicted to occur below this height.
Vegetation/ ecological Impacts	Detailed civil design As part of the project redesign, further efforts have been made to refine the location and design of internal access tracks and cable routes to minimise impacts to native vegetation and sensitive ecological areas as far as reasonably practicable.
High voltage transmission	Based on feedback from AusNet, the set-back of proposed turbine locations from the Moorabool to Heywood 500 kilovolt transmission line has been increased to 258 metres.

The sensitive areas and constraints have been mapped within and around the project site, defining areas that can and cannot host wind turbines (Figure 4-2). The project layout was then determined through various considerations including avoidance of sensitive areas.

Another influence on the project layout was the community consultation and feedback regarding the project. Extensive community engagement has occurred since 2010. A summary of the engagement activities for the project is discussed further under section 4.3 below.

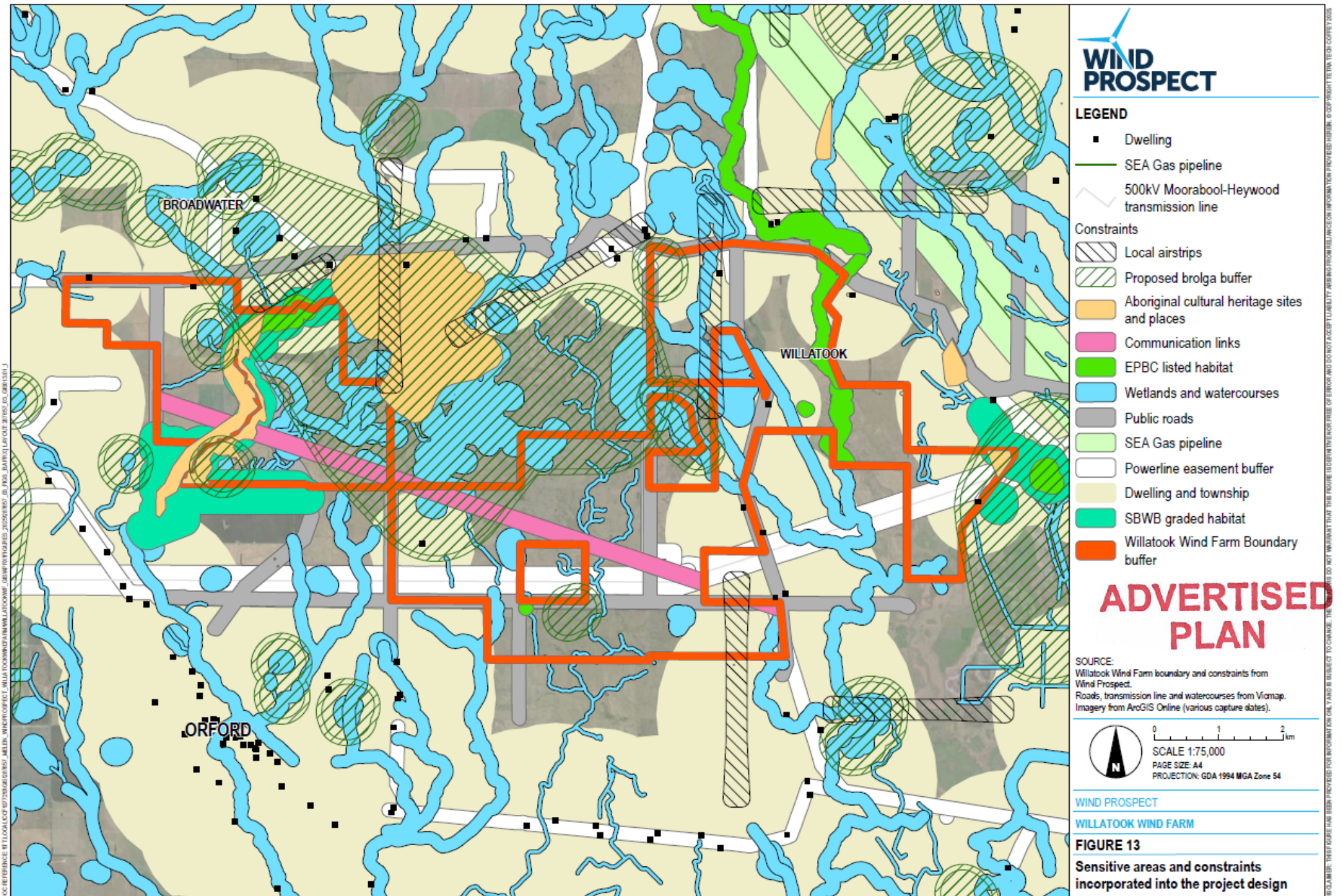


Figure 4-2 Sensitive areas and constraints incorporated into the project design

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4.2.1 Response to Minister's Recommendations

The Minister's Assessment considers the findings of the EES, IAP's report, and submissions to assess the environmental effects of the project. The Minister ultimately concluded that the project can proceed with acceptable environmental effects, provided there were modifications to the project design, and the environmental management measures detailed in the Minister's Assessment were implemented.

The Environmental Management Framework (Appendix D) has been reviewed and updated to reflect the modified project design, updated technical assessments and the findings and recommendations of the Minister's Assessment.. Section 6.1 of the Minister's Assessment identifies three key recommendations made by the IAP for the project, and the Minister's response to each of these recommendations. These recommendations are provided in Table 4-3 below, and have been central to informing the project re-design, and the updated assessments undertaken in relation to Brolga impacts.

Table 4-3 Primary IAP recommendations and Minister's response

	Primary IAP Recommendations	Minister's Response
1	Include Wetlands W1, W3, W4, W7, W10, W12 (26028), W13, 25241, 25710, 25721, 25729, 25731, 25741, 25816, 25932, 25941, FD2, FD16, FD21 and 12a as suitable brolga breeding wetlands within the brolga breeding home range unless they are permanently drained	Supported, noting that wetland W4 is a synonym for wetland 25721. W7 is a synonym for wetland 25936. 26028 is a synonym for wetland W12e (part of the Cockatoo Swamp complex). 25241 appears to be an error as no such number is assigned to any wetland in the EES.
2	Before a permit decision, Wind Prospect conduct additional assessments for: a) wetland 25698 to confirm if it is hydrologically unsuitable for brolgas or permanently drained b) wetland 25668 to determine the reasons for the LiDAR assessment reducing its extent	Supported in the context that the recommended information, when gathered, should be discussed with DTP (Planning) and with DEECA BSW and should be provided to me as the responsible authority for consideration along with the planning permit application. If either wetland is found to be suitable for Brolga breeding, home range mapping should be provided similar to that recommended for other suitable breeding wetlands.
3	Following the outcome of assessments in Recommendation 2, the Minister for Planning issue: a) Planning Permit PA2201620 (Moyne Planning Scheme) for the Willatook wind energy facility with the conditions shown in Appendix G and subject to b) Planning Permit P22065 (Moyne Planning Scheme) for native vegetation removal with the conditions shown in Appendix H	Supported, subject to Wind Prospect's submitting a revised permit application incorporating changes to the wind farm design that respond appropriately to provision of turbine free buffers to protect habitat for Brolga and for Southern Bent-wing Bat which this assessment recommends.

The Minister for Planning concluded that:

"the project can proceed with acceptable environmental effects, providing the modifications recommended herein are implemented together (section 5) with environmental management measures (EMMs) consistent with those endorsed by the IAP and as refined through this

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assessment. In particular, the turbine-free buffers for Brolga and Southern Bent-wing Bat need to be increased and revised buffers should be mapped, in consultation with the Department of Energy, Environment and Climate Action (DEECA), before amended development plans are submitted to me as responsible authority for approval."

The modifications, which have reduced the overall project scale, and the number of proposed wind turbine locations from 59 to 52, have resulted in an amended proposal which is responsive to the findings and recommendations of the Minister's Assessment, and will allow the project to proceed with acceptable environmental effects.

The Handbook has been applied to the project redesign, notably in terms of determining buffer distances and mitigation measures relating to Brolga and Bat impacts. Where the guidance contained within the Handbook varies from the recommendations outlined in the Minister's Assessment, the Handbook has been applied as the most current guidance on managing and avoiding impacts to Brolga and Bat species of concern. This is discussed in detail in section 7.3.4 and 7.3.5 of the Assessment Chapter of this report and in further detail in Appendix C.

4.2.2 Response to the Handbook for the development of renewable energy in Victoria (DEECA, 2025)

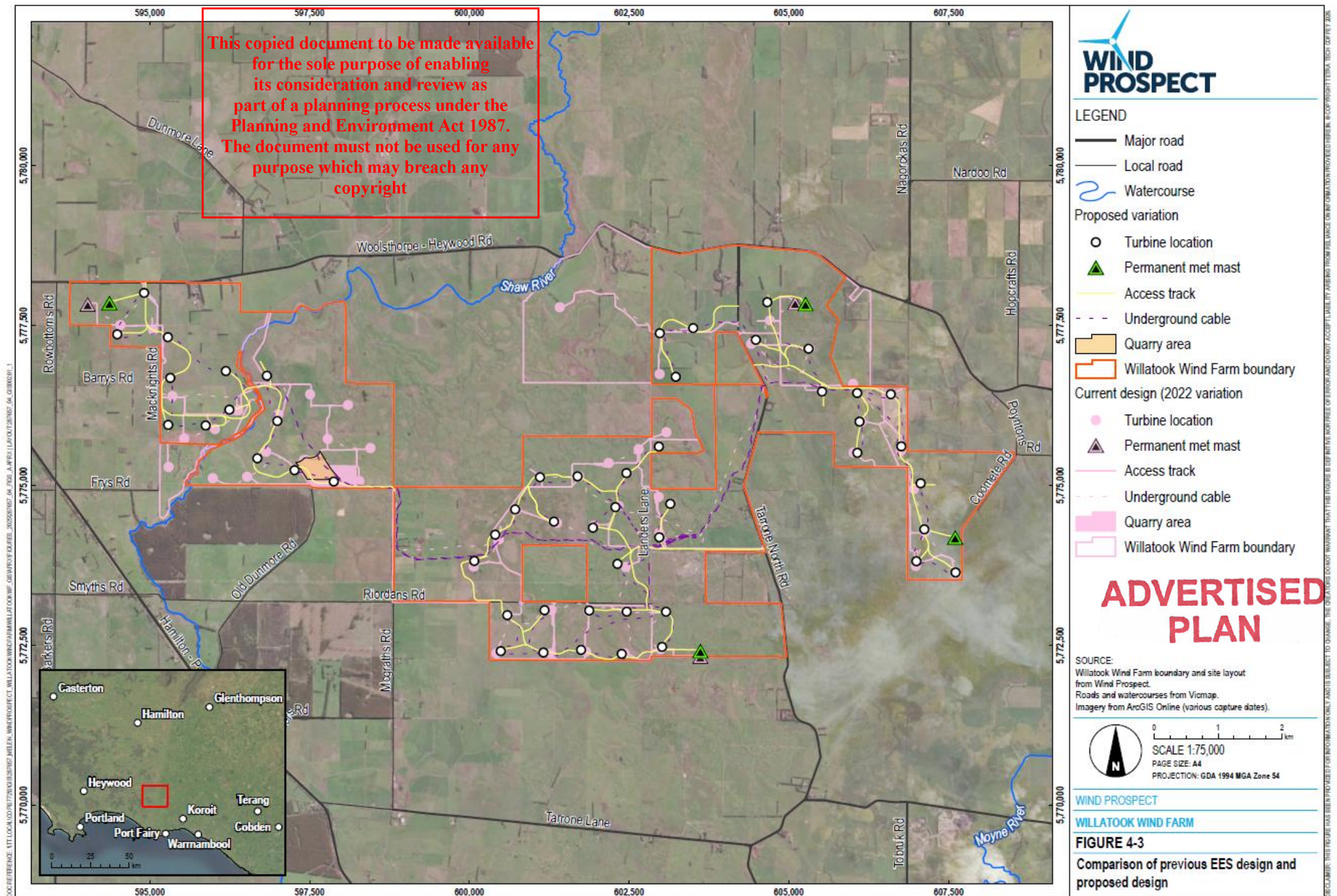
Since the Minister's Assessment, the Victorian Government has undertaken additional technical work and released new biodiversity policy and guidelines that specifically address impacts on biodiversity including Brolga and bats. These policy developments provide further clarity to inform the project's revised design and impact management approach.

The Handbook is supported by *Species Specific Guidance for Onshore Wind Energy Facilities – Victorian Brolga* (as Appendix 2), and *Species Specific Guidance for Onshore Wind Energy Facilities – Bat Species of Concern* (as Appendix 3). Within this document, these are referred to as the 'new Brolga guideline' and 'new bat guideline'.

A summary of the changes made to the project layout and design in accordance with the guidelines contained within the handbook is provided within the assessment of Brolga and Bat impacts. For further detail, please refer to the Brolga and Bat Impact Assessment Reports prepared by Nature Advisory (2026a and 2026b respectively) which accompany this amendment application, and Sections 7.3.4 and 7.3.5 of this planning report. The Handbook Application Report provided at Appendix C demonstrates how the project has applied the handbook, including the general risk-based framework, the guiding principles of its application, and the species-specific guidance for onshore wind energy facilities.

The amended proposal provides a refined wind farm layout, and a reduction to the overall project scale to align with the Minister's recommendations, and the new biodiversity policy that provides the current policy framework for which impacts to threatened species, and more specifically Brolga and Southern Bent-wing Bat, are assessed and managed for onshore wind energy developments in Victoria.

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4.3 Community and Stakeholder Engagement

The project layout has evolved from the analysis of the site opportunities and constraints as well as the feedback from stakeholders and the community regarding the project. Extensive engagement has been undertaken with relevant authorities and stakeholders to inform the technical assessments which accompany this planning application.

4.3.1 Community Consultation

Community Engagement was shaped by *Community Engagement and Benefit Sharing in Renewable Energy Development: A Guide for Renewable Energy Developers* (Lane and Hicks, 2017) and the guideline published by DELWP (now DEECA) in late July 2021 (*Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria: A Guide for Renewable Energy Developers*). Both documents provide guidance to renewable energy developers about how to carry out best practice community engagement and develop a benefit sharing program.

Community and stakeholder engagement started in 2010 during the project feasibility stage and included the distribution of newsletters to dwellings within ten kilometres of the project. A neighbour doorknock of properties was carried out within three kilometres of the project site and local organisations and businesses were contacted to let them know about the project. A community engagement committee with local representatives was established around that time by the Moyne Shire Council.

Since this time, the extent of engagement efforts has varied as a result of policy and project uncertainty during 2014, and the coronavirus (COVID-19) pandemic which impacted the ability to carry out in-person engagement activities through much of 2020 and 2021.

Following the referral of the project to the Victorian Government in September 2018, and the determination that an EES was the appropriate assessment pathway for the project, continued engagement with the local community occurred in the form of open days, a shop front in Koroit, and doorknocks to near dwellings.

Recent engagement efforts have been informed by the recently released *draft community engagement and social value guidelines for renewable energy and transmission projects*, which were developed by VicGrid and DEECA. The draft guidelines set expectations for renewable energy developers in terms of engagement with communities and Traditional owners, and in how social value and economic benefits are delivered.

VicGrid's draft guidelines sets seeks to provide clarity to developers on engagement expectations, and the creation of economic and social value for renewable energy and transmission projects. Expected engagement outcomes include:

- Stronger, longer-term relationships
- Enhanced knowledge sharing
- Increased participation
- Informed decision-making
- Tailored solutions

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- Effective communication
- Risk mitigation
- Fair and transparent negotiations
- Empowerment and self-determination
- Equitable relationships between developers, community, traditional owners and landholders
- Increased collaboration and collective impact of social and economic benefit opportunities.

Future engagement efforts for the project will continue to have regard for these guidelines, noting they will be enforced by VicGrid through the Victorian Access Regime and the procurement processes for transmission projects once finalised.

Other guidance documents which have been considered as part of the engagement efforts undertaken for the project include:

- *Planning Guidelines for Development of Wind Energy Facilities*(Planning Guidelines) (DTP, 2023)
- *Best practice charter for Renewable Energy Developments* (Clean Energy Council, 2021)
- *Environment Effects Act 1978: EES Consultation Plan Advisory Note* (Victorian Government, 2024)
- *Community Engagement Guidelines for the Australian Wind Industry* (Clean Energy Council, 2018).

All near neighbours within six kilometres of proposed wind turbines have been kept informed and provided with the opportunity to get involved via newsletters, doorknocks and other forms of engagement.

Engagement activities are summaries in Figure 4-4 below.

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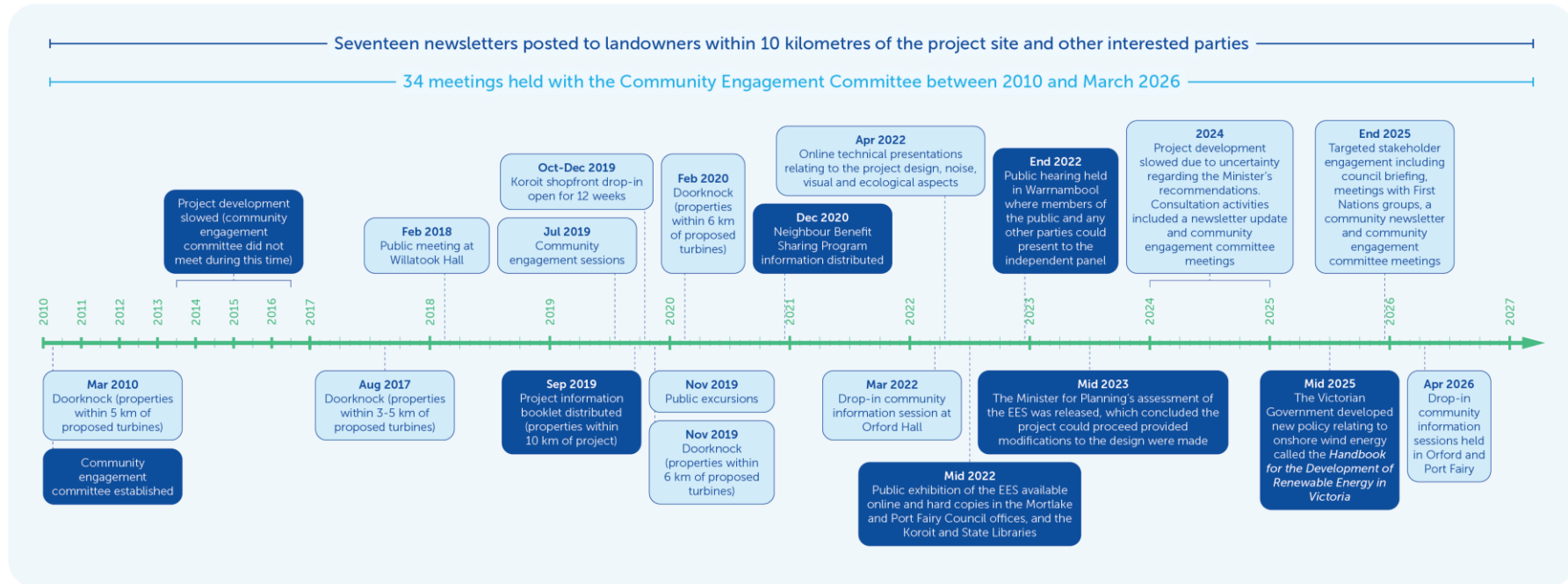


Figure 4-4 Engagement Activities

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5 Legislative Context

There are several approvals required for the project under a variety of acts and legislative instruments including the relevant Planning Schemes within which the project and associated works are proposed. This section outlines the key approvals required for the project. It is grouped into sections, being:

- Project approvals context and history
- Principal approvals and assessments
- Other relevant legislation
- Supporting energy policies and guidelines

This request is to amend Planning Permit PA2201620, therefore the focus of the planning assessment and accompanying reports has been on those matters that have changed since the consideration of the permit through the Environment Effects Statement (EES) process.

Additionally, this section discusses the approvals and assessment pathway that the project has undertaken to date, which includes an assessment by the Minister for Planning under the *Environment Effects Act 1978* (EE Act). It outlines relevant policy and guidelines changes relevant to the project, including consideration of the “Handbook for the development of renewable energy in Victoria”.

5.1 Project approvals context and history

The project was referred to the Minister for Planning (the Minister) in October 2018 under the EE Act. On 27 December 2018, the Minister determined an EES was required due to the potential for the project to have significant impacts on the environment and community.

The EES for the project was prepared between 2019 and 2022, and publicly exhibited from 4th July – 12th August 2022. An independent Inquiry and Advisory Panel (IAP) was appointed by the Minister for Planning to hear submissions and assess environmental effects under both the EE Act and the P&E Act.

The IAP held public hearings from 11th October to 7th November 2022, and provided its report on 16th January 2023. This report, together with the EES, technical reports, public submissions, and relevant legislation, informed the Minister’s assessment, which was released on 21 July 2023.

The Minister’s assessment found that the project can proceed with acceptable environmental effects, subject to a number of conditions and environmental management measures, notably including increased buffer zones for Brolga and the Southern Bent-wing Bat habitat areas. This is detailed in the Brolga Impact Assessment, and the Bat Impact Assessment submitted in support of this amendment application.

A summary of the findings and recommendations from the Minister’s Assessment is included in Appendix D.

Since the conclusion of the EES process, the Victorian Government has undertaken further work to develop new biodiversity policy specifically relating to onshore wind energy, with the publication of the *Handbook for the Development of Renewable Energy in Victoria – Guidance to Avoid, Minimise,*

Mitigate and Compensate for Impacts on Threatened Bird and Bat Species (DEECA 2025) (the Handbook). The handbook provides formal guidance for onshore wind energy on risk mitigation for threatened species, and specifically Brolga and bats. These policy developments have provided further clarity to inform the project's revised design and impact management approach. The Handbook commenced on the day it is published on DEECA's website. For further details on how the project has applied the Handbook, please refer to the Handbook Application Document provided at Appendix C.

This request to amend the planning application and the accompanying assessments have considered:

- The recommendations contained within the Minister's assessment,
- The risk based assessment framework applied through the Handbook,
- The relevant planning provisions of the Moyne Planning Schemes as they relate to this request for an amendment to the existing planning permit application PA2201620 (this application) Principal approvals and assessments.

5.1.1 Planning and Environment Act 1987

The purpose of the *Planning and Environment Act 1987* (P&E Act) is to establish a framework for regulating the use and development of land in Victoria. The P&E Act sets out the structure and administration of planning in Victoria and authorises the preparation, adoption and approval of planning schemes and planning scheme amendments.

The Minister for Planning is the Responsible Authority for planning permit applications for energy generation facilities with an installed capacity of 1 megawatt or greater in Victoria.

5.1.2 Aboriginal Heritage Act 2006 and Aboriginal Heritage Regulations 2018

In Victoria, Aboriginal cultural heritage is protected by the Aboriginal Heritage Act 2006 (AH Act) and the Aboriginal Heritage Regulations 2018 (AH Regulations). In accordance with s.49 of the AH Act, a Cultural Heritage Management Plan (CHMP) is required for any project requiring an EES under the EE Act.

In addition to the EES process requiring the preparation of a CHMP, other CHMP triggers relevant to the project are:

- The project site is located within areas of cultural heritage sensitivity, defined under Division 3 of the AH Regulations
- The project is a 'high impact activity' as it involves "the construction of a building or the construction or carrying out of works for a specified use, land used to generate electricity, including a wind energy facility"
- Part or all of the project site has not been subject to previous significant ground disturbance as defined by the AH Regulations.

The western portion of the project is located in an area over which the Eastern Maar Aboriginal Corporation and the Gunditj Mirring Traditional Owners Aboriginal Corporation exercise joint responsibility as Registered Aboriginal Parties (RAPs) under the AH Act. The remainder of the project is located in an area over which the Eastern Maar Aboriginal Corporation exercise exclusive RAP status in line with a decision of the Victorian Aboriginal Heritage Council on 6 February 2020.

If a CHMP is required under the AH Act, the responsible authority cannot issue a planning permit until it receives a copy of the approved CHMP (Sub-sections 52(1) and (2)). A planning permit cannot be granted for an activity that is inconsistent with an approved CHMP (Sub-section 52(3)).

A CHMP (No. 11090) was prepared for the project by Ecology and Heritage Partners (EHP) in accordance with Part 4 of the AH Act. It was requested by the Department of Environment, Land, Water and Planning (DELWP – now DEECA) and First Peoples – State Relations Group that the CHMP was not publicly exhibited as part of the EES or planning permit application processes for the project.

The CHMP is currently being amended to reflect the updated project layout and is well advanced.

5.1.3 Mineral Resources (Sustainable Development) Act 1990

The option to develop an on-site quarry to supply materials to construct internal access tracks, hardstand areas, and turbine foundations is being considered. *The Mineral Resources (Sustainable Development) Act 1990* (MRSD Act) regulates mineral exploration, mining and extractive activities in Victoria, including quarrying.

The extraction of stone requires a work authority under Section 77I of the MRSD Act, regulated by Earth Resources Regulation (ERR) (part of the Department of Jobs, Precincts and Regions), Victoria's regulator of quarrying activities.

To obtain a work authority, the project must prepare a work plan for the proposed quarry under Section 77G of the MRSD Act, which includes a rehabilitation plan and a community consultation plan. This work plan requires approval by ERR. The work plan must meet all prescribed criteria in the MRSD Act, consider relevant requirements specified in the Minister's assessment, and include a review by relevant agencies (e.g., Environment Protection Authority Victoria (EPA Victoria), Moyne Shire Council, First Peoples – State Relations, catchment and water authorities) before it is approved, and quarrying can commence.

The use of groundwater extracted from the quarry requires a separate permit from Southern Rural Water to take and use that water.

5.1.4 Planning guidelines for development of wind energy facilities (Victorian Government, 2023)

The planning guidelines for development of wind energy facilities are a reference document listed under Clauses 1901 Renewable Energy and 52.32 Wind Energy Facility. The Policy and Planning Guidelines recognise Victoria's abundant wind resources that will support a largescale grid of

connected wind energy facilities which can contribute to the sustainable delivery of Victoria's future energy needs.

The guidelines seek to provide:

- A framework to provide a consistent and balanced approach to assist the assessment of wind energy projects
- A set of consistent operational performance standards to inform the assessment and operation of a wind energy facility project
- Guidance as to how planning permit application requirements might be met, and
- A framework for the regulation of wind turbine noise.

The Policy and Planning Guidelines provide advice for responsible authorities, proponents, applicants, and the community to provide guidance about suitable sites to locate wind energy facilities, and to inform planning decisions about a wind energy facility project.

The Policy and Planning Guidelines outline what information and assessment should be provided with an application for a wind energy facility.

These considerations include:

- Consistency with the Planning Policy Framework.
- Noise impacts – The project must submit a pre-construction noise assessment, demonstrating compliance with the New Zealand Standard NZS6808:2010, Acoustics - Wind Farm Noise. There are mandatory conditions which must appear on any permit that may be issued.
- Blade glint, shadow flicker and electromagnetic interference – Blades should be finished with a surface treatment of low reflectivity to ensure that glint is minimised. The shadow flicker experienced immediately surrounding the area of a dwelling must not exceed 30 hours per year as a result of the operation of the facility. The potential for electromagnetic interference should be minimised through turbine siting and design.
- Landscape and visual amenity - To reduce visual impact, the Guidelines suggest measures such as minimising views from areas used for recreation and for dwellings, spacing wind turbines to respond to the landscape characteristics, protecting waterways and drainage lines, minimising removal of vegetation, constructing wind turbines at a consistent in height, ensuring wind turbines rotate in the same direction and limiting night lighting.
- Flora and fauna and removal of native vegetation – The Responsible Authority needs to consider the survey effort made to support the application and what efforts may be made to protect native vegetation in the future. The extent and type of native vegetation to be removed is to be considered. Additionally, consideration should be given to the potential loss of habitat of species protected under the EPBC Act or the FFG Act, and the sensitivity of any protected species to disturbance.
- Aircraft safety - The Responsible Authority will assess whether appropriate consultation has been undertaken with the Civil Aviation Safety Authority (CASA) and with any other private airstrip operators that may not be identified by CASA.

5.1.5 Guidelines for the removal, destruction or lopping of native vegetation

The Guidelines for the removal, destruction or lopping of native vegetation (Native Vegetation Guidelines) (V1.1, DEECA, 2025) provide a three-step approach to native vegetation:

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 from the removal, destruction or lopping of native vegetation.

The Native Vegetation Guidelines are incorporated at Clause 72.04 of the Planning Scheme and forms part of Clause 52.17.

The construction of the project would require the removal of some native vegetation and is required to achieve net zero loss of vegetation. In accordance with these guidelines, as well as the EPBC Act and FFG Act, the project would use appropriate offsets where native vegetation removal cannot be avoided.

5.1.6 Design Guidelines and Model Requirements for renewable energy facilities

The purpose of the *Design Guidelines and Model Requirements for Renewable Energy Facilities v4.4* (2023, updated 2025) (CFA Guidelines) is to provide standard considerations and measures in relation to fire safety, risk, and emergency management to be considered when designing, constructing and operating new renewable energy facilities and utility installations, and upgrading existing facilities. The CFA Guidelines are designed to:

- Reduce the occurrence and consequences of fire at renewable energy facilities through risk-based design and enable safe and effective emergency response through the provision of fire protection systems.
- Inform fire and risk management processes for all phases of a facility's lifespan, through the preparation of RMPs and FMPs by facility operators.
- Support operators to prepare EMMPs that effectively consider bushfire.
- Support the preparation of planning applications and their assessment by authorities.

The CFA Guidelines set out design guidelines and model requirements in relation to matters such as emergency vehicle access, firefighting water supply, fire protection systems, landscape screening and on site vegetation, fire breaks, separation of solar panel banks. Regarding these and other matters, the CFA recommend that facility operators develop a Fire Management Plan and Emergency Management Plan.

In the planning context, CFA's involvement may be in response to a notice from the responsible authority for CFA's consideration and comment. If this occurs, this document outlines the design requirements CFA is likely to include in response to council's notice.

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In relation to wind energy facilities, the CFA Guidelines recommend the following measures in relation to the siting of wind energy facilities:

- Where practicable, wind energy installations can be sited on open grassed areas (such as grazed paddocks). Vegetation is to be managed as per the requirements of the guideline, or as informed through a risk management process.
- Wind turbines are to be located no less than 300 metres apart. This provides adequate distance for aircraft to operate around a wind energy facility given the appropriate weather and terrain conditions. Fire suppression aircraft operate under visual flight rules. As such, fire suppression aircraft only operate in areas where there is no smoke and can operate during the day or night.
- Installed weather monitoring stations can be high and difficult to see and are hazardous to CFA flight operations during fires. CFA requires the following in relation to the installation of these monitoring stations:
 - Monitoring towers higher than 100 feet must be clearly marked and guy wires fitted with markers.
 - The installation must be notified to CFA and Geoscience Australia (for inclusion in the Vertical Obstruction Database).

Among other things, the CFA Guidelines also stipulate the following requirements in relation to the operation and maintenance of wind energy facilities:

- Wind turbine manufacturers must provide specifications for safe operating conditions for temperature and wind speed.
- A wind energy facility emergency management plan must include maximum operational wind speed and temperature conditions and operating procedures to limit fire risk.

It is noted that part of the subject site is within a Bushfire Prone Area under the *Building Act 1993* (Vic), being likely to be subject to bushfires, similar to most areas in the state of Victoria. The Bushfire Management Overlay (BMO) also applies to parts of the site, noting that there are no works in the BMO area and that there is no relevant permit trigger associated with the BMO.

5.1.7 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects matters of National Environmental Significance. The objectives of the EPBC Act are as follows:

- To provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance
- To promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources
- To promote the conservation of biodiversity
- To provide for the protection and conservation of heritage

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- To promote a cooperative approach to the protection and management of the environment involving governments, the community, landholders and Indigenous peoples
- To assist in the cooperative implementation of Australia's international environmental responsibilities
- To recognise the role of Indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- To promote the use of Indigenous peoples' knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge.

Under the EPBC Act assessment and approval is required for actions that are likely to have a significant impact on:

- A matter of national environmental significance
- The environment of Federal land (even if the action is taken outside Federal land); and
- The environment anywhere in the world (if the action is undertaken by the Federal Government).

An action includes a project, development, undertaking, activity, or series of activities. When a person proposes to take an action they believe may need approval under the EPBC Act, they must refer the project to the Australian Minister for the Environment by submitting a completed Referral Form to the Department.

Federal agencies are also required to consider advice before authorising certain actions. The Minister may exempt a person from the requirement to undergo an environmental assessment and/or obtain approval, if it is considered in the national interest to do so.

The project was referred to the Commonwealth Department of the Environment and Energy under the EPBC Act (Ref EBPC 2019/8439) on 30 April 2019. With a restructuring of Commonwealth Government departments, the EPBC Act is now administered by the Department of Climate Change, Energy, the environment and Water (DCCEEW). On 12 June 2019 a delegate for the Minister for the Environment determined the project was a 'controlled action'. The relevant controlling provisions are listed threatened species and communities (Section 18 and 18A). In particular, the species of concern were:

- Southern Bent-winged Bat
- Seasonal Herbaceous (Freshwater) of the temperate Lowland Plains
- Growling Grass Frog
- A range of nationally-listed plant species.

The Commonwealth Minister for the Environment's delegate determined that "the project will be assessed under the assessment bilateral agreement with Victoria". Under the bilateral agreement, the Victorian Minister for Planning's assessment of the environmental effects of the project will be provided to the Commonwealth Minister for the Environment to inform the approval decision in relation to the EPBC Act.

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5.2 Other relevant legislation

5.2.1 Environmental Protection Act 2017

The project is being developed under the provisions of the *Environment Protection Act 2017* (EP Act), which sets out the legislative framework for the protection of human health and the environment from pollution and waste in Victoria. Pursuant to the EP Act, the project will be required to minimise risks of harm to human health and the environment from any pollution or waste so far as reasonably practicable. 'Pollution and waste' are very broadly defined.

EPA Victoria are the primary regulator for water discharges from mining and quarrying activities and advises ERR in its assessment of the quarry work plan on air discharges, noise and waste management, and environmental management conditions related to waste and pollution.

On 1 June 2022, the Environment Protection Amendment Regulations 2022 came into effect (under the EP Act) to amend the Environment Protection Regulations 2021 to specify matters relating to wind turbine noise from wind energy facilities, and provisions for wind turbine noise regulation. These regulations address the General Environmental Duty to minimise harm to human health and the environment.

5.2.2 Heritage Act 2017

The *Heritage Act 2017* regulates the protection and conservation of places and objects of heritage significance listed in the Victorian Heritage Register and archaeological sites and relics listed in the Victorian Heritage Inventory.

Under the *Heritage Act 2017*, a permit is required from Heritage Victoria to carry out works and activities in relation to a registered place or registered object. No approvals are expected to be required for the project under the *Heritage Act 2017* unless unexpected historic archaeological material is detected during construction. In this instance, consent from Heritage Victoria would be required.

5.2.3 Water Act 1989

Victoria's *Water Act 1989* promotes the orderly, equitable and efficient use of water resources to ensure that water resources are conserved and properly managed for sustainable use for the benefit of present and future Victorians. The *Water Act 1989* regulates the impacts on and use of surface water and groundwater.

The project may require a licence to take and use water (e.g., for the quarry) or to construct a bore. If either of these were a preferred option for the supply of water during construction, the project would require approval from Southern Rural Water under Section 51 of the *Water Act 1989*.

The project will include a crossing over Shaw River, as well as other waterway crossings associated with the transmission cables and access tracks. A licence to construct works across any designated waterway would require a works on a waterway licence from Glenelg Hopkins Catchment Management Authority (CMA), pursuant to Section 67 of the *Water Act 1989*.

5.2.4 Flora and Fauna Guarantee Act 1988 and Flora and Fauna Guarantee Amendment Act 2019

The *Flora and Fauna Guarantee Act 1988* (FFG Act) provides a framework for biodiversity conservation in Victoria. The FFG Act provides for the listing of threatened species, communities of flora and fauna and potentially threatening processes. A number of non-threatened flora species are also protected under the FFG Act. The *Flora and Fauna Guarantee Amendment Act 2019* came into effect on 1 June 2020 and strengthens the framework for the protection of Victoria's biodiversity.

A permit from DEECA (formerly DELWP) is required to remove species protected under the FFG Act from public land and for impacts to 'critical habitat' on private land.

5.3 Energy related policies and guidelines

5.3.1 Victorian Transmission Plan (VicGrid, 2025)

The Victorian Transmission Plan was recently released by VicGrid, and outlines the first long-term strategic plan for transmission and renewable energy zone development in Victoria. The plan was formally introduced into the Planning Scheme through the recent Amendment VC268, which specifically updated Clause 19.01-1S (Energy Supply) and Clause 19.01-2S (Renewable Energy) of the Victoria Planning Provisions.

The Victoria Transmission Plan sets out the new energy infrastructure required to meet Victoria's renewable energy targets, with a focus on minimising impacts to communities, landholders and Traditional Owners.

The key features of the plan include:

- Proposed renewable energy zones: 5 designated areas across Victoria which are most suitable to host new renewable energy generation.
- Proposed Gippsland Shoreline Renewable Energy Zone; and
- Transmission network upgrades: Proposed transmission projects from 2025-2040, including upgrades to existing terminal stations, to reconstruction existing transmission infrastructure, and 4 new transmission projects.

5.3.2 Renewable Energy Zone Orders

Renewable energy Zones (REZ) are strategic areas which seek to direct investment and development of renewable energy projects in suitable areas which have been designed with consideration for factors such as:

- Access to existing or planned transmission infrastructure
- Impacts on the environment and biodiversity
- Potential for co-existence of farming practices with renewable projects
- Access to wind and sunshine
- Impacts on local communities and Traditional Owners

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Through an 18-month process of consultation and technical assessment, VicGrid has proposed 5 onshore REZ as part of the 2025 Victorian Transmission Plan. Draft orders have been issued for the Western, Central Highlands, Gippsland, North West and South West REZ, as well as the Gippsland Shoreline REZ.

Each draft order includes a zone map, associated transmission projects, and intended hosting capacity supported by the planned transmission network. Developers within the zones will be required to meet government expectations for community engagement and deliver social and economic value.

Zone boundaries are still in draft and will be finalised by aligning them with existing administrative or physical boundaries such as roads, local government areas or planning zones.

We expect the project will be located within the section of the South West REZ that is south-east of Hamilton between Macarthur and Darlington once REZ boundaries are formally gazetted.

5.3.3 Victoria's Climate Change Strategy 2026-2030

Victoria's Climate Change Strategy 2026-2030 sets a five-year roadmap under the *Climate Action Act* to guide the transition toward a net-zero, climate resilient state by 2045. The strategy includes emissions reduction targets of 45-50% below 2005 levels by 2030, and 75-80% by 2035, and outlines a clear intention for major investment to accelerate renewable energy adoption, energy efficiency, and support for industries and households to electrify and decarbonise.

Victoria's offshore wind energy targets include at least 2GW by 2032, 4GW by 2035, and 9GW by 2040. The strategy explicitly supports growth of the onshore wind sector as a key component toward meeting Victoria's emissions reduction targets, and recognises the associated benefits of growth in the renewable energy sector in terms of economic growth, employment opportunities, and lower energy costs, as well as a more resilient energy system.

5.3.4 Great South Coast Regional Growth Plan 2014

Regional Growth Plans cover eight regions in Victoria and, together with Plan Melbourne 2017-2050, provide a land use planning framework for Victoria. Of the regional plans, the *Great South Coast Regional Growth Plan* (2014) covers the project site and Moyne Shire, as well as the municipalities of Corangamite, Glenelg, Southern Grampians and Warrnambool.

The *Great South Coast Regional Growth Plan* outlines opportunities for growth during the next 30 years, with the vision to "create a thriving, multifaceted and resilient economy, while valuing and managing our natural resources and environment". A key strategic direction of the plan is to position the Great South Coast for economic growth, with renewable energy (including wind energy) identified as a major opportunity for the region. Land use policies, strategies and actions outlined in the plan in relation to alternative energy production (i.e., energy generated from renewable sources and natural gas) include:

- support the development of energy facilities in appropriate locations where they take advantage of existing infrastructure and provide benefits to the regional community

- Require the protection and proper maintenance of infrastructure and assets, including local roads, during the development and construction of energy projects
- Plan for and sustainably manage the cumulative impacts of alternative energy development
- Secure access to key construction material resources in the region, including on-site quarrying.

5.3.5 Moye Shire's Council Plan 2025-2029

The *Moyne Shire's Council Plan 2021–2025* includes strategic objectives relating to renewable energy, including to:

- Leverage the benefits of renewable energy

Strategies to achieve this objective include advocating for improved outcomes and increased benefit for community and individuals from the renewable energy sector, exploring innovative partnership opportunities with industry, government and the community, and participating in setting standards for the sector, drawing on experiences with development.

In turn, this will contribute toward:

- An increase in funding for community benefit projects from renewable energy operations
- An increase in participation of renewable energy programs and offerings
- A decrease in the number of Council enforcement matters

5.3.6 Climate Action Act 2017

The *Climate Action Act 2017* (CA Act) provides Victoria with the legislative foundation to manage climate change risks, maximise the opportunities that arise from decisive action, and drive our transition to a climate-resilient community and economy with net-zero emissions by 2050.

It sits alongside other key Victorian Government energy and climate change initiatives including Victoria's Climate Change Framework and the Victoria's Renewable Energy Action Plan.

Among other purposes, the CA Act sets a long-term greenhouse gas emissions reduction target, provides for the setting of 5-yearly interim greenhouse gas emissions reduction targets; facilitates the consideration of climate change issues, and sets policy objectives and guiding principles to inform decision-making.

Section 6 states that for the purposes of the CA Act, “the long-term emissions reduction target for the State is an amount of net zero greenhouse gas emissions by the year 2045”. Section 20 states, “the Government of Victoria will endeavour to ensure that any decision made by the Government and any policy, program or process developed or implemented by the Government appropriately takes account of climate change if it is relevant by having regard to the policy objectives and the guiding principles”.

The relevant Victorian Renewable Energy Targets, as legislated in the Renewable Energy (Jobs and Investment) Act 2017 (Vic) include:

- 25% by 2020 (achieved)
- 40% by 2025

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- 65% by 2030
- 95% by 2035.

5.3.7 Renewable Energy (Jobs and Investment) Act 2017

As legislated in the *Renewable Energy (Jobs and Investment) Act 2017* (REJI Act), Victoria's renewable energy targets are:

- 25% by 2020 (achieved)
- 40% by 2025
- 65% by 2030
- 95% by 2035.

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Meeting these targets will:

- Create investment in new renewable energy projects in Victoria.
- Support the reliability of Victoria's electricity supply.
- Create thousands of jobs.
- Put downward pressure on electricity prices.
- Reduce emissions from electricity generation.

The *REJI Act* is a key piece of legislation designed to promote sustainable energy for Victoria's future through investment in the renewable energy industry, and the creation of jobs within this industry.

5.3.8 Electricity Industry (Victoria) Act 2005

The *Electricity Industry (Victoria) Act 2005* establishes the legislative framework for electricity generation, transmission, and distribution in Victoria. Amendments to the Act provide the statutory basis for the identification and implementation of Renewable Energy Zones (REZs), which are areas prioritised for coordinated renewable energy development, including wind, solar, and storage projects.

The Willatook Wind Farm is located within the South West Renewable Energy Zone, as nominated in the Victorian Transmission Plan. While the Act does not alter the requirements for planning permits or environmental approvals, the inclusion of the project within a REZ demonstrates alignment with the State's strategic objectives for renewable energy development and grid connection. This provides context for transmission planning and supports the efficient integration of the project into Victoria's electricity network.

5.3.9 Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria: A guide for renewable energy developers

This guide sets the Victorian Government's expectations for leading practice community engagement and benefit sharing across all renewable energy technologies. Sections 1 and 2 provide renewable energy developers with detailed information about community engagement and benefit sharing and explain why both are important to secure a strong social license to operate (SLO).

Renewable energy developers are encouraged to draw on local expertise and knowledge to inform their plans, including the experience of Traditional Owner groups and Aboriginal Victorians. The document encourages best practice engagement and discusses Community Benefit Sharing.

VicGrid have recently released the draft community engagement and social value guidelines for renewable energy and transmission projects, which were developed by VicGrid and DEECA. The draft guidelines set expectations for renewable energy developers in terms of engagement with communities and Traditional owners, and in how social value and economic benefits are delivered. The guidelines are still in draft, however when finalised they will be enforced by VicGrid through the Victorian Access Regime and the procurement processes for transmission projects.

5.4 Other Planning Schemes

The landscape visual impact assessment undertaken for the project is required to consider the broader landscape. Relevant Clauses of other Planning Schemes applicable to the project include:

- Southern Grampians Planning Scheme – Clause 02.03-2 Environmental and Landscape Values
- Glenelg Planning Scheme – Clause 12.05-2L Landscapes
- Warrnambool Planning Scheme – Clause 02.03-2 Environmental and Landscape Values.

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6 Planning Provisions

6.1 Moyne Planning Scheme

The project site is located within the Moyne Shire and is subject to the provisions of the Moyne Planning Scheme. The scheme sets out the permit triggers and policy considerations for any planning application for a wind farm and associated infrastructure. Responsible authorities must consider the matters outlined in the scheme when administering the use and development of land and their impacts as relevant to the EES. Planning Schemes are prepared, approved and implemented under the P&E Act.

The Moyne Planning Scheme and the Planning Policy Framework seek to ensure the objectives of planning in Victoria (as set out in section 4 of the P&E Act) are fostered through appropriate land use and development planning policies and practices which integrate relevant environmental, social and economic factors in the interests of net community benefit and sustainable development.

The objectives of planning in Victoria as set out in the P&E Act are:

- a) to provide for the fair, orderly, economic and sustainable use and development of land
- b) to provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity
- c) to secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria
- d) to conserve and enhance those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value
- e) to protect public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community
- f) to facilitate development in accordance with the objectives set out in paragraphs a), b), c), d) and e)
- g) to facilitate the provision of affordable housing in Victoria
- h) to balance the present and future interests of all Victorians.

The following section outlines the key provisions of the Moyne Planning Scheme that relate to the project.

6.2 Land use definition

The land use for the project works is defined under Clause 73.03 (Land use terms) of the Moyne Planning Scheme as:

Wind energy facility: Land used to generate electricity by wind force. It includes land used for:

- a. any turbine, building or other structure or thing used in or in connection with the generation of electricity by wind force
- b. an anemometer.

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This land use is applicable to the wind turbines, access tracks and ancillary facilities, and meteorological monitoring masts.

Utility installation: Land used:

- a. to transmit, distribute or store power, including battery storage.

This land use is applicable to the battery energy storage system and on-site substation.

Earth and energy resources industry: Land used for the exploration, removal or processing of natural earth or energy resources. It includes any activity incidental to this purpose including the construction and use of temporary accommodation.

This land use is applicable to the on-site quarry.

6.2.1 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. This section lists the key policies from the PPF that are relevant to the project.

Clause 11.01-1S Settlement

The objective of this clause is to promote sustainable growth and development of Victoria and deliver choice and opportunity for all Victorians through a network of settlements and supporting infrastructure. The relevant strategies include to develop sustainable communities through supporting access to jobs, services, infrastructure and community facilities.

Clause 11.01-1R Settlement – Great South Coast

The objective of this clause is to attract more people to the region. Relevant strategies include to support development and investment in small towns that are facing economic and population challenges.

Clause 11.02-1S Supply of urban land

The objective of this clause is to ensure a sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses. Relevant strategies include to maintain access to productive natural resources and an adequate supply of well-located land for energy generation, infrastructure and industry.

Clause 11.03-5S Distinctive areas and landscapes

The objective of this clause is to protect and enhance the valued attributes of identified distinctive areas and landscapes. Relevant strategies include to recognise the unique features and special characteristics of these areas and landscapes and to enhance conservation of the environment, including the unique habitats, ecosystems and biodiversity of these areas. Use and development that could undermine the long-term natural or non-urban use of land is to be avoided.

Clause 12.01-1S Protection of biodiversity

The objective of this clause is to assist the protection and conservation of Victoria's biodiversity. Relevant strategies include ensuring that decision making take into account the impacts of land use and development on Victoria's biodiversity, including consideration of cumulative impacts, the fragmentation of habitat and the spread of pests and weeds.

The impacts of change in land use and development on biodiversity values of national parks and conservation reserves or nationally and internationally significant sites including wetlands should be considered.

Clause 12.01-2S Native vegetation Management

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.

Clause 12.03-1S River corridors, waterways, lakes and wetlands

The objective of this clause is to protect and enhance river corridors, waterways, lakes and wetlands. Relevant strategies include:

- Protect the environmental, cultural and landscape values of all water bodies and wetlands
- Ensure development responds to and respects the significant environmental, conservation, cultural, aesthetic, open space, recreation and tourism assets of water bodies and wetlands
- Ensure development is sensitively designed and sited to maintain and enhance environmental assets, significant views and landscapes along river corridors and waterways and adjacent to lakes and wetlands
- Ensure development does not compromise bank stability, increase erosion or impact on a water body or wetland's natural capacity to manage flood flow.

Clause 12.05-1S Environmentally sensitive areas

The objective of this clause is to protect environmentally sensitive areas with significant recreational value from development that would diminish their environmental conservation or recreational values. This includes coastal areas and their foreshores.

Clause 12.05-2S Landscapes

The objective of this clause is to protect and enhance significant landscapes and open spaces that contribute to character, identity and sustainable environments. Strategies to achieve the objective include:

- Ensure that development does not detract from the natural qualities of significant landscape areas
- Recognise the natural landscape for its aesthetic value as a fully functioning system, and
- Ensure important natural features are protected and enhanced.

Clause 13.01-1S Natural hazards and climate change

The objective of this clause is to minimise the impacts of natural hazards and adapt to the impacts of climate change through risk-based planning. The risks associated with climate change should be considered in planning and management decisions and processes.

Clause 13.02-1S Bushfire planning

The objective of this clause is to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life. This policy applies to all planning and decision making under the P&E Act relating to land within a designated bushfire prone area. The objective is to strengthen the resilience of settlements and communities to bushfire through risk-based planning that prioritises the protection of human life. It identifies a range of matters to consider in bushfire hazard identification and assessment, including consulting with emergency management agencies and the relevant fire authority early in the process to receive their recommendations and implement appropriate bushfire measures.

Clause 13.05-1S Noise Management

The objective of this clause is to assist the control of noise effects on sensitive land uses. This clause seeks to ensure that development is not prejudiced, and community and human health is not adversely impacted by noise emissions, using a range of building design, urban design and land use separation techniques as appropriate to the land use functions and character of the area. The provisions of the *Environment Protection Act 2017* (Vic) (EP Act) and Regulations should be considered as relevant.

Clause 13.07-1S Land use compatibility

The objective of this clause is to protect community amenity, human health and safety while facilitating appropriate commercial, industrial, infrastructure or other uses with potential adverse off-site impacts. Strategies are to ensure that use or development of land is compatible with adjoining and nearby land uses.

Clause 14.01-1S Protection of agricultural land

The objective of this clause is to protect the state's agricultural base by preserving productive farmland. The clause seeks to avoid the permanent removal of productive agricultural land from the state's agricultural base without consideration of the economic importance of the land for the agricultural production and processing sectors. In considering an application for use or development of agricultural land the impacts on continuation of the primary production on adjacent land, with particular regard to land values and the viability of infrastructure for such production should be considered. Another consideration is the compatibility between the proposed or likely development and the existing use and surrounding land.

Clause 14.01-2S Sustainable agricultural land use

The objective of this clause is to encourage sustainable agricultural land use. Relevant strategies include:

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- Ensure agricultural and productive rural land use activities are managed to maintain the long-term sustainable use and management of existing natural resources
- Support the development of innovative and sustainable approaches to agricultural and associated rural land use practices
- Support adaptation of the agricultural sector to respond to the potential risks arising from climate change.

Clause 14.02-1S Catchment planning and management

The objective of this clause is to assist the protection and restoration of catchments, waterways, estuaries, bays, water bodies, groundwater and the marine environment. The relevant strategies seek to ensure that any adverse impacts on water catchments are appropriately managed to maintain water quality for environmental and human use purposes.

Clause 14.02-2S Water quality

The objective of this clause is to protect water quality. Relevant strategies seek to prevent water contamination and ensure incompatible land use activities are avoided in areas subject to water quality disturbances such as flooding, soil degradation, salinity or other hazards.

Clause 14.03-1S Resource exploration and extraction

The objective of this clause is to encourage exploration and extraction of natural resources in accordance with acceptable environmental standards. Strategies include ensuring appropriate buffer areas between extractive activities and sensitive uses, including incorporating performance standards identified in relevant legislation.

Clause 14.03-1R Resource exploration and extraction – Great South Coast

This regional clause builds on the state level provision with the key strategy to facilitate access to key construction material resources in the region, including on-site quarrying.

Clause 15.01-6S Design for rural areas

The objective of this clause is to ensure development respects values areas of rural character. Relevant strategies include ensuring the built form of proposed projects respect the siting, scale and appearance of rural character, protecting visual amenity of valued rural landscapes and character areas and minimising impacts on surrounding natural scenery and landscape features.

Clause 15.03-1S Heritage conservation

The objective of this clause is to ensure the conservation of places of heritage significance and seeks to provide for the protection of natural heritage sites and man-made resources. Development that respects places with identified heritage values is encouraged.

Clause 15.03-2S Aboriginal cultural heritage

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The objective of this clause is to ensure the protection and conservation of places of Aboriginal cultural heritage significance. Relevant strategies include to provide for the protection and conservation of precontact and post-contact Aboriginal cultural heritage places and to ensure that permit approvals align with the recommendations of relevant CHMP approved under the AH Act.

Clause 17.01-1S Diversified economy

The objective of this clause is to strengthen and diversify the economy. A relevant strategy includes to support rural economies to grow and diversify.

Clause 17.01-1R Diversified economy – Great South Coast

This regional clause builds on the state level clause and contains the following relevant strategies:

- Support agricultural as a primary source of economic prosperity and increase the region's contribution to the nation's food production
- Support rural production and associated economic development opportunities including rural industry, rural sales, accommodation and tourism.

Clause 18.01-1S Land use and transport integration

The objective of this clause is to facilitate access to social, cultural and economic opportunities by effectively integrating land use and transport. The relevant strategies seek to make use of existing infrastructure without detriment to the transport system or amenity.

Clause 18.02-4S Road system

The objective of this clause is to facilitate an efficient and safe road network that integrates all movement networks and makes best use of existing infrastructure.

Clause 18.02-7S Airports and airfields

The objective of this clause is to strengthen the role of Victoria's airports and airfields within the state's economic and transport infrastructure, facilitate their siting and expansion and protect their ongoing operation. Relevant strategies include to protect airports from incompatible land uses and to plan the visual amenity and impact of any use or development of land on the approaches to an airfield to be consistent with the status of the airfield.

Clause 19.01-1S Energy supply

The objective of this clause is to facilitate appropriate development of energy supply infrastructure. The strategies to achieve the objectives include:

- Support the development of energy facilities in appropriate locations where they take advantage of existing infrastructure and provide benefits to industry and the community
- Support transition to a low-carbon economy with renewable energy and greenhouse emission reductions including geothermal, clean coal processing and carbon capture and storage

- Facilitate local energy generation to help diversify the local economy and improve sustainability outcomes.

Clause 19.01-2S Renewable energy

The objective of this clause is to promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met. Relevant strategies include to facilitate renewable energy development in appropriate locations and to consider the economic and environmental benefits to the broader community of renewable energy generation while also considering the need to minimise the effects of a proposal on the local community and environment. The clause recognises that economically viable wind energy facilities are dependent on locations with consistently strong winds over the year.

The Policy and Planning Guidelines, and the 2025 Victorian Transmission Plan are listed as reference documents under this clause.

6.2.2 Zones

The project site is primarily within the Farming Zone, with small areas of land affected by the Special Use Zone and Transport Zone, as described in Table 6-1 and shown in Figure 6-1.

Table 6-1 Summary of zoning permit triggers

Planning Zone	Purpose	Relevance to project	Permit trigger
Clause 35.07 Farming Zone – Schedule 1	The purposes of the Farming Zone (FZ) are: • to implement the Municipal Planning Strategy and the Planning Policy Framework • to provide for the use of land for agriculture • to encourage the retention of productive agricultural land • to ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture • to encourage the retention of employment and population to support rural communities • to encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision; and • to provide for the use and development of land for the specific purposes identified in a schedule to this zone.	The project site is primarily within the FZ	A permit is required for: • the use of land and building and works within a Farming Zone for a wind energy facility (which is a Section 2 use) and must meet the requirements of Clause 52.32 (Wind Energy Facility) • a utility installation (which is a Section 2 use) • buildings and works within 100 metres of a waterway. In accordance with Clause 62.01(Uses Not Requiring a Permit), the use of land for earth and energy resources industry (i.e., a quarry) does not require a permit under the Farming Zone if the conditions of Clause 52.08 (Earth and Energy Resources Industry) are met (refer to Section 6.2.6 <i>Earth and energy resources industry</i> below)

Planning Zone	Purpose	Relevance to project	Permit trigger
Clause 37.01 Special Use Zone – Schedule 6	The purposes of the Special Use Zone (SUZ) are: - to implement the Municipal Planning Strategy and the Planning Policy Framework - to recognise or provide for the use and development of land for specific purposes as identified in the schedule to this zone. The purposes of Schedule 6 to the SUZ are: - to facilitate the development and use of a gas-fired power station - to provide for electricity generation using natural gas as the energy source. - to provide for the transmission, distribution and storage of power.	Special Use Zone – Schedule 6 (SUZ6) relates to the Tarrone Power Station	A permit is required within the SUZ6 for use and development of a wind energy facility and utility installation.
Clause 36.04 Transport Zone 2	The purposes of the Transport Zone (TRZ) are: - to implement the Municipal Planning Strategy and the Planning Policy Framework - to provide for an integrated and sustainable transport system. - to identify transport land use and land required for transport services and facilities. - to provide for the use and development of land that complements, or is consistent with, the transport system or public land reservation. - to ensure the efficient and safe use of transport infrastructure and land comprising the transport system	Transport Zone 2 (TRZ2) is for the purpose of the principal road network. Woolsthorpe-Heywood Road is a Transport Zone 2 road. An access point and turn-out from the TRZ2 is proposed. A section of Woolsthorpe-Heywood Road would also require upgrades.	A permit is required for buildings and works within the TRZ2.

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6.2.3 Overlays

Parts of the site are affected by planning overlays, as described in Table 6-2 and shown in Figure 6-1. Overlays apply additional controls to the use and development of land. Overlays apply to land where there are identified special features.

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Table 6-2 Summary of overlay permit triggers

Planning Overlay	Purpose	Relevance to project	Permit trigger
Clause 42.01 Environmental Significance Overlay – Schedule 4 and Schedule 5	The relevant purposes of the Environmental Significant Overlay (ESO) are: - to implement the Municipal Planning Strategy and the Planning Policy Framework - to identify areas where the development of land may be affected by environmental constraints to ensure that development is compatible with identified environmental values The environmental objectives to be achieved under the ESO4 are: - to ensure that the development and use of the Shaw River Power Station not constrained by the establishment of potentially conflicting accommodation uses and developments nearby - to ensure that potential noise impacts are considered in any decision regarding accommodation land use and development to apply acoustic measures in the design of any accommodation developments in proximity to the Shaw River Power Station. The environmental objectives to be achieved under the ESO5 are: - to ensure that the development and use of the Tarrone Power Station is not constrained by the establishment of potentially conflicting accommodation uses and developments nearby - to ensure that potential noise impacts are considered in any decision regarding accommodation land use and development - to apply acoustic measures in the design of any accommodation developments in proximity to the Tarrone Power Station.	The ESOs relate to the permitted Shaw River (Schedule 4) and Tarrone power stations (Schedule 5) within the Special Use Zones. There is no infrastructure associated with the project in the ESO4 however a small patch of “Basalt Shrubby Woodland” is required to be removed. infrastructure associated with the project in the ESO5 includes access tracks, turbines, underground cables, substation, battery energy storage system, operations and maintenance facility, and rid connection infrastructure.	No planning permit is required for the development or use of a wind energy facility or utility installation under the ESO4 and ESO5. However, a permit is required to remove, destroy or lop any vegetation, including dead vegetation.

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Planning Overlay	Purpose	Relevance to project	Permit trigger
Clause 44.06 Bushfire Management Overlay	The relevant purposes of the Bushfire Management Overlay (BMO) are: - to implement the Municipal Planning Strategy and the Planning Policy Framework - to ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire - to identify areas where the bushfire hazard warrants bushfire protection measures to be implemented - to ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.	The BMO affects a small portion of the land in the south-west of the project site. The overlay covers plantation forestry land outside of the project site and extends into the project site by approximately 100 metres in the west of the project site.	The BMO does not trigger a planning permit for the project. An assessment of bushfire safety including against the requirements of the CFA Guidelines is provided in Section 7.5.4 of this report, and in the Risk Management Plan prepared by Fire Risk Consultants..

6.2.4 Additional permit triggers

A range of other planning permit triggers are also relevant to the project as shown in Table 6-3.

Table 6-3 Additional permit triggers

Particular Provision	Purpose	Relevance to project	Permit trigger
Clause 52.05 Signs	The relevant purposes of this clause are: - to regulate the development of land for signs and associated structures. - to ensure signs are compatible with the amenity of visual appearance of an area, including the existing and desired future character. - to ensure signs do not contribute to excessive visual clutter or visual disorder. - to ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance or efficiency of a road.	Business identification signage will be required to identify the project site.	Yes. A permit is triggered for business identification signage.

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Particular Provision	Purpose	Relevance to project	Permit trigger
Clause 52.17 Native Vegetation	This clause 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 Native Vegetation Guidelines: - avoid the removal, destruction or lopping of native vegetation - minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided - 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 project will require the removal of native vegetation both on the project site and the haulage route to the site from the Port.	Yes. A permit is triggered for the removal of native vegetation.
Clause 52.29 Land adjacent to the Principal Road Network	This clause regulates the creation or alteration of access to a road in the Transport Zone 2 (Woolsthorpe-Heywood Road).	The project will require alteration to the road to facilitate the haulage route for over-dimensional vehicles.	Yes. A permit is triggered for the proposed access from Woolsthorpe-Heywood Road.
Clause 52.32 Wind Energy Facilities	This clause regulates the considerations for a wind energy facility.	The project is a wind energy facility and associated infrastructure.	Yes. A permit is triggered for the wind energy facility pursuant to this clause.
Clause 52.33 Post Boxes and Dry Stone Walls	The purpose of this clause is to conserve historic post boxes and dry stone walls.	Dry stone walls will be altered by the project.	Yes. A permit is triggered for alteration of a dry stone wall.

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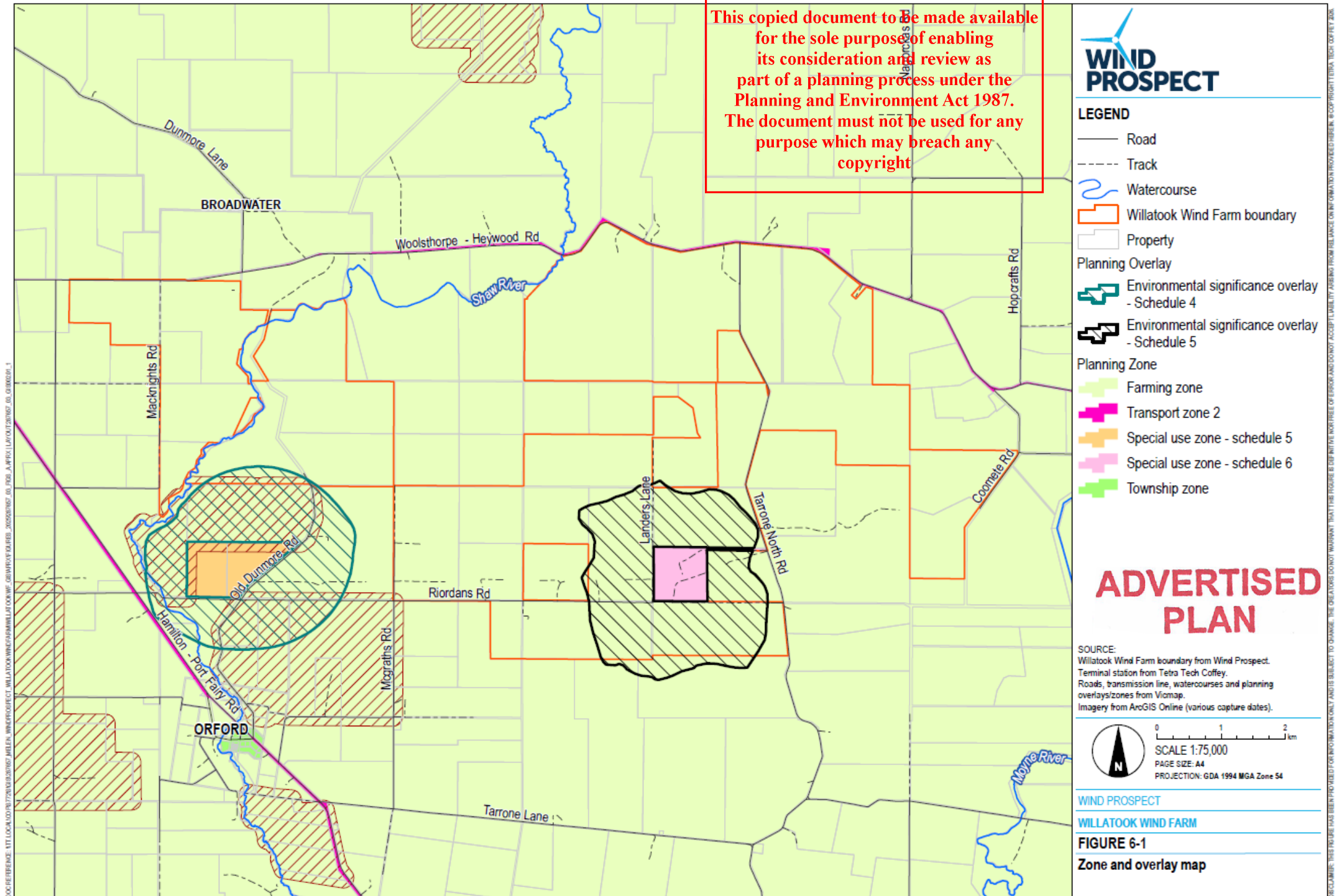


Figure 6-1 Zone and overlay map

6.2.5 Particular Provisions

Particular provisions apply in certain circumstances and are in addition to any zone and overlay controls. There are several particular provisions which are relevant to the project, with the key provision being Clause 52.32 Wind energy facility.

Clause 52.05 Signs

Clause 52.05 regulates the development of land for signs and associated structures. Proposed signage would be within Farming Zone which, under Clause 35.07-7 and Clause 52.05-14, is within Category 4 – Sensitive Areas (maximum limitation).

The purpose of Clause 52.05 Signs is:

to regulate the development of land for signs and associated structures

- To ensure signs are compatible with the amenity and visual appearance of an area, including the existing or desired future character
- To ensure signs do not contribute to excessive visual clutter or visual disorder
- To ensure that signs do not cause loss of amenity or adversely affect the natural or built environment or the safety, appearance or efficiency of a road.

A small business identification sign is proposed to be located at the site main entrance on Tarrone North Road. The detail and dimensions of the sign are shown in the book of plans which accompanies this application (Appendix A). The sign will be non-illuminated, 2 metres by 1.33 metres (total area of 2.66 square metres). The signage will be discrete and typical of similar sized wind farm project across Victoria, compatible with the context and visual appearance of the area. There would be no impact on road safety.

A permit is required to construct business identification signage up to an area of 3 square metres. Business identification signage exceeding 3 square metres is prohibited.

Clause 52.06 Car parking

Clause 52.06 outlines the relevant provisions for car parking under the scheme. No permit is required under this provision as no rate is specified in Table 1 to Clause 52.06-5 for a wind energy facility or utility installation. However, under Clause 52.06-6, before a new use commences, car parking spaces must be provided to the satisfaction of the responsible authority.

This planning application comprises a request for the responsible authority's approval under this clause.

Clause 52.08 Earth and energy resources industry

Clause 52.08 regulates use and development of land for earth and energy resources industry.

A permit is not required for the proposed extractive industry (quarry) under Clause 52.08-1 if the project complies with Section 77T of the MRSD Act.

Section 77T states that a planning permit is not required for the quarry if an EES (including consideration of the quarry) has been prepared under the EE Act, the Minister's assessment of the EES has been submitted to the Minister, and a work authority has subsequently been granted by the Minister.

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 Native Vegetation 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 project construction requires the loss of up to 6.109 hectares of native vegetation, comprising 6.015 hectares of native vegetation in patches (including five large trees in patches), and three small scattered trees (equating to an area loss of 0.094 hectares). Losses of native vegetation and large trees would be offset according to the Native Vegetation Guidelines.

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 (now DEECA) as a recommending referral authority.

Clause 52.29 Land adjacent to the Principal Road Network

Clause 52.29 regulates the creation and alteration of access to main roads. A permit is required to create or alter access to a road in Transport Zone 2 (TRZ2) under Clause 52.29-2.

One access point to the project site from Woolsthorpe-Heywood Road (TRZ2) (approximately 250 metres west of Macknights Road) is proposed to be created/altered triggering this provision.

The relevant purposes of this clause are:

- To ensure appropriate access to the Principal Road Network or land planned to form part of the Principal Road Network.

An application to create or alter access to, or to subdivide land adjacent to, a road declared as a freeway or arterial road under the *Road Management Act 2004*, land owned by the Head, Transport for Victoria for the purpose of a road, or land in a Public Acquisition Overlay if the Head, Transport for

Victoria is the acquiring authority for the land, must be referred to the Head, Transport for Victoria under section 55 of the Act.

Clause 52.32 Wind Energy Facility

Clause 52.32 is a key clause relevant to a wind energy facility application. A permit is required under this clause to use and develop land for a wind energy facility. The purpose of this clause which provides key context for consideration of the application is:

- To facilitate the establishment of expansion of wind energy facilities, in appropriate locations, with minimal impact on the amenity of the area.

The Policy and Planning Guidelines are a reference document under the planning scheme and listed within the decision guidelines under Clause 52.32. Key thematic considerations are noise, blade glint, shadow flicker, electromagnetic interference, landscape and visual impact, flora and fauna, aircraft safety, construction impacts and decommissioning.

This clause is a primary consideration in guiding decision making for wind energy facilities and includes a number of mandatory application requirements. Under Clause 52.32-3, all applications must be accompanied by the consent of the owners of any existing dwellings within 1 kilometre of a wind turbine (measured from the centre of the tower at ground level), including:

- A plan showing all dwellings within 1 kilometre of a proposed turbine, which should include the dwelling, the proposed location of a turbine within 1 kilometre of the dwelling, and the distance between the dwelling and the proposed turbine
- Evidence of the written consent of any owner as at the date of the application of an existing dwelling located within 1 kilometre of a proposed turbine. The evidence of written consent should include the name and address of the owners of the dwelling, the address of and title particulars for the land on which the dwelling is located, and a statement that the owner consents to application being made that includes a turbine(s) located as shown on an attached plan.

Written consent has been obtained from the applicable landowners of dwellings located within 1 kilometre of a proposed turbine, including dilapidated dwellings, and has been provided as part of this amendment application.

Under Clause 52.32-4 all applications must be accompanied by a site and context analysis, and a design response. Clause 52.32-4 also outlines the mandatory requirement for a noise assessment, including:

- A pre-construction (predictive) noise assessment report demonstrating that the project can comply with the New Zealand Standard NZS6808:2010, Acoustics – Wind Farm Noise, including an assessment of whether a high amenity noise limit is applicable under Section 5.3 of the New Zealand Standard
- An environmental auditor appointed under Part 8.3 of the *Environment Protection Act 2017* must prepare a report that verifies if the acoustic assessment undertaken for the purpose of the preconstruction (predictive) noise assessment report has been conducted in accordance with the New Zealand Standard. Accordingly, an Auditor Verification of Pre-Construction Noise Assessment has been prepared by Tonkin & Taylor, and accompanies this amendment application.

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Clause 52.33 Post boxes and dry stone walls

Clause 52.33 aims to conserve historic post boxes and dry stone walls. A permit is required under this clause to alter a dry stone wall along Landers Lane. Under this clause a permit is required to demolish, remove or alter a dry stone wall constructed before 1940 on land specified in the schedule to the provision. All land in Moyne Shire is specified in the schedule to the provision.

This does not apply to:

- The demolition or removal of a section of a dry stone wall to install a gate
- The reconstruction of damaged or collapsing walls which are undertaken to the same specifications and using the same materials as the existing walls.

Impacts to the dry stone wall along Landers Lane will include four new access tracks (gates, no permit required), and four sections of temporary demolition for cabling laying. After cabling laying, these sections of wall would be reconstructed to the condition of the surrounding wall (like for like), however since the wall is not being reconstructed due to being damaged or collapsing, a permit is required.

A dry stone wall assessment and management plan has been developed for the project, and accompanies this amendment application.

6.2.6 General Provisions

General provisions under Clause 60 include various administrative matters, and referral provisions.

The following general provisions relate to the project:

Clause 62.01 Uses Not Requiring a Permit

The use of land for earth and energy resources industry does not require a permit under the Farming Zone if the conditions of Clause 52.08 (Earth and Energy Resources Industry) are met. The project will meet the conditions of Clause 52.08 as outlined in this report.

Clause 65 Decision Guidelines

Pursuant to Clause 65, before deciding on an application or approval of a plan, the responsible authority must consider, as appropriate:

- The matters set out in section 60 of the Act
- Any significant effects the environment, including the contamination of land, may have on the use or development
- The Municipal Planning Strategy and the Planning Policy Framework
- The purpose of the zone, overlay or other provision
- Any matter required to be considered in the zone, overlay or other provision
- The orderly planning of the area
- The effect on the environment, human health and amenity of the area

- The proximity of the land to any public land
- Factors likely to cause or contribute to land degradation, salinity or reduce water quality
- Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site
- The extent and character of native vegetation and the likelihood of its destruction. Whether native vegetation is to be or can be protected, planted or allowed to regenerate
- The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard
- The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts
- The impact the use or development will have on the current and future development and operation of the transport system.

Clause 66 Referral Provisions

Planning Scheme referrals under Clause 66 Referral and Notice Provisions include:

- Clause 66.02-2 Native Vegetation – Secretary to DELWP (now DEECA) – recommending referral authority.
- Clause 66.02-4 Major electricity line or easement – The relevant electricity transmission authority – AusNet Services – determining authority.
- Clause 66.02-7 Industry, utility installation or warehouse – The Victorian WorkCover Authority - WorkSafe Victoria – Determining referral authority
- Clause 66.03 Referral of Permit Applications under other State Standard Provisions - Clause 52.29 Land Adjacent to the Principal Road Network – Head, Transport for Victoria – determining authority.

6.2.7 Operational Provisions

Operational provisions under Clause 70 relate to administration and enforcement of the planning scheme. The following are key operational provisions that relate to the project:

Clause 72.01-1 Responsible Authority for this Planning Scheme.

The Minister for Planning is the responsible authority for this application as it is in relation to the use and development of land for:

- An energy generation facility with an installed capacity of 1 megawatt or greater
- A utility installation used to:
 - transmit or distribute electricity
 - store electricity if the installed capacity is 1 megawatt or greater.

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6.3 Permit Trigger Summary

Based on the above relevant planning controls, a planning permit is required for the project under the following clauses of the Moyne Planning Scheme:

- Clause 35.07 (Farming Zone): Use and development of a wind energy facility, use and development of a utility installation, and buildings and works (culvert crossings) within 100 metres of a waterway.
- Clause 36.04 (Transport Zone): Buildings and works associated with a wind energy facility and utility installation.
- Clause 37.01 (Special Use Zone Schedule 6): Use and development of a wind energy facility, and use and development of a utility installation.
- Clause 42.01 (Environmental Significance Overlay Schedule 4 and 5): Remove, destroy or lop native vegetation.
- Clause 52.05 (Signs): Development of business identification signage in Farming Zone (Category 4 – Sensitive areas).
- Clause 52.17 (Native Vegetation): Removal of native vegetation.
- Clause 52.29 (Land Adjacent to the Principal Road Network): Create or alter access to a road in the Transport Zone 2 (Woolsthorpe-Heywood Road).
- Clause 52.32 (Wind Energy Facility): Use and development of a wind energy facility.
- Clause 52.33 (Post Boxes and Dry Stone Walls): Demolish, remove or alter a dry stone wall.

This application also seeks approval for car parking spaces provided to the satisfaction of the responsible authority in accordance with Clause 52.06-6.

It is noted that under Clause 52.08 of the Moyne Planning Scheme and Section 77T of the *MRSD Act* a permit is not required for the use and development of land for a quarry if an EES and subsequent work authority applies. Consequently, a permit is not sought for a quarry as part of this planning application.

6.4 Referral Agencies

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6.4.1 Department of Transport

Under Clause 52.29-4 and 66.03 an application to create or alter access to a road in the Transport Zone 2 must be referred to the Head, Transport for Victoria as a determining referral authority under Section 55 of the P&E Act.

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6.4.2 Secretary to DELWP (now DEECA)

Under Clause 52.17 and Clause 66.02-2, native vegetation removal 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 (now DEECA) as a recommending referral authority.

6.4.3 AusNet Services

Under Clause 66.02-4, an application to construct a building or construct or carry out works on land within 60 metres of a major electricity transmission line (220 kilovolts or more) or an electricity transmission easement, must be referred to the relevant electricity transmission authority (AusNet Services) as a determining referral authority.

6.4.4 WorkCover Authority

Under Clause 66.02-7 an application for a utility installation where a fire protection quantity is exceeded under the Dangerous Goods (Storage and Handling) Regulations 2022 must be referred to the Victorian WorkCover Authority as a determining referral authority. The fire protection quantity for lithium-ion batteries is 20 tonnes under the Dangerous Goods (Storage and Handling) Regulations 2022. The weight of lithium-ion batteries that is proposed will exceed this quantity therefore referral is required.

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7 Assessment of the Project

The following section provides an assessment of the project against all relevant sections of the Moyne Planning Scheme, including against the purposes and decision guidelines of the relevant provisions outlined in this report, the decision guidelines in Clause 65, and any other relevant matters.

This section includes an assessment of the proposed construction route to the site and the required road upgrades, which are subject to the provisions of both the Moyne and Glenelg Planning Schemes. Proposed works in the Glenelg Shire is subject to a separate planning permit application.

The primary considerations relating specifically to wind farm applications include the provisions of Clause 52.32 Wind Energy Facility, the Policy and Planning Guidelines and the key overarching policy statement at Clause 19.01-2S Renewable energy.

The following assessment is structured thematically with consideration of these provisions, followed by other relevant planning scheme considerations, as follows:

- Contribution to government policy objectives
- Consistency with zoning and overlay provisions
- Addressing mandatory requirements for applications
- Amenity impacts:
 - noise
 - blade glint
 - shadow flicker
 - electromagnetic interference
 - landscape and visual impacts
- Impacts on the natural environment
 - surface and groundwater
 - Biodiversity
- Heritage considerations (both Aboriginal and European heritage)
- Community and safety
 - aircraft safety
 - traffic and road impacts
 - blade drop
 - fire prevention and safety
 - air quality
- Community benefits
- Cumulative impacts
- Environmental management.

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Each section explains its purpose, the assessment, relevant management and mitigation measures and refers to the relevant planning scheme, policy provisions and guidelines against which it is being assessed. Any additional considerations or changes to the specialist assessments undertaken for the project resulting from the design modification in response to the Minister's recommendations and DEECA's updated Handbook are also discussed. Further details on the project's application of the Handbook is provided at Appendix C. Given the design changes have reduced the overall project scale and extent of wind turbines proposed, generally any changes to the findings of the updated specialist assessments are associated with reduced amenity and environmental impacts.

The assessment contained within this chapter has regard to the assessment undertaken as part of the original planning permit application and EES, and builds upon those assessments.

7.1 Planning and land use

7.1.1 Contribution to achieving government policy objectives

The primary considerations relating specifically to wind farm applications include the provisions of Clause 52.32 Wind Energy Facility, including the Policy and Planning Guidelines, which seeks “*to facilitate the establishment and expansion of wind energy facilities, in appropriate locations, with minimal impact on the amenity of the area*”, and the key overarching policy statement at Clause 19.01-2 Renewable energy which seeks “*to promote the provision of renewable energy in a manner that ensures appropriate siting and design considerations are met*”.

The project responds positively to the balance of policies by providing a large-scale renewable energy project in an appropriate location with a high-quality wind resource in close proximity to the existing high-voltage transmission backbone of the National Electricity Market (NEM). Due consideration has been given to the range of potential impacts as demonstrated throughout the following assessment sections of this report. Impacts on the local community and environment have been appropriately minimised. The proposal has been amended to respond to recommendations of Minister for Planning (Vic) to reduced potential impacts, specifically in relation to the Brolga and the Southern Bent-wing Bat, through a project re-design. The result is the removal of at least 7 proposed wind turbine locations, as well as a modified access track and cable layouts.

Renewable energy would be promoted in accordance with Clauses 19.01-1S and 19.01-2S. Construction of the proposed wind farm would require installation of high voltage electrical plant and the completion of high voltage line works that would contribute to the ongoing strengthening of Victoria’s electricity grid. The option of developing a large-scale battery energy storage system would make further contributions.

The project would assist in the reduction of greenhouse gas emissions and minimises the adverse impacts of climate change in accordance with Clauses 13.01-1S and 15.02-1S. The project would result in efficiencies for the network resulting from economies of scale and would also allow consolidation of transmission investment, further reducing costs and greenhouse gas emissions for Victoria and for the national electricity network.

Effective land use planning would be promoted more broadly, promoting economic development and protection of community amenity and environmental and cultural heritage values in accordance with Clauses 13.05-1S and 13.07-1S. The project is located in an area dominated by non-intensive agriculture (primarily grazing) and away from population centres. The area is sparsely populated relative to other areas in Victoria, is close to transmission infrastructure and therefore presents a good general land use outcome and location for wind energy facility development. Cumulative impacts are considered, with cumulative amenity impacts on the few private rural residences in the vicinity being the main consideration. The full impact of the facility in terms of amenity and cumulative impacts is further considered in the following assessment sections of this report.

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While Renewable Energy Zones are not currently part of the Victorian Planning Scheme, the Victorian Government has recently released draft Renewable Energy Zone (REZ) Orders under the *Electricity (Victoria) Act 2005*. These draft Orders identify proposed REZ boundaries and establish a transmission and hosting capacity framework to guide the coordinated development of renewable energy generation and associated transmission infrastructure. The project is located within the proposed South West REZ.

7.1.2 Consistency with planning provisions

Zones

Clause 35.07 Farming Zone

The proposed use and development of the project is consistent with the relevant purposes of the FZ.

The proposed project is located in an area dominated by grazing and agricultural activities. The area is sparsely populated with the nearest population centre being Orford (population 115), approximately 3 kilometres south-west of the project site. There would be no unreasonable detrimental impacts on sensitive interfaces including residential properties. Amenity impacts are discussed further in Section 7.2.

There would be no significant impact on agricultural productivity. The project construction footprint would occupy approximately 259.2 hectares of the total site area of 3,644.8 hectares, which is a negligible reduction of agricultural land noting that the land is not used for irrigated horticulture or other high intensity agricultural activities. Large portions of the site are characterised by shallow, stony soils and exposed basaltic material associated with the volcanic plains, which typically have lower agricultural productivity. The remainder of the project site would be available for continued use of the existing non-intensive agriculture and/or other agricultural activities. Most access tracks, which make up a significant portion of the land used for the project, could be utilised for existing farming operations.

The proposal is a complimentary use for existing agricultural operations. By adding a new and drought-proof income stream for the owners involved in the wind farm, the proposed use and development of the site will contribute towards the diversification and resilience of farming and agriculture in the Moyne Shire. A diversified local economy, particularly rural economies, is identified as a priority in policies at Clause 17.01-1S and 19.01-1S. Construction of the wind farm would support local manufacturers, heavy industry and small business via the supply of concrete, road building materials, electrical cabling, equipment hire, accommodation, consumables, and hospitality services, thereby contributing to the resilience of the local economy. The sustainability of agricultural enterprise and the accompanying retention of employment is supported by the project in accordance with the purposes of the zone.

Agreements with participating landowners have been established to ensure they receive fair rental payments for the use of their land for wind farm infrastructure. These agreements enable landowners and occupiers to continue agricultural operations during construction and, once the wind farm is operational, to continue farming around the wind turbines. Wind farms are compatible with agricultural

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use and therefore meet the objectives of the zone as well as of Clause 14.01, which seeks to maintain sustainable agricultural land.

Clause 37.01 Special Use Zone

Infrastructure proposed within the SUZ6 includes the connection point to the Tarrone Terminal Station and access tracks. Main site facilities including on-site substation, battery energy storage system, construction compound and operations and maintenance facility also straddle the border between the FZ and SUZ6, with most of the built form of these facilities outside the SUZ6 area and within the FZ.

The SUZ6 land has not been developed for a power station. The land is currently occupied by the Tarrone Terminal Station (which provides the connection point to the Macarthur, Ryan Corner and Hawkesdale wind farms) with the balance of the land under use for agriculture (grazing). AGL states on their project website for the Tarrone Power Station that they have 'no immediate plans to begin construction of this project'.

Regardless of the progress or otherwise of the Tarrone Power Station, the project would not impact on the development or operations of the power station and therefore would not be inconsistent with the purposes of the zone. The proposal is not inconsistent with the objectives of SUZ5 and SUZ6 as the components of the project proposed in these locations are not accommodation uses or sensitive land uses. Should the proposed wind farm be approved and built, the ability to construct a gas fired power station on the SUZ land would remain unconstrained by the proposal.

Clause 36.04 Transport Zone 2

The purpose of the Transport Zone 2 (TRZ2) is to manage impacts on the principal road network. Woolsthorpe-Heywood Road is a TRZ2 road along the northern border of the project site. An access point and turn-out is proposed along Woolsthorpe-Heywood Road in the western section of the project, with a section of this road also requiring upgrades.

There would not be any significant adverse impacts on the road network as a result of the operation of the project. Routine maintenance would not exceed the capacity of the road network and would be low to negligible impact. Construction impacts would consist of impacts generated by staff travelling to/from the site, over dimensional vehicles for deliveries and other heavy vehicles for smaller components and construction materials. Construction impacts would be appropriately managed via the relevant Traffic Management Plan and are discussed further in Section 7.5.2 of this report.

Traffic impacts are detailed in the traffic and transport assessment prepared by Ratio Consultants, submitted in support of this amendment application.

Development, operation and safety of the transport system would not be compromised, in accordance with the purposes of the TRZ2 at Clause 36.04 and in accordance with the Planning Policy Framework at Clause 18.02-3S. The project has a minor to negligible impact on the TRZ2. The project would not require any alterations to land adjacent to the TRZ2.

Overlays

Clause 42.01 Environmental Significance Overlay

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The purpose of ESO4 is to protect the use and development of the Shaw River Power Station, primarily to protect the area from encroachment from residential development and conflicting uses so as not to restrict the potential development and operation of the power station. Similarly, the purpose of ESO5 is to protect the use and development of the Tarrone Power Station primarily from residential development that may result in land use conflicts and restrict the development and operation of the power station.

The project would not affect the development of the proposed Shaw River Power Station (noting the planning permit has lapsed), or the Tarrone Power Station as there is no conflicting infrastructure or sensitive uses proposed that could affect either development. No accommodation or other sensitive uses are proposed near either development site, and no vegetation that is proposed to be removed is important to protect the amenity of existing dwellings from potential Shaw River or Tarrone Power Station operations. The project is therefore not inconsistent with the purposes of the ESO4 and ESO5.

Clause 44.06 Bushfire Management Overlay

There is no permit trigger for the project under the Bushfire Management Overlay, however an assessment of bushfire safety including against the requirements of the CFA Guidelines is provided in Section 7.5.4 of this report.

Particular Provisions

Clause 52.32 Wind Energy Facility

The potential impacts associated with wind farms are identified in Clause 52.32 (Wind energy facility) of the Moyne Planning Scheme. A summary of how the project responds to the provisions of Clause 52.32 is provided in Table 7.1.

Table 7-1 Assessment against the provisions of Clause 52.32 Wind Energy Facility

Provisions	Requirement	Assessment
Turbine must not be within 1 kilometre of a dwelling	Clause 52.32-3 states that if an existing dwelling is located within one kilometre of any turbine (measure from the centre of the tower at ground level) that forms part of a proposed wind energy facility, the permit application must be accompanied by evidence of the written consent of the owner of the dwelling. The application is prohibited by the planning scheme where evidence of written consent is not provided.	Dwelling owners within 1 kilometre have consented to the project. These dwelling owners are participating landowners in the project.
Site and context analysis requirement	Clause 52.32-4 states that a site and context analysis is required to include: - site, dimensions and size of the project - orientation and elevational information - explanation of the current land use, landscape, above ground utilities, access to infrastructure wind characteristics.	The project has been designed to respond to the site opportunities and constraints. The layout has considered the location and avoidance of native vegetation, heritage assets and natural features.

Provisions	Requirement	Assessment
Noise and vibration assessment	Clause 52.32-4 states that an application must be accompanied by a pre-construction (predictive) noise assessment report demonstrating the proposal can comply with the New Zealand Standard NZS6808:2010, Acoustics – Wind Farm Noise. An environmental verification report of the pre-construction (predictive) noise assessment report has been prepared by an accredited environmental auditor (Appendix J2 – <i>Pre-construction noise assessment verification report</i>). A post-construction noise assessment report prepared in accordance with the New Zealand Standard NZS6808:2010, Acoustics – Wind Farm Noise, demonstrating whether the wind energy facility complies with the Standard, must be submitted to the Responsible Authority. Each post-construction noise assessment report must be accompanied by an environmental audit report prepared by an environmental auditor.	An assessment against the standard is provided in the Environmental Noise Assessment, prepared by Sonus Pty Ltd, submitted in support of this amendment application. In accordance with the standard, compliance has been demonstrated at all wind speeds at all non-stakeholder dwellings and non-residential noise sensitive locations near the project site. The updated noise assessment considers the modified project design and layout. A post-construction noise assessment report and associated environmental audit would be a condition on any permit that may issue.
Shadow flicker, blade glint and electromagnetic interference	Clause 52.32-5 requires an assessment of the effect of the project on the surrounding area in terms of blade glint, shadow flicker and electromagnetic interference. The shadow flicker experienced immediately surrounding the area of a dwelling (garden fenced area) must not exceed 30 hours per year as a result of the operation of the wind energy facility. Blades should be finished with a surface treatment of low reflectivity to ensure that glint is minimised. The potential for electromagnetic interference from the generation of electricity from a wind energy facility should be minimised, if not eliminated, through appropriate turbine design and siting. The siting of wind turbines in the 'line of sight' between transmitters and receivers should be avoided.	An assessment of blade glint, shadow flicker and electromagnetic interference have been prepared by DNV Australia Pty Ltd and accompany this amendment application. All non-stakeholder dwellings would experience less than 30 hours of shadow flicker per year. In relation to blade glint, all modern wind turbines are finished with a surface treatment of low reflectivity. If required, management measures would be used to avoid or minimise electromagnetic interference to the services assessed in the EMI Assessment.

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Provisions	Requirement	Assessment
Views and visual impact	Clause 52.32-4 requires that an application provide a site and context analysis which includes: - the landscape of the site - view to and from the site, including view from existing dwellings and key vantage points including major roads, walking tracks, major roads, airports, aerodromes and existing and proposed wind energy facilities - a written report, which includes an assessment of the visual impact of the proposal on the surrounding landscape.	A landscape and visual impact assessment has been prepared which outlines the existing landscape characteristics of the project site. This assessment identified that the sensitivity of the landscape surrounding the project to the proposed changes is low, and the proposed levels of visual change can be accommodated. A detailed LVIA was completed for the EES for the project, which determined that visual impacts resulting from the project were acceptable. An updated assessment has been undertaken as an addendum to the LVIA, which reflects the modified design and reduced overall scale.
Biodiversity and natural environment and systems	Clause 52.32-4 requires that an application provide a response to impacts of the proposal on any species listed under the FFG Act or the EPBC Act.	The project has been designed to avoid and minimise the loss of native vegetation. The current footprint of the wind farm development would result in the removal of up to 6.109 hectares of native vegetation representing less than 1% of the native vegetation within the site. An assessment of impacts to species listed under the FFG Act and the EPBC Act has been completed in the accompanying Biodiversity Assessment.
Cultural heritage	Clause 52.32-4 requires that an application provide a response to impacts of the proposal on Aboriginal or non-Aboriginal cultural heritage.	A CHMP is being prepared for the project. A Planning Permit cannot be issued before a CHMP has been approved.
Aircraft safety	Clause 52.32-5 requires the responsible authority must consider as appropriate the impact of the facility on aircraft safety.	An aviation impact assessment has been prepared by Chiron Aviation Consultants for the project.
Environmental management	Clause 52.32-4 requires that any written report includes an environmental management plan, including any rehabilitation and monitoring requirements.	An Environmental Management Plan would address managing and monitoring matters.

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7.2 Amenity Impacts

7.2.1 Noise and vibration

Purpose

Clause 52.32 and the Planning Guidelines stipulate that a wind energy facility must comply with the noise limits in the New Zealand Standard NZS 6808:2010 Acoustics – Wind Farm Noise. This standard provides methods for the prediction, measurement, and assessment of sound from wind turbines and is used as a regulatory guideline in several States and Territories within Australia.

This section outlines the findings of the noise and vibration assessments undertaken for the project, provided in the Environmental Noise Assessment report prepared by Sonus Pty Ltd.

A report prepared by an environmental auditor verifying the results of the predictive noise assessment by Sonus was undertaken by Tonkin + Taylor (2026). Tonkin + Taylor is an accredited environmental auditor under Part 8.3 of the *Environment Protection Act 2017*.

Assessment

Noise would be generated by the construction, operation and decommissioning of the project. The environmental noise assessment has been updated to reflect the amended project layout and design, and considers the following:

- Operation of the Wind Turbine Generators (WTGs)
- Cumulative noise impacts associated with other wind farms in the surrounding area.
- Operation of on-site substation, 200/400MWh BESS, and associated activity.
- Construction noise and vibration associated with the development of the wind farm and the on-site quarry

Noise emissions from the project during construction, operation and decommissioning are required to meet the general environmental duty, as contained within the EP Act. The general environmental duty requires risks of harm to human health and the environment from polluting activities to be eliminated so far as reasonably practicable. Where it is not reasonably practicable to eliminate such risks, they are required to reduce them so far as reasonably practicable. For this project, this involved comprehensive assessment of siting of project infrastructure in the planning and design process to minimise the risks to sensitive areas. Mitigation measures were developed and included in the noise modelling assessment; however, these will be further developed in the site-specific noise and vibration management plan.

The Minister's Assessment includes an assessment of the project's predicted construction and operational noise and vibration impacts, with several mitigation measures and recommendations identified. In accordance with the findings of the Minister's Assessment, the following changes have been adopted for the purpose of the environmental noise assessment:

- Noise emissions from the temporary quarry and concrete batching plants have been assessed against the Noise Protocol.

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- Background noise monitoring has been undertaken to provide a contemporary background noise dataset, in order to allow for the background plus 5 dB noise limits to be determined.
- The high amenity noise area has been applied to the Township Zone of Orford.

Background noise monitoring was undertaken at six locations in the vicinity of the project area, and has informed the noise assessment. The assessment uses the ISO9613 prediction model, with predicted noise levels made of the operational noise from a candidate turbine (Vestas V172 7.2MW turbines with blades with serrated trailing edges).

The findings indicate that the project criteria will be achieved at all non-stakeholder dwellings.

The results for the ISO9613 prediction model are shown in the noise prediction contours in Figure 7-1. The predicted noise levels associated with the proposed BESS are shown in the predicted noise contours in Figure 7-2.

For detailed assessment on the predicted noise levels for the project, please refer to the Environmental Noise Assessment undertaken by Sonus, which accompanies this amendment application. This includes an assessment of noise impacts associated with the following key aspects of the project:

- Construction: Wind turbines and concrete batching plants noise
- Operation: Wind turbine noise, on-site substation and BESS noise
- Cumulative noise impacts.
- On-site Quarry

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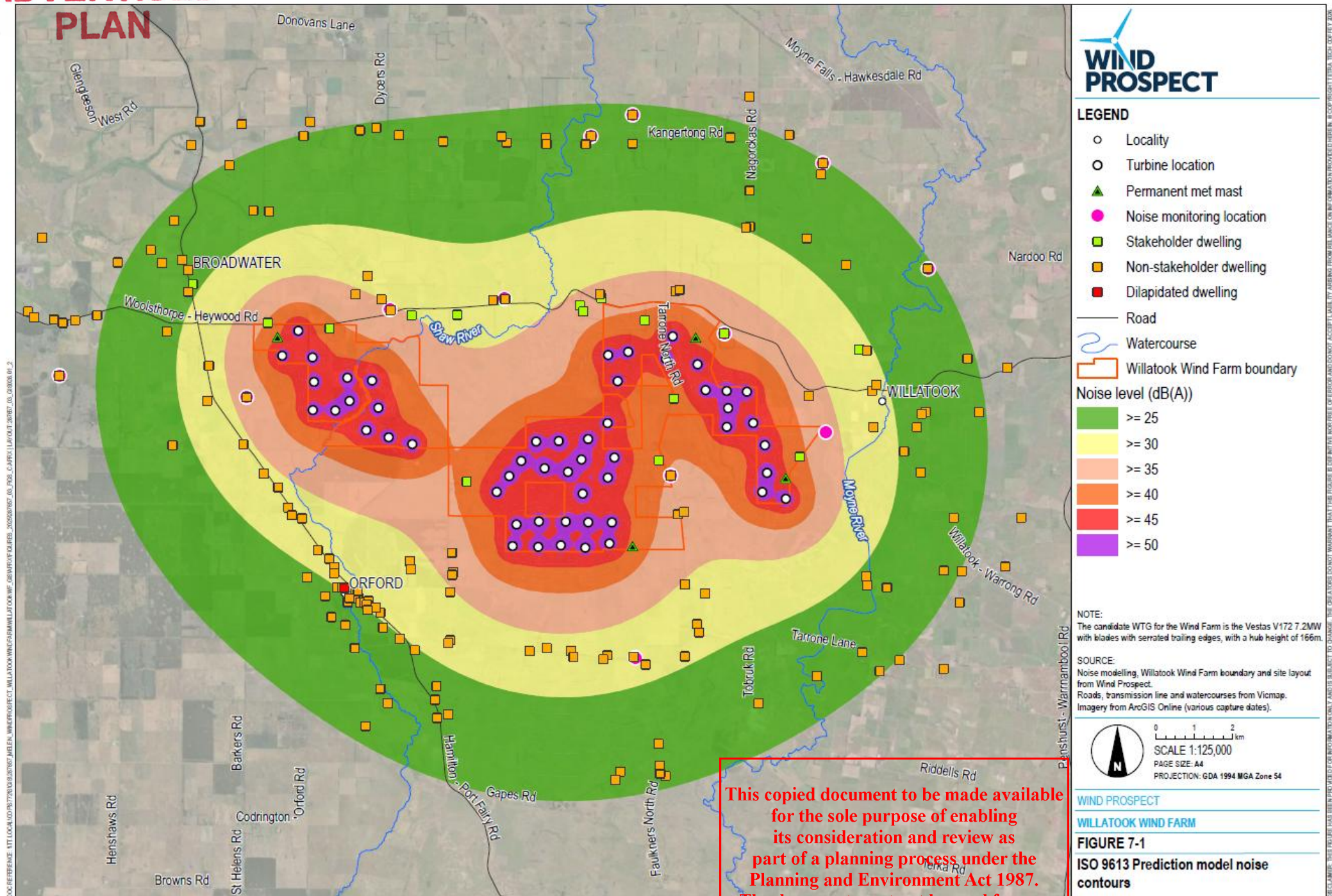


Figure 7-1 ISO9613 Predicted model noise contours

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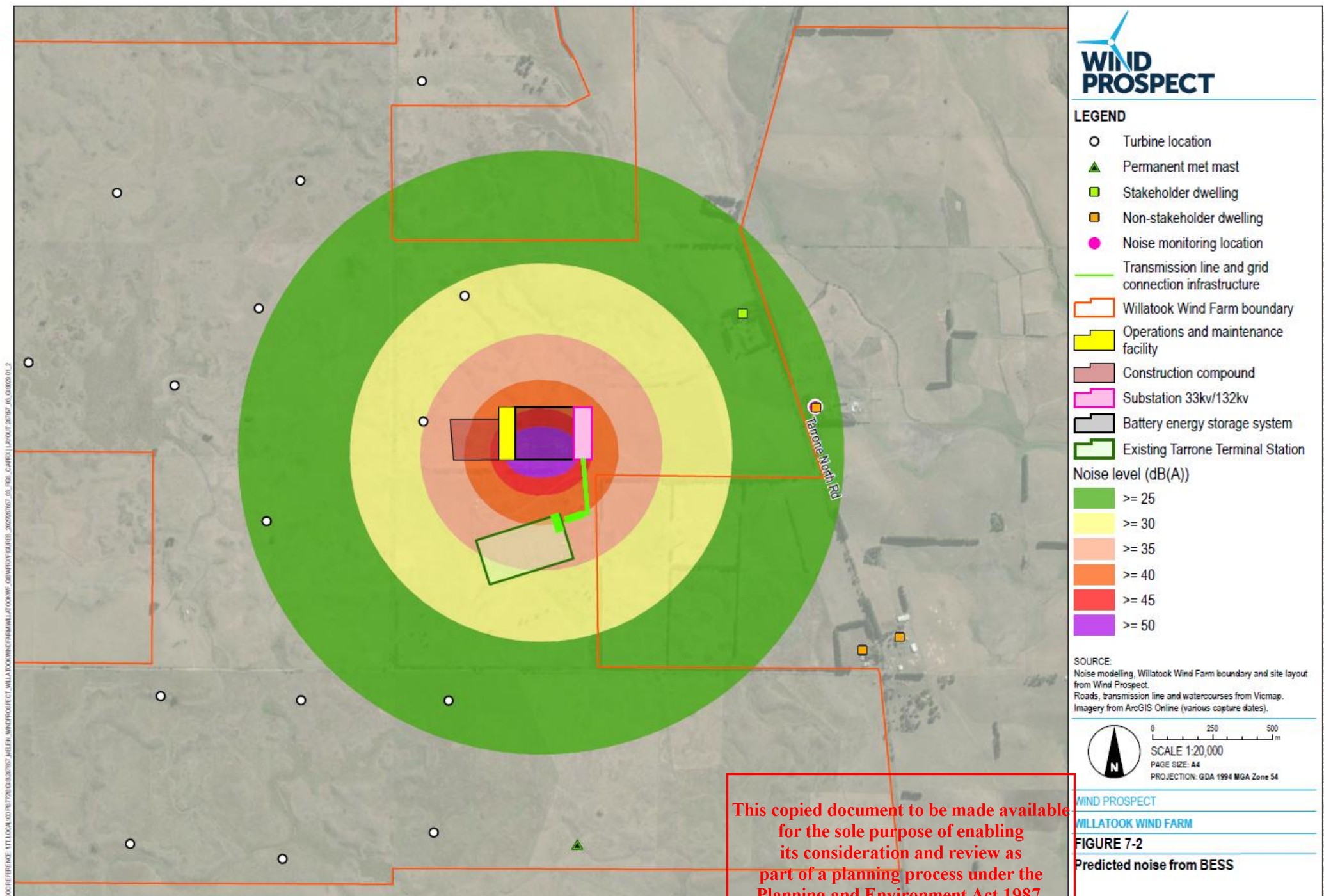


Figure 7-2 Predicted noise contours from the BESS

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Mitigation measures

To comply with the general environmental duty relating to noise, the approach has been to first avoid or limit potential impacts by creating appropriate separation distances between proposed project infrastructure (such as the quarry, concrete batching plants and the wind turbines) and sensitive receptors (in this case dwellings).

The three temporary concrete batch plants have been located to provide convenient access to all wind turbines, with consideration of setback distances from dwellings. The closest dwelling (sensitive receptor) to a proposed concrete batch plant is approximately 1,200 metres. The closest non-stakeholder dwelling is approximately 1,800 metres to a proposed concrete batch plant

There have been concerns raised by the community regarding potential noise impacts associated with the project and the nearby Macarthur Wind Farm operating at the same time. The project has been designed so it does not exceed 40 dB(A) measured at neighbouring dwellings, inclusive of any noise contributions from the Macarthur Wind Farm, Ryan Corner Wind Farm and Hawkesdale Wind Farm.

Wind farm projects often undergo a degree of micro-siting of infrastructure (including wind turbines) during detailed design, and so preparation of a 'pre-construction noise assessment' will be required for the final project layout and equipment selection. Noise predictions for the final layout will be included in that assessment, which would ensure the noise criteria are achieved at all non-stakeholder dwellings under all wind speeds prior to construction commencing.

All construction activities will be managed and occur in accordance with the Noise and Vibration Management Plan, which would be developed and endorsed by the Responsible Authority prior to the commencement of construction.

Consistency with planning provisions

As required by Clause 52.32, a pre-construction (predictive) noise assessment has been completed and submitted with the planning application. This assessment has been undertaken to assess the project layout and equipment selection to ensure that the noise criteria are achieved at all non-stakeholder dwellings under all wind speeds prior to construction commencing. The pre-construction (predictive) noise assessment has been undertaken in accordance with the requirements of the New Zealand Standard NZS 6808:2010 Acoustics – Wind Farm Noise.

The noise and vibration assessment was undertaken for the project construction and operation phases in accordance with:

- The general environmental duty under the *Environment Protection Act 2017*
- The Environment Protection Regulations 2021 which includes the Environment Protection Amendment (Wind Turbine Noise) Regulations 2022
- EPA Victoria Publication 1834.2: Civil construction, building and demolition guide
- Wind turbine operational noise in accordance with the Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria and NZS 6808:2010 Acoustics – Wind Farm Noise for the turbines
- Ancillary infrastructure, such as the quarry, concrete batching, BESS and substations, in accordance with the EPA Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues

- Willatook Wind Farm Minister's Assessment Under *Environmental Effects Act 1978* July 2023

A post-construction noise assessment would be undertaken in accordance with the New Zealand Standard and regulations under the EP Act to demonstrate that the project is compliant. This assessment would be provided to the Responsible Authority for endorsement.

The project meets the objectives of Clause 13.05-1S as the project seeks to control noise effects on sensitive uses through locating infrastructure and operations suitable distances from sensitive receptors. The requirements of Clause 52.32 are met in relation to noise amenity impacts, with compliance with the New Zealand Standard achieved at all non-stakeholder receivers for operational noise. Construction noise would meet the requirements of all standards and guidelines outlined above. Operational noise of ancillary components would be achieved with mitigation in the form of reduced power mode for the substation transformer. Cumulative impacts have been assessed and accounted for in the noise and vibration assessment.

There would not be any unreasonable noise amenity impacts on the surrounding area as a result of the project. Noise impacts have been minimised and are acceptable in accordance with the relevant policies outlined above and in accordance with the Planning Guidelines.

7.2.2 Blade glint and shadow flicker

Purpose

Clause 52.32 and the Planning Guidelines stipulate that wind farm planning permit applications must consider the effect of the project on the surrounding area in terms of blade glint and shadow flicker.

Blade glint occurs when sunlight is reflected off the rotating blades of a wind turbine. Modern wind turbine manufacturers avoid potential blade glint nuisance by finishing their blades with a low-reflectivity treatment. As such, blade glint is not considered an issue for the project. This is confirmed by the EES.

Shadow flicker can occur where the shadow cast by rotating wind turbine blades causes a flickering effect which can cause nuisance, especially inside dwellings. The shadow flicker assessment was prepared by DNV Australia Pty Ltd and accompanies this amendment application. It includes an assessment of the potential theoretical and actual shadow flicker related impacts on non-stakeholder (neighbouring) and stakeholder dwellings.

Assessment

An updated shadow flicker assessment has been undertaken by DNV, which considers the amended layout comprising 52 turbines, with a maximum rotor diameter of 175 metres and a tip height of 254 metres. A total of 36 dwellings have been identified as potentially affected by some shadow flicker resulting from the project, of which 12 are stakeholder dwellings.

The findings of the EES and Minister's Assessment indicate that shadow flicker and blade glint impacts associated with the project were acceptable and manageable through implementation of the proposed mitigation measures.

There are no non-stakeholder landowners that would experience theoretical or actual shadow flicker impacts in excess of the limits provided in the Planning Guidelines or the Draft National Guidelines. This, along with the theoretically modelled maximum duration of 28.6 hours per year, demonstrate that no non-stakeholder dwellings would receive unacceptable levels of shadow flicker effects.

Seven stakeholder dwellings are predicted to experience theoretical shadow flicker greater than the 30-hours per year recommended in the Draft National Guidelines within 50 metres of their dwelling. project stakeholders have agreed to include a maximum annual shadow flicker duration of 30 hours within their agreements with the proponent. Agreements would be executed in accordance with the model permit conditions contained as an appendix to the Planning Guidelines in terms of execution time frame and agreement content. Curtailment or other mitigations strategies would be used to meet these limits, if required.

Mitigation and management

Avoidance by design has been the primary measure to limit shadow flicker impacts on non-stakeholder dwellings. Following changes to the wind turbine layout during the project design development process to avoid other environmental constraints, the project team reviewed the revised wind turbine layout to ensure there was no excessive shadow flicker nuisance on non-stakeholder (neighbour) dwellings.

A pre-construction assessment of the potential effects of shadow flicker from turbines on existing dwellings is to be undertaken for the final turbine layout in accordance with Planning Guidelines, and to the satisfaction of the responsible authority.

The project would meet shadow flicker limits (no more than 30 hours per annum) at all pre-existing dwellings demonstrated through pre-construction modelling. For stakeholders, shadow flicker limits (30 hours per annum) would be met through the design and implementation of a curtailment strategy, if required.

Consistency with planning provisions

The project has been designed to avoid unacceptable levels of nuisance from shadow flicker, and the assessment undertaken by DNV confirms that the project satisfies the limits established in the Planning Guidelines at all non-stakeholder dwellings. Compliance with the shadow flicker limits would be met at all non-stakeholder dwellings and any shadow flicker at stakeholder dwellings exceeding the standards would be managed in accordance with individual landowner agreements generally in accordance with model permit conditions. Shadow flicker amenity impacts are therefore acceptable and comply with policy at Clause 52.32 and generally throughout the scheme as it relates to residential amenity.

7.2.3 Electromagnetic interference

Purpose

Clause 52.32 and the Planning Guidelines stipulate that wind farm planning permit applications must consider the effect of the project on the surrounding area in terms of electromagnetic interference. An assessment of the electromagnetic interference has been prepared by DNV Australia Pty Ltd and accompanies this amendment application.

Assessment

Operating wind turbines have the potential to interfere with radiocommunication services (i.e., cause electromagnetic interference) to communication signals such as television broadcast signals and fixed point-to-point signals.

In their assessment of the project, the IAP found that EMI is managed appropriately through the proposed mitigation measures. The Minister's Assessment supported this finding, concluding that the project's electromagnetic effects are acceptable and manageable.

A broader investigation area of 75 kilometres from the project site was used to identify mobile phone and NBN fixed wireless towers, and radiocommunication towers and licences listed in the Australian Communication and Media Authority Register of Radiocommunication Licences database.

As per the recommendations of the Draft National Guidelines (Environment Protection and Heritage Council, 2010), consultation was previously undertaken with nearby radiocommunication operators. DNV has since reconsulted with relevant operators to provide the updated project layout and turbine dimensions as required.

A total of 125 dwellings have been identified within 5 kilometres of the proposed turbine locations, 15 of which are stakeholder dwellings belonging to wind farm host landowners or landowners who have entered into a formal agreement with the Proponent.

Based on a review of the Australian Communication and Media Authority Register of Radiocommunication Licences database, there are limited radiocommunication services in the vicinity of the project, with only one point-to-point link (operated by AusNet Services) passing over the project site and three point-to-multipoint stations located within 20 kilometres of the site (operated by Aussie Broadband, Powercor and Wannon Region Water Corporation).

Radiocommunications service providers, emergency services, mobile phone providers, NBN, Bureau of Meteorology, operators of fixed point-to-point communications links and radio services were consulted to determine the potential for electromagnetic interference. The operators of these services were asked to assess if the proposed project would interfere with their services and to provide possible mitigation measures where they deemed them necessary. Respondents typically advised that no impacts, or acceptable (negligible) levels of impact were expected. Where they advised of potential impacts, respondents provided a range of feedback on conditions they require the project adopt.

For a detailed assessment of potential electromagnetic interference impacts for a range of license or service types, please refer to the EMI Report submitted in support of this amendment application.

Mitigation and management

Avoidance by design has been the primary measure to limit electromagnetic interference impacts. This process involved the specialist engineer assessing potential electromagnetic interference impacts based on the concept design and providing recommendations for turbine positioning.

Key measures that were implemented during the design process to minimise electromagnetic interference across the project site and region included:

- Identifying a single point-to-point communication link crossing the site and incorporating an appropriate buffer (20 metres plus blade length of 86.5 metres), into the project design based on consultation with the link operator
- Adding an additional uncertainty buffer of 20 metres to the communications link buffer based on recommendations by DNV
- Relocating several turbines located adjacent to the communications buffer as recommended by the specialist engineer from DNV.

To ensure that mobile phone, NBN, broadcast radio and broadcast television are not impacted, a Signal Strength Survey at neighbouring dwellings would be conducted prior to construction, and then after construction if issues are identified. The proponent would undertake measures necessary to rectify any impacted services.

Following the implementation of design and management controls, the project is unlikely or has a low potential to cause interference. Further consultation with the operators of communications and other service providers would occur during detailed design to confirm the avoidance of electromagnetic interference impacts, and to address any impacts identified.

Consistency with planning provisions

The assessment considers the effect of the project on the surrounding area in terms of electromagnetic interference, as is required by Clause 52.32-6. Consistent with the Planning Guidelines, potential electromagnetic interference from the project has been minimised through appropriate turbine siting.

7.2.4 Landscape and visual impact

Purpose

Clause 52.32 and the Planning Guidelines stipulate that proponents of wind farms must address the potential impact of the wind farm on landscape values and visual amenity.

The landscape and visual impact assessment was prepared by Landform Architects and accompanies this amendment application. A comprehensive LVIA was completed for the planning permit application and EES. Following the Minister's Assessment and project re-design, an updated assessment has been undertaken, which builds on the earlier assessment and considers potential visual impacts associated with the modified proposal. The impact of the development on significant views, and views from both the public and private realm, have been considered in the assessment. The updated visual impact assessment considers the revised project layout and design, including the increased turbine height from 250 metres to 254 metres, as well as the findings of the EES and Minister's Assessment.

Assessment

Noting the project re-design has resulted in a reduced overall scale and reduction in the number of turbines, any change from the findings of the original visual impact assessment for the project generally relates to reduced impacts at nearby sensitive receivers.

The Minister's Assessment acknowledges that the project will have visual impacts on dwellings, and when viewed from public roads, but considers these impacts acceptable with the implementation of appropriate mitigation measures. The Minister's Assessment also notes that any cumulative visual and landscape impacts have been appropriately assessed, and considers these impacts acceptable.

Investigation area

Zones of Visual Influence' is a method of categorising the likely dominance of vertical infrastructure within the investigation area based on the height of the infrastructure. The investigation area is defined by the distance where project wind turbines would comprise 5% of the vertical field of view

(i.e., 28.6 kilometres) (Figure 7-3 below). At this distance, the wind turbines would be visually insignificant.

Existing conditions

The project site is situated in a broad-acre rural landscape, which has been altered over time due to a range of activities, including farming and grazing, timber plantations and utilities, which include several high voltage transmission lines bisecting the site, the Tarrone Terminal Station and the Macarthur Wind Farm. In the wider area, the Ryan Corner and Hawkesdale Wind Farms have also recently been constructed, as well as the associated overhead transmission lines and substation at Tarrone.

Remnant vegetation exists in the reserves across the project viewshed, including the Budj Bim National Park, nearby state forests (including Mount Napier State Park) and Woolsthorpe Nature Conservation Reserve. Most of the land within the investigation area is comprised of exotic pastures and grasses for grazing. In these areas, trees have been cleared, leaving scattered trees in paddocks. Planted trees of primarily exotic species are present within shelterbelts along property boundaries.

Impact Assessment

The landscape and visual assessment considered the landscape sensitivity and potential visual impact of the project on key viewpoints, including from publicly available locations (such as roads and significant landscape sites) and residential dwellings. Photomontages illustrating the likely 'as built' view of the project were developed to assist the assessment of landscape and visual impacts. Potential cumulative effects were also considered with respect to existing operating or approved wind farms and other power infrastructure in the area.

The assessment of the landscape and visual impacts of the project included a qualitative and quantitative assessment, with key assessment criteria comprising:

- Visibility
- Distance
- Landscape character and sensitivity
- Viewer numbers.

A magnitude of change has been used to describe the extent of visual impact at relevant receiver and public realm locations, ranging from Nil – Positive visual impact. A summary of the impact assessment for significant landscape and vantage points within the project investigation area is provided in Table 7-2.

Table 7-2 Summary of impact assessment for significant landscape and vantage points

Viewpoint	Zone of visual influence	Visual impact
SL1: Budj Bim National Park: Budj Bim Summit	Views toward the project site are filtered through the existing vegetation surrounding the clearing. Views toward the project site are possible through gaps in this vegetation. The nearest project turbines would form a noticeable, but not a dominant, element in the landscape. Other areas of the Budj Bim cultural landscape are located further to the south-west and would not experience elevated views like the peak.	Low – Negligible

Viewpoint	Zone of visual influence	Visual impact
SL2: Harmans Valley Lookout	The Seen Area Analysis modelling identifies that the project turbines would not be visible at this location due to the distance to the project site, topography and vegetation.	Nil
SL3: Mount Rouse Lookout	The project would be located behind and to the left of the Macarthur Wind Farm, which has turbines approximately 150 metres in height. Although the project turbines are 100 metres taller than those located within the Macarthur Wind Farm, due to distance (being approximately 30.4 kilometres to the nearest project turbine) they would be less noticeable and would not form a dominant element in the landscape.	Negligible
SL4: Tower Hill Lookout (interior)	Visibility toward the project site is largely limited from the designated elevated viewing locations due in part to the orientation of views being generally toward the coast, vegetation which filters or screens views to the north, and distance. Glimpses of the project when looking north may be possible through gaps in vegetation. The project turbines would be at a distance that, if visible through vegetation, would be a noticeable but not a dominant element in the landscape.	Negligible to Nil
SL5: Tower Hill Lookout (Cairn Hill)	Views to the north-west toward the project site are partially screened and filtered by vegetation. The project may be visible along the horizon in long-range views. However, due to the distance to the project, turbines that are visible would be a noticeable, but not dominant, element in the landscape. The filtering and screening of these views by the nearby vegetation would assist to reduce the visual impact from this lookout.	Negligible to Nil
SL6: Port Fairy Coast	The Seen Area Analysis indicates theoretical visibility of the project wind turbines at this location. However, due to the overall distance to the project and screening by vegetation, it is unlikely that project wind turbines would be visible. If visible, they would not be a dominant element in the view.	Negligible to Nil
SL7: Yambuk Lake Caravan Park and boat ramp	The Seen Area Analysis identifies this area as having theoretical visibility of the project wind turbines. However, due to the screening effect of smaller, local changes in topography and vegetation, the project would not be visible from the public areas and facilities at Yambuk Lake and Caravan Park.	Nil
SL8: Port Fairy to Warnambool Rail Trail	The trail at its closest point is approximately 15 kilometres to the nearest project wind turbine. At this distance, the project wind turbines would not be visually dominant features. Existing roadside vegetation and windbreaks would further filter views.	Negligible

The assessment of visual impacts from residential dwellings examines the potential impacts on non-stakeholder dwellings within 6 kilometres of a project turbine (see Figure 7-3 below). This distance is the zone at which a 254-metre-high turbine would have the potential to be “highly visible and would usually dominate the landscape” where the whole of the turbine would be visible. Field verification undertaken for the LVIA confirmed 16 neighbouring dwellings located within 1.5 to 3.0 kilometres of the nearest turbine and 9 dwellings within 3.0 to 6.0 kilometres.

- Dwellings within this zone were identified through a desktop review of Google Earth, Google Earth Street View and VicPlan Aerial Imagery, and from publicly accessible locations
- Dwellings were selected for inclusion in the ground-truthing assessment

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Many of the dwellings assessed were set among vegetation at a height and scale that would partially screen or filter views of the project turbines. Where screening is not present, existing vegetation in private and public areas demonstrate that landscape screening would be effective, if required. No views from dwellings were identified as key views (e.g., to protected features or landscapes) that would require re-siting or removal of project turbines.

Eight dwellings assessed to have medium-high or high visual impacts prior to mitigation. With the implementation of suggested mitigation (i.e., post mitigation), there was one dwelling (D124) predicted to have a high visual impact, and no medium-high impacts. In this instance, mitigation was assessed as being challenging to mitigate views of the project as mitigation at this dwelling may also remove views considered to be desirable.

The project redesign, and specifically the shifting of 9 wind turbines has resulted in the following changes with respect to the distance of each of the 25 dwellings to the nearest turbine:

- 10 dwellings have the nearest turbine located closer
- 3 dwellings have a greater separation distance between the nearest turbine
- 12 dwellings remain unchanged.

Where a dwelling has a turbine located closer, this change is generally around a 100-metre distance compared with the previous project layout. The changes to these dwellings are considered minor and would not materially alter the level of visual impact assessed as part of the original LVIA.

For a detailed assessment on visual impacts and potential landscape mitigation for each of the 25 dwellings, please refer to the LVIA prepared by Landform Architects which accompanies this amendment application.

The updated visual impact assessment has considered the revised project layout and design, and determined appropriate viewpoints (H5, H8, and H13) as representative views to review the proposed changes. The updated assessment also refers directly to the findings of the EES and Minister's Assessment.

Due to minor shifts of several proposed turbine locations that were moved to further minimise potential ecological impacts Landform Architects (2026) considered the scale of these changes in the context of their assessment.

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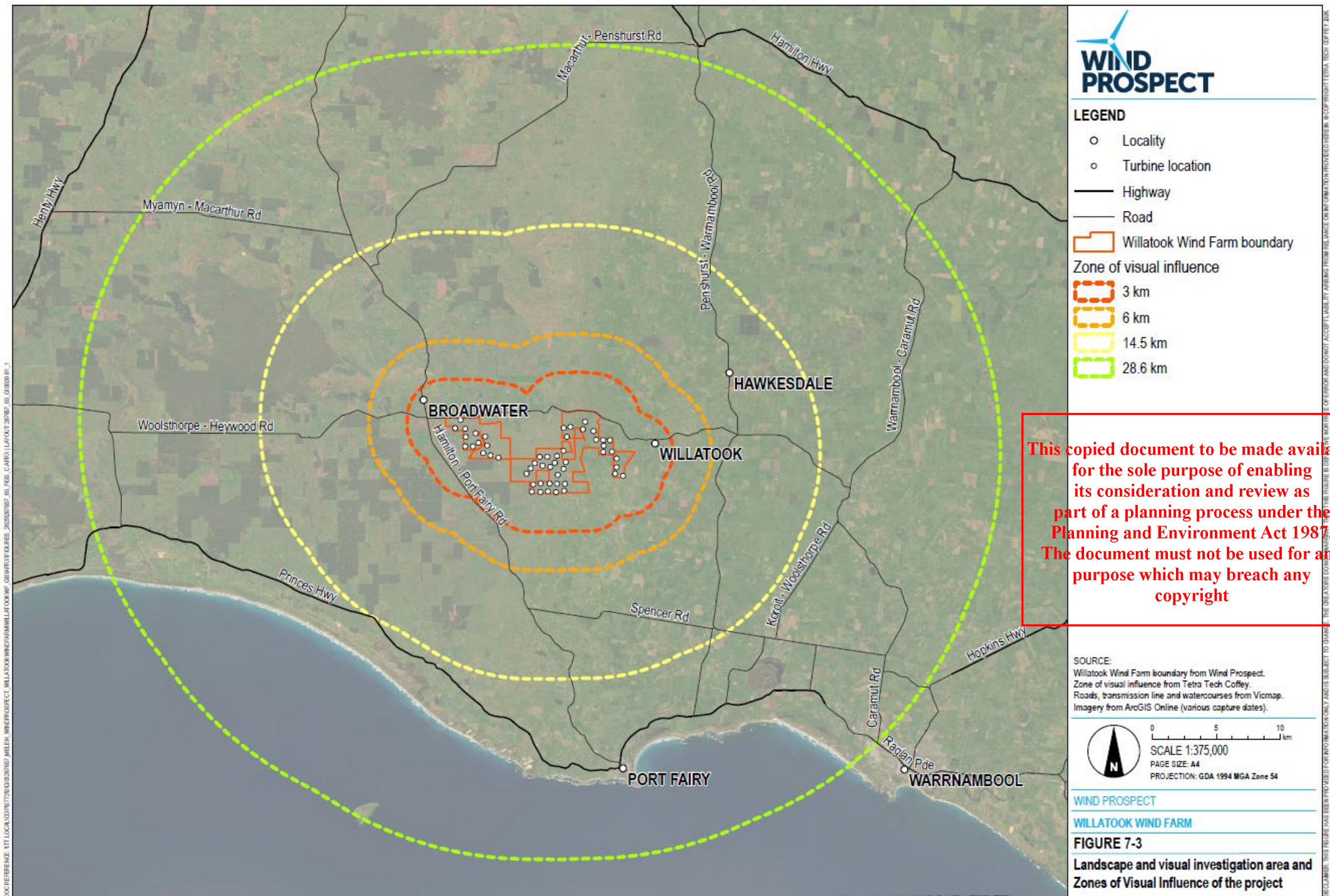


Figure 7-3 Landscape and visual investigation area and zones of visual influence of the project

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The LVIA also assessed the visual impacts of the project when viewed from public realm locations such as local roads and townships. These assessments are summarised below:

- **Major roads:** to the east and west of the project are frequently used by the local community, having a medium number of local road users. Views from major roads vary and include open clear views towards the project, more discreet and localised views with gently undulating topography screens, and limited views across the landscape. Overall, the visual impact of the project in views from major roads is assessed as low. This is due to the majority of views towards the project being limited by vegetation within roadsides, plantation areas and adjoining farming properties, and screening provided by the topography.
- **Local roads:** the project would be clearly visible and dominant in views in the landscape at local road viewpoints assessed. However, due to the low viewer numbers and low sensitivity of the landscape in views towards the project, the overall visual impact of the project from local roads is low-negligible.
- **Townships:** from most locations within the townships assessed in the viewpoint analysis, existing vegetation and built form, including dwellings and shops assist to screen or filter views toward the project. However, there is the potential for the tips of project turbines to be visible from some locations within the Hawkesdale, Macarthur, and Kirkstall townships. For the Orford township (the closest township to a project wind turbine), project turbines would be located above and behind the plantation on the hills in background of this viewpoint. Roadside and residential vegetation throughout the township would further assist in filter and screen views to the turbines. While there may be locations where the visual impact is potentially medium or even high, based on Seen Area Analysis, these locations would be few and would not elevate the overall visual impact. As such, the overall visual impact from township areas is negligible-nil to low.

Cumulative impacts

An assessment of potential cumulative visual impacts of the project was undertaken by considering other constructed and approved wind farms in the area.

As the landscape contains several operating and approved wind farms, and the addition of the project to these views would not significantly alter a viewer's perception of the landscape, the cumulative visual impact from sequential views along the connector roads is low, and low – negligible for local roads.

The overlap of multiple views of operating or approved projects would occur along a section of the Princes Highway, inland connector roads and a number of local roads. In these instances, the nearest wind farm is the most obvious contributor to views and the impact from another wind farm in the distance does not alter the level of impact. As such, the simultaneous visual impact of the project is medium – negligible.

Potential cumulative visual impacts to dwellings would depend on the visibility of turbines and the proximity of the dwelling to turbines (affecting their visual scale). These impacts can only be assessed on a case-by-case basis.

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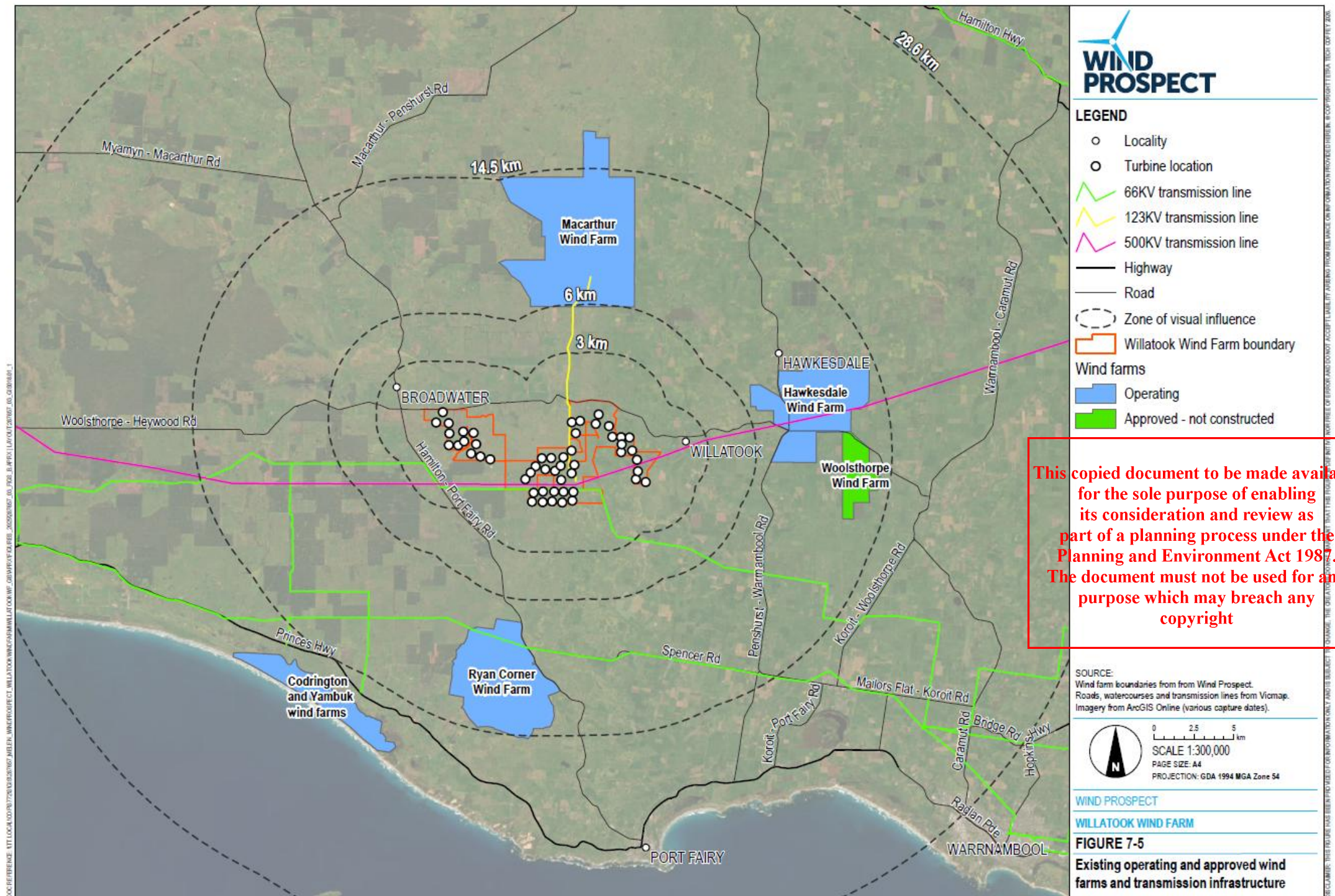


Figure 7-4 Existing operating and approved wind farms and transmission infrastructure

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Management and mitigation

Measures to minimise visual impacts to nearby residential dwellings and townships applied in the project design phase include:

- Creating setbacks from neighbouring residences not participating in the project (i.e., non-stakeholder dwellings), to the nearest wind turbine. This buffer distance is significantly greater than the 1-kilometre buffer required in the Victoria Planning Provisions and mostly more than 1.5 kilometres
- 3-kilometre buffer of surrounding townships to the nearest project wind turbine.

Landscape screening would be offered to residential dwellings within 6 kilometres where there are views of a wind turbine. This has been shown to be an effective measure for other wind farms in the region and can be included as a condition for an off-site landscaping plan on any permit that may issue.

Other proposed management measures, are consistent with those outlined in the original LVIA, and include:

- Development of an off-site landscaping plan for vegetation screening of eligible dwelling rooms, in consultation with the landowner on a case-by-case basis
- Re-siting of project infrastructure from sensitive viewing areas and key view lines
- Development of an on-site landscaping plan to screen substations, buildings and lower infrastructure.

Consistency with planning provisions

The project has been sited with regard to views to the site from both public and private locations in accordance with Clause 19.01-2S. Amenity impacts to dwellings have been considered in accordance with Clause 52.32 and Clause 65.

The low impact of the development on significant views, including visual corridors and sightlines, is considered consistent with Clause 52.32-6. The impact of the development on townships and significant views has been considered and it has been determined that there will be minimal visual impact as a result of the project, which is consistent with the provisions of Clause 52.32.

In relation to the Southern Grampians Planning Scheme Clause 12.03-2 Environmental and Landscape values, and Clause 12.05-2L of the Glenelg Planning Scheme, and Warrnambool Planning Scheme Clause 21.03-4 Significant Environments and Landscapes, the project does not adversely impact the landscape, environmental setting, or presentation of those councils.

7.3 Physical and natural environment

7.3.1 Surface water

Purpose

This section describes the surface water environments within and surrounding the project site and defines key surface water features and environmental values. It describes potential impacts of the

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construction and operation of the project on these values. The following summary is based on the findings of the hydrogeological and hydrological impact assessment prepared by Water Technology Pty Ltd, and the Memorandum document which reviews and assesses the updated project design. Additionally, this section is informed by the biodiversity impact assessment prepared by Nature Advisory (2026d). There are state planning policies which relate to the environment, water and water quality. Surface water relates to groundwater which also influences ecology.

Assessment

Existing conditions

The project is situated within the Shaw River and Moyne River catchments. The Shaw River is the main surface water feature in the project site, which is fed by Kangaroo Creek and Carmichael Creek. Back Creek, a tributary of the Moyne River, is another surface water feature that passes through the project site. During summer, these watercourses would typically consist of a series of isolated pools with limited or no base flow. There are also several smaller tributary drainage lines that join the Shaw River and Back Creek.

Due to the relatively flat topography of the site, and influence of lava flows and stony rises, there are depressions within the site that can become inundated during winter and spring, forming ephemeral wetlands holding water for several months. These areas then dry and form modified grasslands, which are grazed by sheep and cattle. Within the central part of the site there is a series of low-lying areas that can become linked during periods of high rainfall through both drainage channels and flood overflows from the Shaw River. This area is known as Cockatoo Swamp. These wetland areas are ephemeral (fluctuating with rainfall) and are typically vegetated with Common Tussock Grass, introduced pasture grasses and sedges.

The Environmental Reference Standard identifies four types of surface waters: rivers and streams, wetlands (including lakes and swamps), estuarine, and marine. Surface water within the project site falls within the 'Murray and Western Plains' segment of the 'rivers and streams' surface water type, and 'lakes' and 'swamps' segments of 'wetlands' surface water type.

Environmental values applicable to these segments and considered relevant to the project are:

- water dependent ecosystems and species
- agriculture and irrigation

Impact assessment

The updated hydrogeological and hydrological assessment memo considers the revised project layout, including reduced turbines and change in some turbine locations, and alterations to internal access track. Given the overall project development footprint has been reduced, the memo notes that any potential impacts of the project will be comparable or less than the impacts identified in the original assessment. These impacts were assessed as very low to low and are expected to remain localised and temporary.

The Minister's assessment found the project appropriately assessed potential surface water impacts, and that permit conditions and the environmental management measures proposed by the IAP are appropriate for managing any residual impacts to surface water in the context of final design. The Minister's assessment also notes that these impacts can be avoided through the recommended management measures. The Minister's Assessment concludes the following regarding surface water impacts:

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It is my assessment that the effects of the project on surface water will be acceptable provided they are managed in accordance with the proposed design measures and in accordance with the EMMs and permit conditions recommended by the IAP.

The updated design and proposed mitigation and management measures remain consistent with the findings of the EES and Minister's Assessment.

Key impacts to surface water features during project construction and operation and include physical disturbance from watercourse crossings (shown in Figure 7-5), reduced water quality from sediment laden runoff from construction works areas during periods of high rainfall, accidental spills of hazardous materials such as fuels and oils and uncovering of acid sulphate soils during earthworks. Construction of project infrastructure also has the potential to alter existing hydrology of the site.

To determine the potential flooding impacts, flood behaviour within the project catchments was assessed using hydrological modelling.

The construction of roads and larger infrastructure has the potential to alter existing drainage patterns if not accounted for during design. Prolonged changes to drainage patterns can lead to permanent changes to vegetation structure. Hydrological effects have the potential to occur over a large area, due to the nature of the shallow topographical relief of floodplain systems.

Depending on the watercourse characteristics and construction crossing method, there is likely to be temporary disruption to surface water flows (within flowing watercourses). To enable crossings of watercourses, partial or complete diversion may be required if the watercourse is flowing at the time of construction. Construction of impervious hardstand areas and infrastructure (e.g., wind turbines) also has the potential to alter flow paths.

Changes in water quality may affect the environmental values protected by the Environmental Reference Standard. The first impact pathway to water quality is the potential for a temporary increase in sedimentation from construction at the watercourse crossing locations, and to a lesser extent other construction works areas upstream. A secondary and less likely impact pathway relates to contamination of surface water resources during the construction and operations phases.

Significant rainfall events (e.g., flash flooding) during construction are likely to result in increased erosion and sedimentation. These events can also mobilise trace amounts of hydrocarbon- or chemical-impacted sediments contaminated by construction activities or erode exposed potential acid sulfate soils that may then enter local watercourses.

For further details, please refer to the Hydrogeological and hydrological assessment, and addendum memo submitted in support of this amendment application.

Management and mitigation

The surface water modelling estimated the inundation depth, velocity and flowrates at each project infrastructure location. This modelling was used to determine the location and sizing of culverts and bridges, the location of access tracks, wind turbines and hardstand areas (to avoid areas susceptible to inundation), and the watercourse cable crossing methodology. Conceptual designs of the two main watercourse crossings of the Shaw River and Back Creek are shown in Appendix A – Development Plans. Other design mitigations to avoid potential surface water impacts include designing the project with buffers around all mapped wetlands, and minimisation of watercourse crossings through siting of access tracks.

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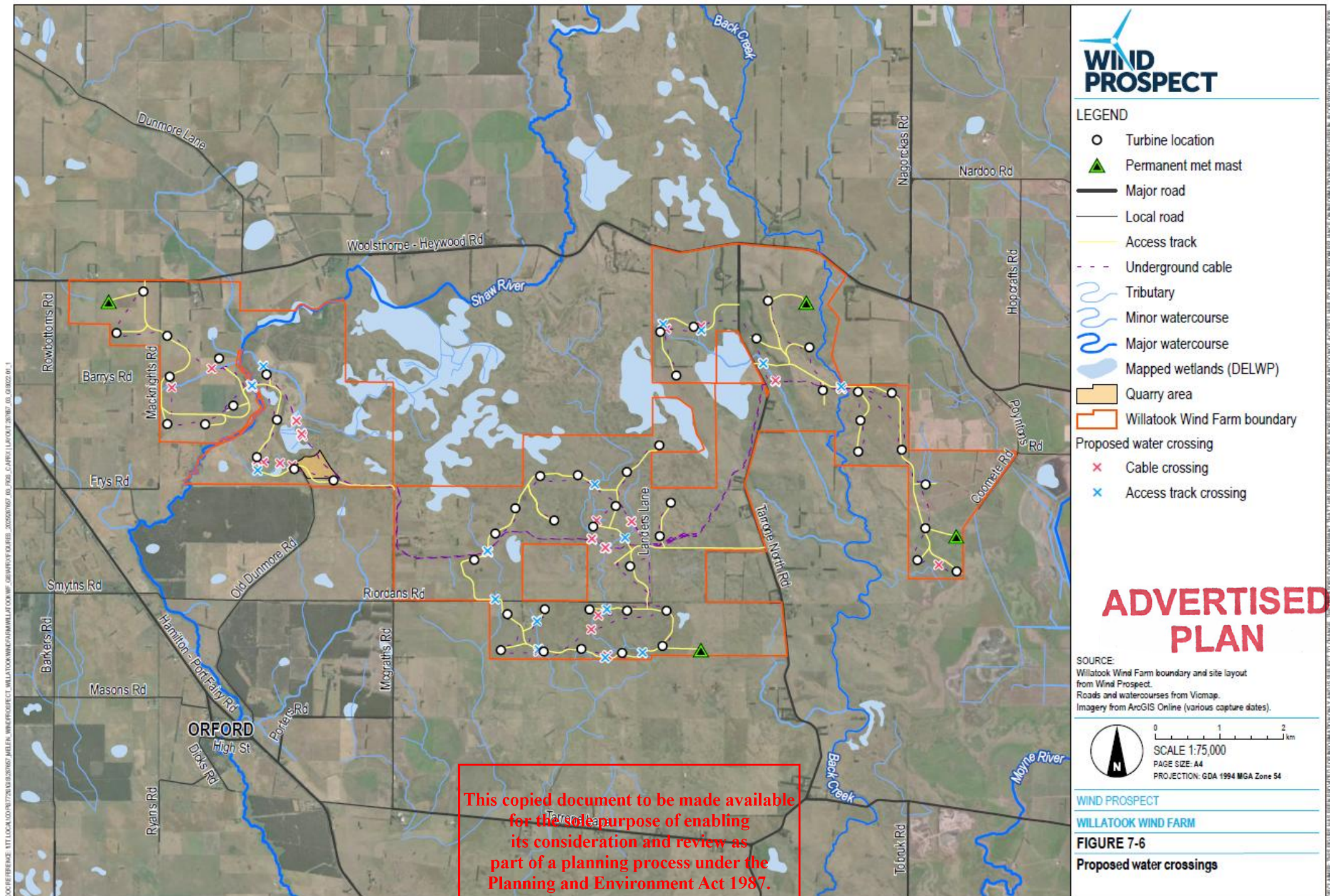


Figure 7-5 Proposed water crossings



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To further minimise potential impacts to surface water features (and their supporting values), management controls to be implemented during the design, construction, operation and decommissioning of the project include:

- Development of the detailed drainage design in consultation with the Glenelg Hopkins Catchment Management Authority, considering best practice design guidelines
- Development and implementation of a Sediment, Erosion and Water Quality Management Plan, in consultation with the Glenelg Hopkins Catchment Management Authority and EPA Victoria. Erosion and sediment control measures within the construction site would adopt a treatment train approach
- Implementation of an approved Quarry Work Plan that includes risk treatment plans to manage and monitor surface water impacts in accordance with the Work Authority
- Implementation of a risk-based approach to management of potential acid sulfate soil, in accordance with EPA Victoria Publication 655.1 (2009) *Acid sulfate soil and rock*. If acid sulfate soil is encountered it would be managed as a priority waste in accordance with EPA Victoria Publication 1968 *Guide to classifying industrial waste*
- Measures to manage potential pollutants from entering waterways (e.g., spills risk assessment and response plan, storage of liquid fuels and chemicals within containment facilities)
- Management of water collected dewatering of excavations in accordance with the Environment Protection Regulations 2021.

The proposed management controls incorporate recommendations detailed in the Minister's Assessment, including amended Environmental Management Measures. Where essential wind farm infrastructure (e.g., access tracks and electrical cables) crosses a creek, measures for avoiding and minimising impacts would be documented in the CEMP.

Consistency with planning provisions

The project is consistent with the objective of Clause 12.03-1S River Corridors, Waterways, Lakes and Wetlands, which seeks to protect and enhance river corridors, waterways, lakes and wetlands. The project provides buffers to assist in the protection of water bodies and ground water, consistent with Clause 14.02-1S Catchment Planning and Management. Appropriate construction management measures would be put in place to protect water quality and ensure that any discharge or waste would not impact the quality of the surface water, consistent with Clause 14.02-2S Water Quality.

7.3.2 Groundwater

Purpose

This section describes the groundwater within and surrounding the project site and defines key values associated with it. It describes potential impacts of the construction and operation of the project on these values, and measures that were taken to avoid and minimise these impacts. This assessment is based on the findings of the hydrogeological and hydrological impact assessment, and updated assessment memo, prepared by Water Technology Pty Ltd.

Assessment

Existing Conditions

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Groundwater within the project site is classified as falling within Segments B to C of the Environmental Reference Standard, which are defined by the concentration of total dissolved solids in the groundwater. Groundwater environmental values, defined by the Environment Reference Standard, relevant to the project include 'water dependent ecosystems and species' and 'agriculture and irrigation (stock watering)'. In general, groundwater in the project site is too brackish and hard for potable domestic use but of sufficient quality to be used for irrigation, stock and some industrial processes.

The geology across most of the project site consists of basalt flows and stony rises. There are also isolated occurrences of alluvium and colluvium restricted to lower lying areas near drainage channels and floodplains. The main aquifer within the project site occurs in the Newer Volcanic Group basalt. Depth to groundwater is typically between 1 and 12 metres below ground level, depending on the season. The highest groundwater levels occur in late spring after recharge by winter rainfall, and the lowest levels occur in late summer.

Mapped potential aquatic Groundwater Dependent Ecosystems within the project site include temporary freshwater marshes and meadows associated with the Cockatoo Swamp wetland complex and an area of the Shaw River, smaller isolated temporary freshwater marshes and meadows, and areas of ephemeral wetlands. Terrestrial Groundwater Dependent Ecosystems include six terrestrial vegetation wetland, woodland and shrubland communities typically in isolated fragments or along major watercourses. Mapped potential aquatic and terrestrial Groundwater Dependent Ecosystems and groundwater bores within the project site are shown in Figure 7-6.

Impact Assessment

The potential for groundwater-related issues associated with the construction and operation of the project relate to the potential for adverse impacts to existing users of groundwater and to Groundwater Dependent Ecosystems, because of reduced levels and associated impacts to the supply of groundwater. Impacts may also occur due to reduced groundwater quality.

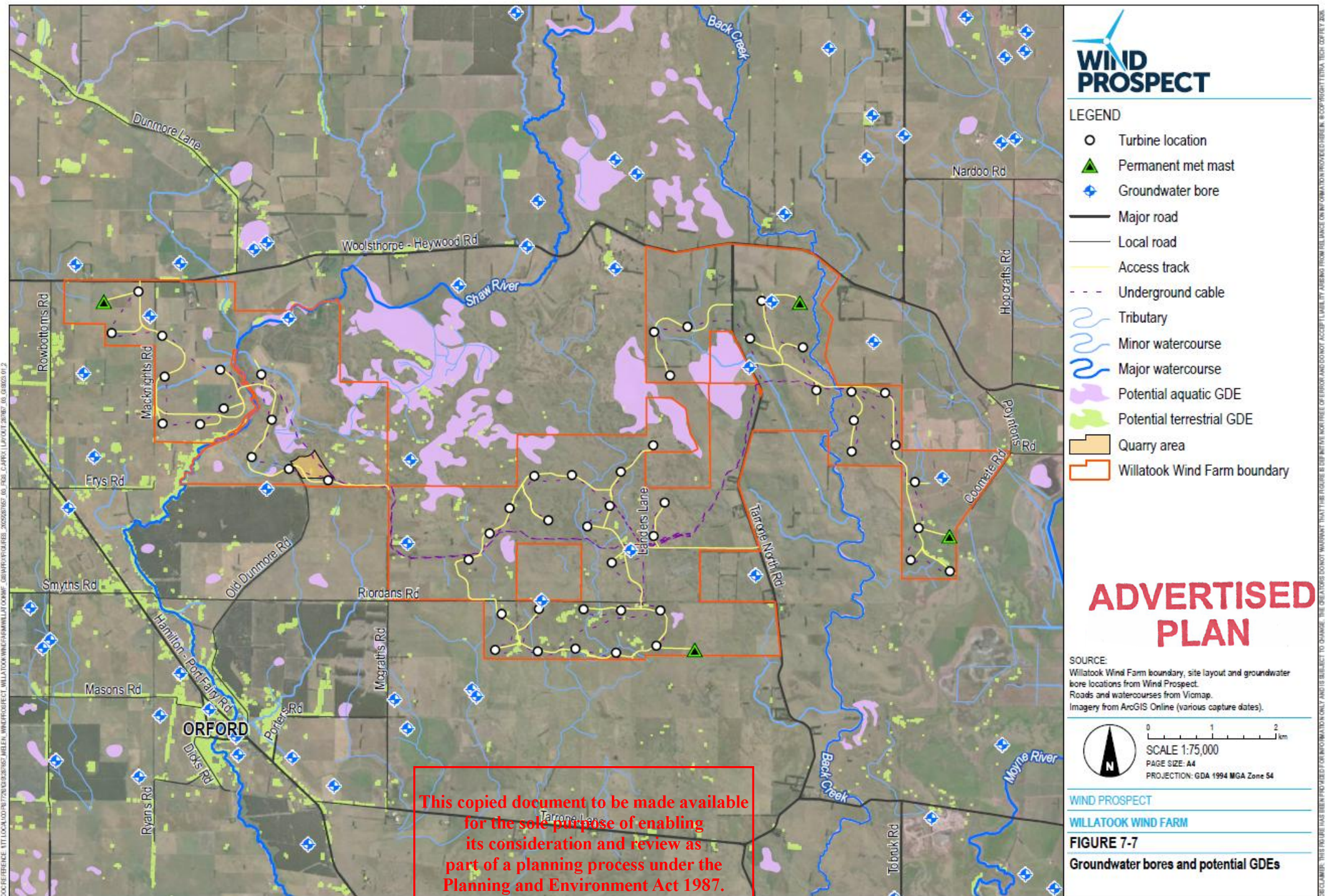
These impacts could occur through the following potential impact pathways:

- Dewatering of groundwater during construction, lowering the water table and resulting in groundwater drawdown that affects water availability
- Disruption of groundwater recharge and flow, such as from introduction of impermeable surfaces and physical barriers in the form of wind turbine foundations
- Disruption of groundwater discharge to waterways or waterbodies by intersecting groundwater discharge water features (e.g., natural springs) or from a reduction in groundwater availability (e.g., due to dewatering)
- Groundwater contamination, including from accidental spills or formation of acid sulphate soils.

The updated assessment prepared by Watertech provides an updated groundwater assessment against the current project design, and determines that the changes will not increase residual effects to groundwater values, users, and quality, with any impacts being comparable to, or less than what was identified in the original assessment.

The Minister's Assessment concludes the following with respect to groundwater impacts:

It is my assessment that effects of the project on groundwater will be acceptable provided they are managed in accordance with the proposed design measures, proposed contingency measures and in accordance with the EMMs and permit conditions recommended by the IAP.



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Overall, impacts to groundwater users and groundwater quality from the project construction, operational and decommissioning are considered to be low to very low. The Minister's Assessment found that effects of the project on groundwater will be acceptable provided these effects are managed in accordance with the proposed design and contingency measures, and the management measures and permit conditions recommended by the IAP.

Management and mitigation

Design measures were put in place, based on known environmental constraints, to avoid potential groundwater impacts to local groundwater users and environmental values. These included:

- Locating the quarry away from environmental values like groundwater bores and areas of potential GDEs. This is a key design mitigation measure aimed at avoiding, or at least substantially limiting, potential impacts to local groundwater users and environmental values
- Applying a single, large buffer around a series of wetlands that form the Cockatoo Swamp in response to Brolga impact mitigation. This area contains most of the potential aquatic and terrestrial Groundwater Dependent Ecosystems mapped within the site
- Avoiding most areas of mapped native vegetation (which have the potential to be Groundwater Dependent Ecosystems) where possible based on site surveys that have progressively refined the understanding of the presence and distribution of native vegetation. This has included re-routing access tracks and underground cabling, and moving proposed wind turbines and other infrastructure.

Because aquatic Groundwater Dependent Ecosystems have a high likelihood of being inflow systems (i.e., they depend on local surface water inflows), hydrological modelling of the site was considered during the project design to ensure natural flow paths (hydrological connectivity) are not interrupted by the project.

In addition to the design measures described above, management measures to further manage potential impacts to groundwater include:

- Obtain a Work Authority (through approval by Earth Resources, Department of Jobs, Precincts and Regions) for the quarry construction and operation and adhere to its requirements
- Consult with relevant landowners about potential impacts to bores would occur prior to commencement of construction
- Conduct further groundwater monitoring and mapping prior to and during construction to establish local groundwater levels and groundwater quality.
- A Water Management Plan would be developed and its requirements carried out by the contractor, and approved by the Responsible Authority, prior to the commencement of project construction
- Construction activities and temporary works that may impact on surface permeability and groundwater would be included within the contractor's CEMP
- Measures to manage potential impacts to groundwater quality (e.g., site-specific risk analysis for any hazardous chemicals, storage of fuels and chemicals within containment facilities).

The use of quarry water would be in accordance with a Take and Use licence under Section 51 of the *Water Act 1989* and in accordance with Environment Protection Regulations 2021. Water collected

dewatering of excavations would also be managed in accordance with the Environment Protection Regulations 2021.

Consistency with planning provisions

The project meets the policy objective relating to Clause 14.02-1S Catchment Planning and Management as the measures employed will assist the protection and restoration of catchments, water bodies, groundwater, and the marine environment.

7.3.3 Biodiversity

Purpose

Clause 12.01-1S states that the cumulative impacts on biodiversity should be considered. This is also a requirement of the Planning Guidelines. The decision guidelines at Clause 52.32-5 require the responsible authority to consider the impact of the project on the natural environment and natural systems.

A comprehensive flora and fauna assessment was prepared by Nature Advisory to support the EES and initial Planning Permit Application with an updated report prepared to account for the iterative design changes that are incorporated into the amended application request titled “Willatook Wind Farm – Biodiversity Addendum Report”. This assessment was informed by a number of surveys and investigations undertaken over many years, and is a requirement of Clause 52.32. Following the release of the Minister’s Assessment and re-design of the project, further field assessments were completed focussing on native vegetation and flora and an updated biodiversity assessment addendum was prepared by Nature Advisory to support the initial assessment. A permit is triggered for the removal of native vegetation pursuant to Clause 52.17. A separate assessment has been undertaken regarding Brolga. A separate assessment has also been undertaken on bat species of concern, including the Southern Bent-wing Bat in particular. Both of these assessments have been undertaken by Nature Advisory, and accompany this amendment application.

Additionally, Nature Advisory have prepared a draft Bat and Avifauna Management Plan, which includes a comprehensive monitoring program, and adaptive management approach to the reduction of impacts on threatened and migratory bird and bat species.

At the national level, responsible authorities and proponents need to be aware of the following:

- Commonwealth EPBC Act, which provides for the protection of matters of national environmental significance, including nationally significant threatened species and wetlands protected under the Convention of Wetlands of International Importance (the Ramsar Convention).
- Habitat values of wetlands and wetland wildlife habitat designated under the Ramsar Convention, or utilised by designated species under the *Japan-Australia Migratory Birds Agreement* (JAMBA), the *China-Australia Migratory Birds Agreement* (CAMBA) and/or the *Republic of Korea – Australia Migratory Birds Agreement* (ROKAMBA).

At the state level, responsible authorities and proponents must consider (as relevant) the following:

- *Flora and Fauna Guarantee Act 1988*, which provides protection for species and ecosystems that are of state importance.

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- Planning Policy Framework, which sets out the state planning objectives for protection and conservation of biodiversity (refer to Clause 12.01 Biodiversity of the Victoria Planning Provisions).
- Clause 52.17 (Native vegetation) of the Victoria Planning Provisions, which provides the relevant decision-making framework for native vegetation protection and conservation.

This section describes the flora and fauna attributes of the project site, the potential impacts, and the proposed mitigation and management measures for the project. Bat and Brolga impacts are addressed separately under sections 7.3.4 and 7.3.5 respectively.

Native vegetation

Assessment

This section relates specifically to the permit trigger for the removal of native vegetation in accordance with Clause 52.17 of the planning scheme.

A combination of desktop information and field-based survey techniques were used to characterise native vegetation within the project site and surrounding areas.

Extensive vegetation and flora surveys have been carried out at the project site. The initial surveys were done by Ecology Partners Pty Ltd from 2009 to 2017, and then by Nature Advisory Pty Ltd from 2018 onwards.

The project is within the Victorian Volcanic Plain bioregion. Volcanic activity in the region has, over long geological period, deposited thin broad shields or long lava flows of basalt, creating extensive flat to undulating plains interspersed with volcanic cones. Within this landscape are scattered shallow lakes and incised watercourses. Native grasslands occur in areas where these flows have experienced long periods of weathering, producing heavy grey, red or black cracking clay soils, which are generally fertile but poorly drained. In contrast, the youngest relatively unweathered lava flows are known as stony rises and have thin soils and support woodland vegetation. Trees and shrubs are either absent or are restricted to watercourses, swamps or rocky hills and slopes bordering the plains.

Overall, species diversity of this region is very low primarily because of its pastoral and agricultural history, dating from the late 1830s and early 1840s. In most areas, the native plants have been replaced by pasture grasses and clovers, crop plants, and weeds. Remnants of the native flora are fragmented, and mostly confined to the sides of roads and railways, rocky areas or to small forest reserves that have not been cultivated or modified.

Within the project site, nine Ecological Vegetation Classes (EVCs) were mapped within the investigation area, covering an area of 909.914 hectares as shown in Figure 7-7. This includes 183.529 hectares of DEECA-mapped wetlands, which are treated as native vegetation. Areas not supporting remnant native vegetation have a high cover (>90%) of exotic grass species, many of which have been direct seeded for use as pasture. Scattered native grasses are generally present in these areas, however, are less than the required 25% cover to be considered a remnant patch of native vegetation.

The Bog Gum (critically endangered under the FFG Act), is the only listed species identified during 2026 surveys of the Over-dimensional Transport Route.

A total of 183 scattered trees were mapped in the investigation area, comprising:

- 82 large scattered trees (≥ 70 centimetres diameter at breast height (DBH) for Eucalypts and ≥ 40 centimetres DBH for Wattles)



- 101 small scattered trees (< 70 centimetres DBH and < 40 centimetres DBH for Wattles).

No scattered trees were recorded in the over dimensional route study area.

Three ecological communities listed under the EPBC Act were identified within the investigation area, all of which are listed as Critically Endangered under the EPBC Act:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Seasonal Herbaceous Wetland of the Temperate Lowland Plain
- Natural Temperate Grassland of the Victorian Volcanic Plain.

Two patches of Higher Rainfall Plains Grassy Woodland EVC (EVC 55_63) within the investigation area were found to meet the condition thresholds for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain ecological community, comprising approximately 0.836 hectares.

The Seasonal Herbaceous Wetland of the Temperate Lowland Plain ecological community is associated with Plains Grassy Wetland EVC (EVC 125). Patches of Plains Grassy Wetland surveyed in 2018, 2021 and 2025 were found to meet the relevant EPBC Act condition thresholds and therefore this ecological community was confirmed within the investigation area.

Areas of Heavier-soils Plains Grassland EVC (EVC 132_61) were also identified as meeting the condition thresholds for the Natural Temperate Grassland of the Victorian Volcanic Plain ecological community within parts of the investigation area.

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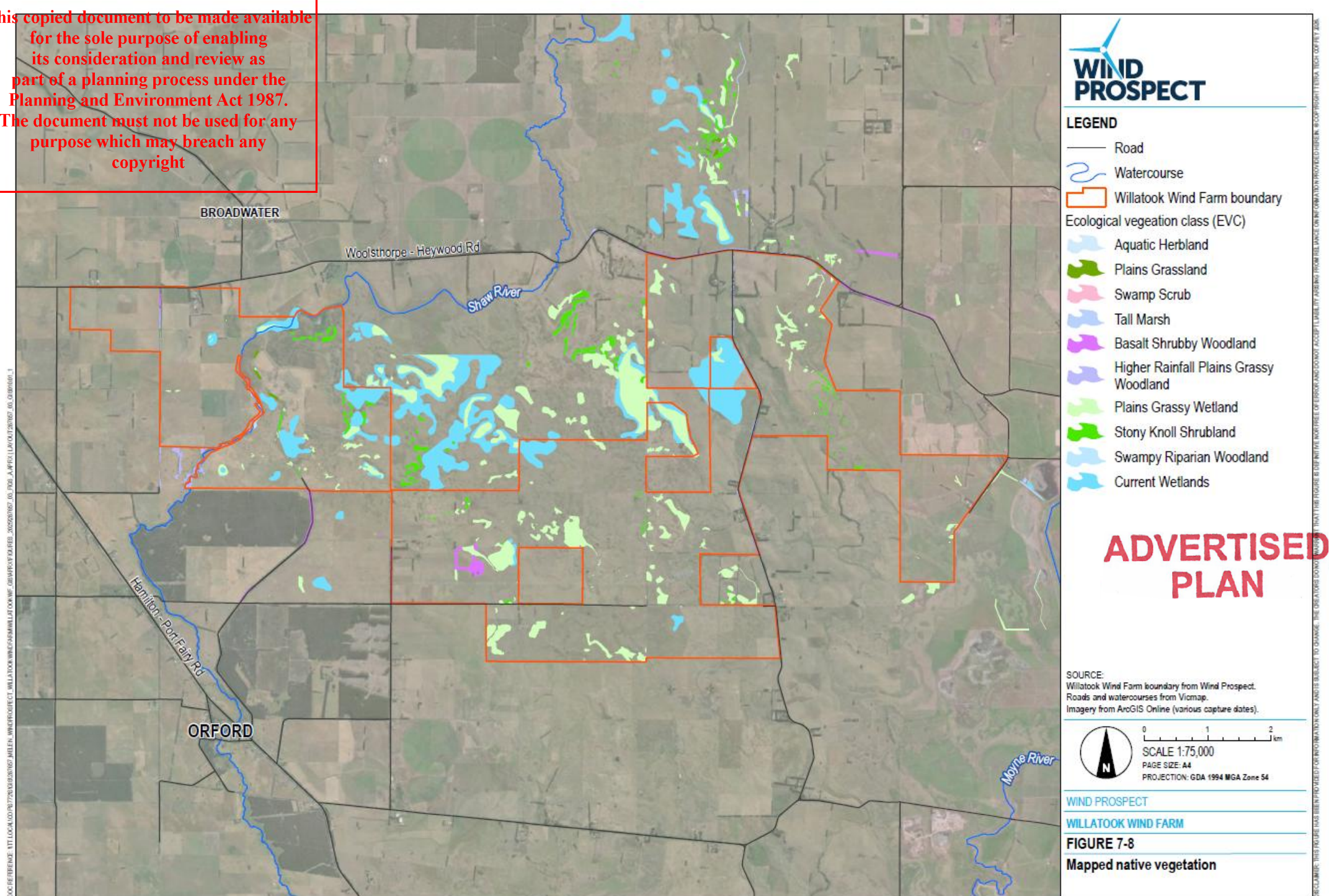


Figure 7-7 Mapped vegetation within the project site

Management and mitigation

Native vegetation surveys have progressively refined the understanding of native vegetation coverage and habitat for threatened flora and fauna across the site. Throughout the design process there have been significant efforts made to avoid the clearance of native vegetation.

The proposed construction footprint consists of approximately 259.2 hectares of temporary and permanent disturbance associated with construction activities. As the construction footprint has been derived in accordance with the 'avoid' and 'minimise' principles, the majority of the native vegetation has been avoided and would be retained.

The original project design as envisaged in 2010, would have resulted in the need to remove at least 20 hectares of native vegetation. A range of subsequent design changes were made as part of the project's concept design that was referred to DELWP in 2018, including re-routing of site tracks and underground cabling, repositioning three wind turbines and associated hardstands, and repositioning a further four hardstands. As a result, the referred concept design would have resulted in the need to remove at least 9 hectares of native vegetation.

Further avoidance measures were carried out through the EES process. The Minister's Assessment notes:

The IAP concluded that the EES has appropriately applied the avoid and minimise principles to reduce vegetation removal, and that the impact on EPBC Act-listed flora species and ecological communities will be minimised as far as practicable.

Following the Minister's Assessment and release of the Handbook for the Development of Renewable Energy in Victoria, the project underwent further iterative refinement focused on avoiding and minimising impacts to native vegetation and sensitive habitat features. As outlined in the Biodiversity Assessment Addendum, detailed civil engineering and three-dimensional modelling were used to optimise the layout and apply more conservative assumptions regarding construction disturbance footprints, including turbine hardstands, access tracks and underground cabling corridors. Additional field surveys for native vegetation were undertaken between 2025 and 2026 and also refined the mapped extent and condition of native vegetation and threatened flora across the site, resulting in some areas of previously unmapped or revised native vegetation being identified. Throughout this process, infrastructure was preferentially located within cleared or highly modified agricultural land, with progressive refinement of tracks, cable alignments and ancillary infrastructure reducing overall disturbance footprints and avoiding higher value vegetation and habitat wherever practicable.

The project re-design has resulted in the estimated clearance of 6.109 hectares of native vegetation. Losses of native vegetation would be offset in accordance with the Native Vegetation Guidelines. Areas of avoided native vegetation clearance based on the conceptual design of the project are shown in Figure 7-8 along with areas of proposed native vegetation clearance.

Other management measures relating to native vegetation include:

- Obtaining appropriate approvals and permits before any vegetation removal
- Securing appropriate offsets in accordance with state and Commonwealth legislation and policy
- Locating temporary infrastructure areas (parking areas, stockpiles, laydowns etc.) in cleared areas
- Ensure all construction personnel are appropriately briefed before works start

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- Ensure that no construction personnel, machinery or equipment are placed inside vegetation/tree protection zones.

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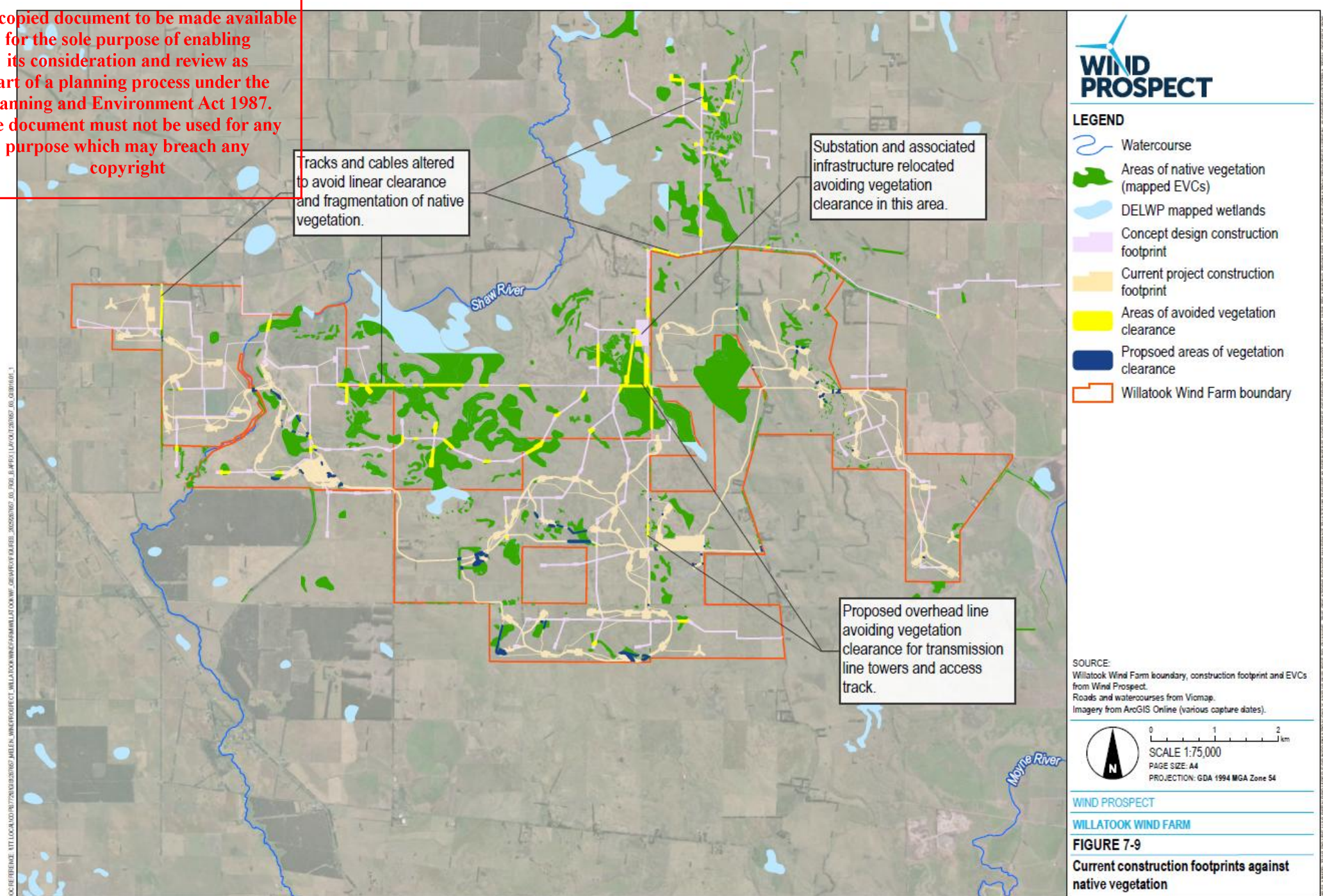


Figure 7-8 Comparison of current and previous construction footprints and native vegetation clearance and avoided clearance

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Assessment of residual impacts

Construction of the project would result in the loss of 6.109 hectares of native vegetation.

Native vegetation unable to be retained during the design and construction phases would be offset according to the Native Vegetation Guidelines. The amount of native vegetation required to be offset for the project is presented in Table 7-3 and discussed in detail in the Biodiversity Assessment. All offsets would be secured before the removal of native vegetation.

Table 7-3 project offset requirements

Aspect	Offset requirement
General offset amount	1.3240 general habitat units
Vicinity	Glenelg Hopkins CMA boundary or the Moyne municipal district
Minimum strategic biodiversity value	0.3280

These offset requirements are associated with native vegetation impacts across both Glenelg Shire and Moyne Shire LGA's. The offsets required for impacts in each LGA are detailed in Table 7-4 below.

Table 7-4 Glenelg and Moyne LGA offset requirements

Glenelg Shire	
General offset amount	0.0510 general habitat units
Vicinity	Glenelg Hopkins CMA boundary or the Glenelg municipal districts
Minimum strategic biodiversity value	0.2740
Moyne Shire	
General offset amount	1.2730 general habitat units
Vicinity	Glenelg Hopkins CMA boundary or the Moyne municipal districts
Minimum strategic biodiversity value	0.3300

The Minister's Assessment notes that native vegetation impacts have been appropriately minimised, are considered acceptable, and can be managed through the IAP's proposed permit conditions and environmental management measures.

Potential impacts to EPBC Act-listed ecological communities have been substantially reduced through iterative project design refinement, including the relocation and micro-siting of turbines, access tracks, hardstands and underground cabling to avoid higher quality native vegetation and wetland areas wherever practicable.

The current project layout will result in limited impacts to the Critically Endangered Seasonal Herbaceous Wetland of the Temperate Lowland Plain ecological community, with approximately



0.242 hectares confirmed to be impacted, together with 0.352 hectares of native vegetation considered to have the potential to meet the community threshold criteria, but requiring seasonally appropriate survey conditions to confirm. While impacts to this ecological community could not be entirely avoided due to overlapping ecological and operational constraints, the project has undergone substantial refinement since the EES to minimise impacts wherever practicable.

Two patches of Grassy Eucalypt Woodland of the Victorian Volcanic Plain ecological community were identified within the investigation area; however, these patches have been avoided through the current layout and associated infrastructure design. Areas of Natural Temperate Grassland of the Victorian Volcanic Plain were also identified within the broader investigation area, with avoidance and minimisation measures incorporated into the detailed project design process.

Residual impacts to EPBC Act-listed ecological communities will be managed in accordance with the mitigation hierarchy and relevant legislative requirements, including the provision of native vegetation and EPBC Act offsets where required. Supplementary targeted surveys and detailed design refinement will continue prior to construction to further confirm the extent of potential ecological communities within limited remaining areas of potential habitat.

Consistency with planning provisions

The provisions of the Moyne Planning Scheme have been considered in the design of the project to assist in the protection and conservation of Victoria's biodiversity, consistent with the provisions of Clause 12.01-1S. The approach to the removal of native vegetation has been to avoid and minimise its removal, consistent with the provisions of the Clause 52.17 and the Native Vegetation Framework, as well as Clause 12.01-2S that contains an objective *"to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation."*

Flora

The addendum assessment submitted in support of this amendment application is an addendum to the Willatook Wind Farm Flora and Fauna Assessment (Nature Advisory 2022a), which was submitted as part of the Environmental Effects Statement for this project. Since the submission of that report, there has been further surveys of native vegetation and flora and the desktop assessment of historical records have been completed and is summarised. Results from bird utilisation surveys, migratory shorebirds, reptiles and fish were not required to be updated, so a summary of the results for those fauna groups has been provided here. For a full description of these studies please refer to the previous report.

Method

A combination of desktop information and field-based survey techniques were used to characterise the flora and fauna within the project site and surrounding areas.

Numerous flora surveys have been undertaken at the project site. The initial surveys were undertaken by Ecology Partners Pty Ltd from 2009 to 2011, and then by Nature Advisory from 2018 onwards.

Subsequent to layout changes post-EES, additional targeted surveys were undertaken in previously unsurveyed impact areas and all proposed areas of disturbance in October 2025. The OD route was surveyed in March 2026. Supplementary spring surveys will be undertaken in seasonally appropriate conditions to confirm the extent of a small number of previously identified areas potentially supporting

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EPBC Act-listed ecological communities and threatened flora to confirm findings of the existing assessment.

The flora and fauna investigation area for the database searches of existing flora and fauna species records and potential occurrence of EPBC Act matters was defined as the project site plus a buffer area of at least 10 kilometres from the project site boundary.

Existing conditions

The majority of the site has been cleared of native vegetation for agricultural purposes. Exotic pasture and crops cover most of the site area. This area is largely grazed by livestock and provides little habitat or shelter for indigenous fauna. Within these areas there are areas (often linear) of planted vegetation, usually as wind breaks, and farm dams.

Other habitats for flora and fauna identified include:

- Modified native grasslands – these largely restricted to roadsides with areas mapped as the Plains Grassy Woodland (EVC 55 63). This habitat was assessed to be of moderate habitat quality.
- Modified woodland and scattered trees – occur primarily along roadsides and some patches in agricultural land, and scattered remnant trees and Basalt Shrubby Woodland (EVC 642). This habitat was assessed to be of low to moderate habitat quality.
- Rocky rise/stony knoll – occurs in much of the southern section of the site in grazing land and includes patches of Stony Knoll Shrubland (EVC 649). This habitat was assessed to be of low to moderate habitat quality.
- Swamps and marsh – These habitats are predominantly inundated during Winter and Spring before drying during Summer. Much of the original wetland habitat has been modified or drained. The largest of these habitats is Cockatoo Swamp in the northern areas of the site and includes patches of Plains Grassy Wetland (EVC 125). This habitat was assessed to be of moderate habitat quality.

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Figure 7-9 Basalt Shrubby Woodland (EVC 642)



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Figure 7-10 Plains Grassy Wetland (EVC 125)



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Figure 7-11 Stony Knoll Shrubland (EVC 649)



Throughout the pre-EES assessments, 208 plant species were recorded (Nature Advisory 2022a). Surveys undertaken post EES identified 24 additional species, managing the cumulative total was 232 species, of which 143 (62%) were indigenous, and 89 (38%) were introduced, planted or non-indigenous native in origin.

The likelihood of occurrence analyses for listed threatened flora species were completed for both the wind farm site and the OD route. These analyses, updated for the amended layout, did not result in any changes to the likelihood of threatened species present within the study area.

Targeted surveys for the potentially presented listed flora species focussed on suitable habitats within proposed areas of development. Based on these targeted surveys two flora species of conservation significance were recorded in the investigation area. These were:

- Swamp Everlasting (*Xerochrysum palustr*) listed as vulnerable under the EPBC Act, listed as threatened under the FFG Act. A total of 24 plants were recorded within a single patch of Plains Grassy Wetland (EVC 125) on private land.
- Trailing Hop-bush (*Dodonaea procumbens*) listed as vulnerable under the EPBC Act and DEECA Advisory List. Three plants were recorded in two patches of Basalt Shrubby Woodland (EVC 642) along Old Dunmore Road



- Pale Swamp Everlasting (*Coronidium gunnianum*), listed as Critically Endangered under the FFG Act, was recorded within two localised patches of native wetland vegetation in the southern portion of the project site.
- Pale Flax-lily (*Dianella longifolia* var. *grandis*), listed as Critically Endangered under the FFG Act, was recorded within roadside and grassland vegetation, including along sections of Macknights Road.
- Matted Flax-lily (*Dianella amoena*), listed as Endangered under the EPBC Act, was recorded as a single specimen within a surveyed area.

Updated roadside vegetation assessments undertaken for the over-dimensional transport route identified a small number of flora species and native vegetation values of conservation significance, including a record of Bog Gum (*Eucalyptus kitsoniana*), listed as Critically Endangered under the FFG Act. Eight Bog Gum occur within the current impact footprint and are therefore anticipated to be impacted by the current proposal.

The assessment concluded that within the wind farm site a further 15 threatened flora species have the potential to occur. These include:

- Basalt Leek-orchid (FFG Act: critically endangered)
- Basalt Peppercress (EPBC Act: Endangered; FFG Act: endangered)
- Button Wrinklewort (EPBC Act: Endangered; FFG Act: endangered)
- Clover Glycine (EPBC Act: Vulnerable; FFG Act: vulnerable)
- Curly Sedge (FFG Act: endangered)
- Dense Leek-orchid (EPBC Act: Vulnerable; FFG Act: critically endangered)
- Gorae Leek-orchid (EPBC Act: Endangered; FFG Act: critically endangered)
- Lacey River Buttercup (FFG Act: critically endangered)
- Maroon Leek-orchid (EPBC Act: Endangered; FFG Act: endangered) • Pretty Leek-orchid (FFG Act: critically endangered)
- Purple Blown-grass (FFG: endangered)
- Slender Style-wort (FFG Act: endangered)
- Swamp Diuris (FFG Act: endangered)
- Swamp Fireweed (EPBC Act: Vulnerable)
- Swamp Flax-lily (FFG Act: endangered)

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Management and mitigation

The project has applied the mitigation hierarchy whereby the approach has been to firstly avoid potential impacts if possible and practical, then to minimise the severity of the impact, followed by the application of targeted mitigation and management measures.

Adoption of the mitigation hierarchy has included:

- Avoid: measures taken to avoid impacts from the outset using spatial placement of infrastructure away from known threatened flora.
- Minimise: measures taken to reduce the extent of impacts that cannot be completely avoided, as far as is practically possible.

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- Offset: measures taken to compensate for any residual, adverse impacts that cannot be avoided, minimised and/or rehabilitated or restored, in order to achieve no net loss or preferably a net gain of biodiversity. The project would offset any clearance of native vegetation.

From the earliest point in the project design, known threatened flora have been built into the project geographic information system (GIS) as constraints. These constraints have been progressively refined as ecological field studies have been conducted and an improved understanding of the site has been achieved.

Other specific design measures that have been developed in response to key environmental features of the site relating to native vegetation, ephemeral wetlands, watercourses, and habitat features of threatened flora included:

- A large turbine free area was created centred on the Cockatoo Swamp was created primarily for the purposes to avoid impacts to Brolga breeding to exclude all project infrastructure
- A 100-metre buffer around watercourses including the Shaw River, and Back Creek, were buffered by 100 metres, with the exception of required access track and cable crossings

Assessment of impacts

Impacts on flora populations as a direct result of habitat loss are most influenced by the spatial extent and severity of the habitat loss and the nature of the population. As such the impact assessment focussed on those species that are of conservation significance, often having a restricted distribution or specific habitat requirements.

With respect to impacts to threatened flora the Minister's Assessment noted the following:

The IAP found that potential impacts to state and federally listed flora species have been assessed appropriately and that Wind Prospect has proposed appropriate management controls and mitigation measures to avoid and minimise impacts. I am [the Minister] satisfied that, through avoidance of the known locations of listed plants recorded on site and the framework provided by the proposed EMMs and proposed planning permit conditions, the project will not have a significant impact on threatened flora species.

A total of 24 Swamp Everlasting plants were recorded within a single patch of Plains Grassy Wetland on private land during surveys for the project. This patch has been avoided and will therefore not be impacted by the project. Based on avoidance measures applied during project design, approximately 98.2% of Plains Grassy Wetland EVC within the Site will be retained. As such, the project is predicted to have a very low impact on the species.

Trailing Hop-bush was recorded in two patches of Basalt Shrubby Woodland along Old Dunmore Road, which will not be impacted by the project. Based on avoidance measures made during project design, approximately 95.4% of associated habitat EVCs within the Site will be retained. As such, the project is predicted to have a very low impact on the species.

A total of 121 Pale Flax-lily individuals were recorded in two patches of Plains Grassy Woodland along Macknights Road, with 31 individuals identified within the proposed impact footprint. Based on avoidance measures applied during project design, approximately 99.4% of associated habitat EVCs within the Site will be retained. As such, the project is predicted to have a very low impact on the species.

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A significant number (>500 individuals) of Pale Swamp Everlasting was recorded across three patches of Plains Grassy Wetland. Through iterative project redesign, including refinement of turbine locations, access tracks and underground cabling, the vast majority of individuals and associated habitat have been avoided, with only 16 individuals identified within the proposed impact footprint. Based on avoidance measures applied during project design, approximately 98.8% of associated habitat EVCs within the Site will be retained. As such, the project is predicted to have a very low impact on the species.

The single Matted Flax-lily (*Dianella amoena*) was located within a surveyed area of the proposed construction footprint. The project commits to avoiding this individual through detailed micro-siting during final design and construction planning.

A range of other threatened flora species associated with grassland, grassy woodland and wetland habitats have potential to occur within the project area. The majority of suitable habitat within the development footprint has been subject to targeted seasonal surveys, which did not detect these species. Very limited areas of potential habitat remain to be surveyed prior to construction, with approximately 95% of grassland/grassy woodland habitat EVCs and 99.5% of Plains Grassy Wetland EVC retained through project design. Where required, further targeted surveys and species-specific management measures will be implemented. As such, the project is predicted to have a very low impact on these species.

A total of eight Bog Gum individuals were recorded within a single patch of Coastal Headland Scrub (Habitat Zone 5AH) in roadside vegetation. Although these individuals were growing amongst planted vegetation, there was a lack of evidence to suggest they were also planted. As this species naturally occurs in the region, it has been assumed to be a remnant on a precautionary basis. All eight individuals occur within the extent of the Blade Body Swept Path and therefore are considered to be lost.

Fauna (excluding Brolga and bats)

The addendum assessment submitted in support of this amendment application is an addendum to the Willatook Wind Farm Flora and Fauna Assessment (Nature Advisory 2022a), which was submitted as part of the Environmental Effects Statement for this project. Since the submission of that report, desktop assessment of historical records have been completed and is summarised. Results from bird utilisation surveys, migratory shorebirds, reptiles and fish were not required to be updated, so a summary of the results for those fauna groups has been provided here. For a full description of these studies please refer to the previous report.

A combination of desktop information and field-based survey techniques were used to characterise the flora and fauna within the project site and surrounding areas.

Numerous fauna surveys have been undertaken at the project site. The initial surveys were undertaken by Ecology Partners Pty Ltd from 2009 to 2011, and then by Nature Advisory from 2018 onwards. In accordance with a risk-based approach, fauna surveys have focussed on bats, birds, reptiles and amphibians and aquatic fauna.

The fauna investigation area for the database searches of existing flora and fauna species records and potential occurrence of EPBC Act matters was defined as the project site plus a buffer area of at least 10 kilometres from the project site boundary.

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To characterise the bird community present within the project site a number of methods were used. Fixed-point bird surveys were completed in 2009, 2018 and 2019. These surveys involve an observer stationed at a survey point for 15 minutes. During this period, all birds (species and abundance) were recorded, and the height of birds were documented. Incidental observations of threatened bird species and raptors were also recorded while moving across the site.

Seasonal wetlands and farm dams were also visited on five separate surveys during spring and summer and assessed for the suitability to provide foraging habitat for migratory shorebirds. Searches were carried out using binoculars and telescope. All listed migratory birds encountered were identified and the number of individuals was counted. These surveys were completed in accordance with EPBC Act migratory shorebird survey guidelines.

A broad range of other fauna surveys were also completed for threatened fauna including:

- Striped Legless Lizard – habitat surveys and targeted tile surveys.
- Swamp Skink – trapping, active searching, and habitat surveys.
- Growling Grass Frog – targeted frog surveys and habitat surveys.
- Little Galaxias and Yarra Pygmy Perch – targeted fish surveys using bait traps, dip nets and Fyke nets

A range of further surveys and assessments were also completed to assess Bat species and Brolga, detailed under sections 7.3.4 and 7.3.5 below.

Existing conditions

Birds

From 2009 to the current date, a total of 96 bird species were recorded within the investigation area and surrounding areas between 2009 and 2020. This represents about half of bird species reported locally in the Victorian Biodiversity Atlas.

During 2018 and 2019 bird utilisation fixed point surveys were completed. The most common species recorded were Little Raven, Australian Magpie, Eurasian Skylark, Common Starling, Magpie-lark and Long-billed Corella. Overall, the five most common species represented more than two thirds of all birds recorded. Most bird sightings (95%) were recorded below 40 metres in height, with the remaining 5% being recorded between 40 and 250 metres in height. The only listed species observed during the bird utilisation surveys was the Fork-tailed Swift, which is listed as a migratory species under the EPBC Act.

The proposed modifications in turbine specifications result in an increase in the lower RSA height, now at 60 metres compared to 40 metres in the previous design. Table 7-5 shows a comparison of the number of birds observed during Bird Utilisation Surveys (BUS) undertaken for the Willatook Wind Farm regarding the changed RSA height.

This table demonstrates that by raising the lower RSA, the number of birds observed flying in the RSA has reduced from 100 observations (4.98% of all birds observed) to 21 observations (1.05% of all birds observed).

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Table 7-5 Comparison of the height distribution of birds during two seasons of BUS at two RSA heights (40-230 metres and 60-230 metres)

Season	Total number of birds	No of birds at 40-230 metres RSA (%)	No of birds at 60-230 metres RSA (%)
Spring	914	64 (7.00%)	20 (2.19%)
Summer	1,094	36 (3.29%)	1 (0.09%)
TOTAL	2,008	100 (4.98%)	21 (1.05%)

Previous BUS results included six raptor species recorded, with Brown Falcon and Nankeen Kestrel being the most frequently recorded species. Raptors represented a small proportion of the total bird community recorded in the site. Wedge-tailed Eagles were rare, being recorded on only three occasions. While not recorded during surveys the Black Falcon and Little Eagle were assessed to have the potential to pass through the site.

Due to the presence of potentially suitable habitat at a range of wetlands and watercourses within the investigation area, surveys for migratory shorebirds and potential habitat were undertaken. From these surveys, Nature Advisory considered there was potential for five migratory wader species to occur within the site. Of these, the Sharp-tailed Sandpiper, Common Greenshank and Latham's Snipe were recorded, and the Curlew Sandpiper and Red-necked Stint were assessed to occasionally visit. These species were recorded in low numbers and were well below the criteria of a population of national importance of 0.1% of flyway population.

Nature Advisory determined there is little suitable habitat within the site for most migratory shorebirds, largely due to the highly ephemeral nature of most waterbodies, and limited extent of open water or exposed muddy shorelines. The lack of extensive habitat, and the small numbers of these species observed indicate the wetland areas within the site are unlikely to support important habitat of any of these species.

Other fauna species (excluding birds and bats)

Based on habitat suitability and historical records from the Victorian Biodiversity Atlas (VBA) as well as the Commonwealth Protected Matters Search Tool (PMST), it was determined that three reptile species (Striped Legless Lizard, Glossy Grass Skink and Swamp Skink), one frog species (Growling Grass Frog), two fish species (Yarra Pygmy Perch and Little Galaxias) and one invertebrate species (Hairy Burrowing Crayfish) listed under the EPBC Act or the Flora and Fauna Guarantee Act (FFG Act) had the potential to occur within areas of suitable habitat in the project site.

The Striped Legless Lizard is considered unlikely to be present in the wind farm development area based on past targeted surveys. Glossy Grass Skink and Swamp Skink habitat in the form of native grassland habitat with Blackwood overstorey in roadside reserves and riparian habitat are avoided. Impacts to potential Growling Grass Frog remain the same (0.14 ha) through one waterway crossing at Back Creek and otherwise a 100 metre buffer to suitable habitat along Back Creek and Moyne River. Impacts to Yarra Pygmy Perch and Little Galaxias are avoided, and Hairy Burrowing Crayfish is considered unlikely to occur within the project boundary

Approximately 0.043 ha of native vegetation is slated to be removed along the OD route, with the majority of this vegetation classified as Plains Swampy Woodland made up of an Acacia-dominated understorey with a highly modified groundcover of largely exotic species. The removal of this native



vegetation is shared over several locations along the route, meaning each patch of native vegetation that is being affected is of a small size. The habitat being impacted is an extremely small proportion of the habitat present along the route, with the majority of the habitat affected being highly modified and fragmented due to the vast areas of pasture and cropland around them. Due to the small size and fragmented nature of the habitat affected, coupled with the fact that the habitat is not of particularly high quality, the impacts to the habitat of fauna along the OD route are therefore unlikely to have any measurable impacts on any particular fauna species.

Management and mitigation

The project has applied the mitigation hierarchy whereby the approach has been to firstly avoid potential impacts if possible and practical, then to minimise the severity of the impact, followed by the application of targeted mitigation and management measures.

Adoption of the mitigation hierarchy has included:

- Avoid: measures taken to avoid impacts from the outset using spatial placement of infrastructure away from ecological values (including fauna habitat), or scheduling works to avoid impacts.
- Minimise: measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided, as far as is practically possible.
- Offset: measures taken to compensate for any residual, adverse impacts that cannot be avoided, minimised and/or rehabilitated or restored, in order to achieve no net loss or preferably a net gain of biodiversity. The project would offset any clearance of native vegetation.

Other specific design measures that have been developed in response to key environmental features of the site relating to habitat features of threatened fauna included:

- A large turbine free area was created centred on the Cockatoo Swamp was created primarily for the purposes to avoid impacts to Brolga breeding to exclude all project infrastructure
- A 100-metre buffer around watercourses including the Shaw River, and Back Creek, were buffered by 100 metres, with the exception of required access track and cable crossings
- Locating all wind farm infrastructure more than 100 metres of outer edge of mapped Growling Grass Frog Habitat, with the exception of a single watercourse crossing
- Adopting a minimum tip height of 60 metres. This limit will minimise potential collision risk with birds and bats, and was informed by flight behaviour data gathered by Nature Advisory during 15 years of bird and bat surveys in south-west Victoria. This data shows decreasing bird and bat strikes with increasing turbine blade height.

Residual impact assessment

During construction there is the potential for direct habitat loss from vegetation clearance and physical disturbance associated with construction earthworks, as well as habitat degradation from indirect effects such as hydrological changes. At this time, there would also be increased noise, vibration and lighting that has the potential to disrupt the behaviour of birds. Once operating, impacts to birds include bird death or injury from collisions with wind turbines, and indirect impacts from habitat disruption and displacement due to the presence of wind turbines.

Under the new turbine design, when compared to the previous design, there is a reduced risk of birds colliding with turbine blades. Under the previous turbine design, nine species of birds were



considered to have been recorded flying at RSA height, with one of them listed under the EPBC Act (Fork-tailed Swift, listed as Migratory under the EPBC Act). In contrast, two species of birds are considered to have been recorded flying at TSA height under the modified design, with neither listed under the EPEBC or FFG Act.

To limit potential impacts of proposed watercourse crossings a range of measures are proposed that would form a Growling Grass Frog Management Plan. These include completing pre-clearance surveys for the species, implementing a salvage and translocation protocol, installing temporary frog exclusion fencing at crossing points, reducing the construction footprint within mapped habitats, adopting recommended crossing designs by DELWP (now DEECA) (2017) to ensure habitat connectivity is maintained, and promptly restoring and enhancing affected areas.

Where essential wind farm infrastructure (e.g., access roads, underground cabling trenches) intersects an area identified as potential habitat for Growling Grass Frog, specific action would be undertaken as outlined in the CEMP. The CEMP would describe appropriate disturbance mitigation measures in relation to sensitive habitat areas such as watercourse banks, channels and nearby vegetation.

To limit potential impacts to the Striped Legless Lizard, a range of management measures are proposed. These include inducting all workers on site during construction to recognise this species and alert the site manager when found, and if found implementing a salvage and translocation protocol.

Where practicable, trenched watercourse crossings will be constructed during no or low flow conditions. Bridges and culverts would be designed to allow flow beneath the roads along their natural flow paths. The watercourse crossings construction method would be dependent on the site conditions of the crossing location. All watercourse crossings and culvert and bridge designs would conform to relevant local Council, Glenelg Hopkins Catchment Management Authority and guidelines.

Appropriate sediment control structure would also be used to capture suspended solids and stream banks would also be promptly rehabilitated. It is proposed that fish friendly culverts would be used for the proposed crossings of Shaw River and Back Creek.

The Minister's Assessment concluded that potential impacts to a range of threatened fauna species, including Growling Grass Frog and Striped Legless Lizard, had been appropriately assessed and that appropriate management controls and mitigation measures had been proposed to avoid and minimise impacts. The Minister further concluded that residual impacts to these species were unlikely to be significant following implementation of the proposed mitigation framework.

Consistency with planning provisions

The provisions of the Moyne Planning Scheme have been considered in the design of the project to assist in the protection and conservation of Victoria's biodiversity consistent with the provisions of Clause 12.01-1S. This has included due consideration of flora and fauna values, including avoiding and minimising impacts on native vegetation to preserve habitat, and minimising environmental impact in accordance with Clause 12.01-2S Native vegetation and Clause 52.17 Native vegetation. Due consideration has also been given to river corridors, waterways, lakes and wetlands in accordance with Clause 12.03-1S.

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7.3.4 Bat species of concern

Purpose

The potential impact of wind farms on Victoria's bat species is a key environmental issue for the wind energy industry. Clause 52.32 requires any application for a wind energy facility to consider the impact on any species (including birds and bats) listed under the *FFG Act* or the *EPBC Act*. The Planning Guidelines identify bird and bat casualties resulting from collisions with moving turbine blades as one of the key potential biodiversity impacts for wind farm projects.

This section describes the assessment of potential impacts from the construction, operation and decommissioning of the project on bat species of concern, with specific reference to the Southern Bent-Wing Bat (SBWB) as a critically endangered species under the *EPBC Act* and *FFG Act*. Measures taken to avoid and minimise these impacts in accordance with DEECA's recently released Handbook, and the findings of the EES and Minister's Assessment are also discussed.

The Minister's Assessment includes several recommendations relating specifically to the SBWB, to ensure any impacts to the SBWB are acceptable and manageable. The Bat Impact Assessment prepared by Nature Advisory addresses these recommendations, as well as the relevant guidance provided in the Handbook.

Assessment

Over the last decade, extensive echolocation surveys were undertaken. Survey effort totalled 4,646 nights over 107 unique sites in various seasons for five years between 2009 and 2020, one of the largest bat utilisation datasets collected for a Victorian wind farm. These included:

- Ultrasonic surveys undertaken on, or near, the proposed WWF site during Spring 2009, Spring 2010, Summer-Autumn 2011, Spring 2018 and Summer/Autumn 2019;
- Habitat gradient studies undertaken in Summer/Autumn 2019 and Summer/Autumn 2020;
- At-height surveys at two met mast survey across 2019–2020 that was designed to detect the SBWB and YBSB at-height in the study area. Landholder and specialist groups were consulted to determine the potential of cave roost sites within the vicinity of the proposed project; and
- Desktop assessment of potential maternity/roosting sites and camps.

Ten species of bats were recorded during bat surveys between 2009 and 2020. Eight of the species recorded are considered secure in their conservation status (i.e., not listed as threatened) and are widely distributed. Most calls in the site were from the ground-based detector indicating bats in these areas typically fly around ground level. Species recorded at a height of 45 metres were Gould's Wattled Bat, Chocolate Wattled Bat, Large Forest Bat, Little Forest Bat and White-striped Freetail Bat, but at a much lower frequency.

Two species recorded were listed threatened bats; the Southern Bent-wing Bat (EPBC Act Critically Endangered, FFG Act Critically Endangered) and Yellow-bellied Sheath-tail Bat (FFG Act Vulnerable). A further four multi-species complexes were recorded, including the Long-eared bats (*Nyctophilus* spp.), Forest Bats (*Vespadelus* spp.), and Freetail Bat (*Ozimops* spp.) complexes. Species belonging to these species' complexes are not threatened.

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Out of tens of thousands of recorded bat calls from surveys undertaken between 2009 and 2020, 160 calls were attributed to the Southern Bent-wing Bat and 10 survey locations recorded Yellow-bellied Sheath-tail Bat. Southern Bent-wing Bat activity was generally low across the broader project area and was spatially concentrated near higher quality habitat features, particularly around the Shaw River corridor, treed vegetation, wetlands and areas of permanent water. Approximately 80% of confirmed SBWB calls were recorded within 50 metres of trees, while relatively few calls were recorded within the more open agricultural landscape. Survey results also demonstrated temporal variability, with the highest number of confirmed SBWB calls recorded during the earlier 2010–2011 survey period and substantially lower activity recorded during subsequent surveys between 2018 and 2020. YBSB records were limited to isolated or infrequent calls, with low levels of activity recorded across the study area and several records occurring outside the main turbine layout area, indicating the species is an occasional visitor rather than a frequent user of the site.

Higher quality bat habitat within the project area is primarily associated with the Shaw River corridor, permanent and ephemeral wetlands, farm dams, remnant woodland, roadside vegetation and planted tree lines that provide foraging and movement corridors within the broader agricultural landscape. As part of the updated assessment, habitat mapping and associated turbine-habitat buffers were further refined, with areas supporting relatively higher levels of SBWB-definite or SBWB-complex activity subsequently prioritised for avoidance and informing the refinement of turbine siting, habitat buffers and associated infrastructure design.

The project site is not close to a significant roosting site for the Southern Bent-wing Bat and is not a key foraging area for the species.

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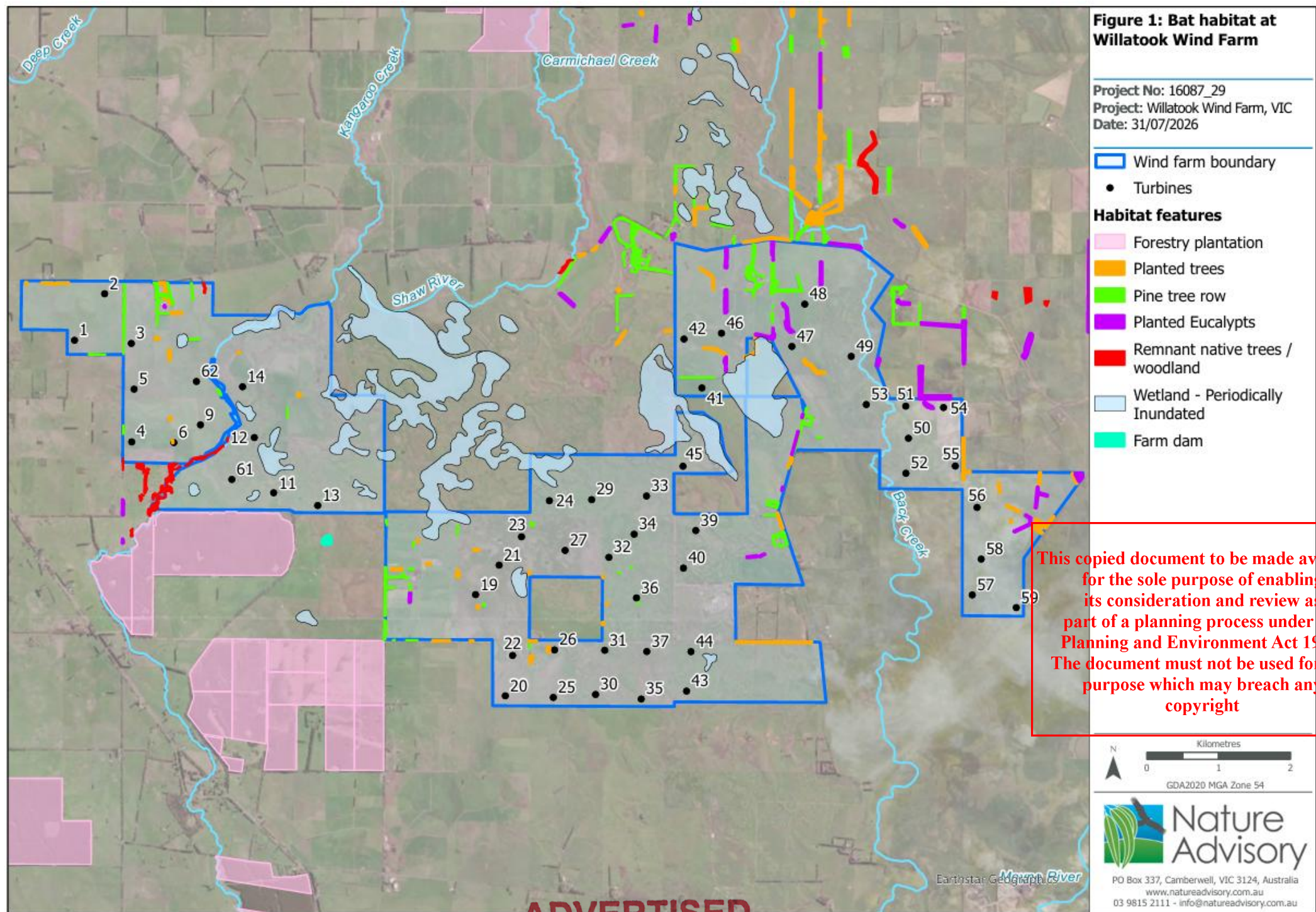


Figure 7-12 Bat Habitat across the project site



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Management and mitigation

The Handbook requires wind farm projects to meet criteria to avoid, minimise, and mitigate impacts to bat species. The project has applied the mitigation hierarchy to appropriately manage the risk of bat collisions with turbines. The project's mitigation approach is informed by the survey work undertaken, the findings of the EES and Minister's Assessment, and guidance contained within the Handbook. The impact assessment to the SBWB, Yellow-bellied Shearwater, and Grey-headed Flying-Fox before and after the implementation of the mitigation hierarchy is included in the Bat Impact Assessment (Nature Advisory, 2026b), and provided below.

A summary of the management and mitigation measures proposed for the project to minimise impacts to bat species of concern is included in the Bat Impact Assessment prepared by Nature Advisory. The measures aligning directly with the recommendations of the Minister's Assessment and the Handbook is provided in Table 7-6 and Table 7-7 respectively.

Table 7-6 Mitigation measures in alignment with the Minister's Recommendations (Nature Advisory, 2026b)

Minister's Recommendations	Application to the project
Applying a 200 metre turbine-free buffer to the potential SBWB foraging habitat.	The project has adopted a 200-metre blade-to-habitat buffer for key habitat features and areas of higher concentration of confirmed SBWB activity. While there is some overlap with potential SBWB foraging habitat, the extent of overlap was minimised through Micrositing of turbines.
Using a cut-in wind speed of at least 4.5 m/s from dusk to dawn between September and May for the life of the wind farm to minimise the risk of SBWB collisions with wind turbine generators.	Adopted by the project, with a nighttime cut-in speed for all turbines under the following conditions: • Time of year: September to May • Time of night: 30 minutes before sunset to 30 minutes after sunrise • Cut-in speed: 4.5 m/s • Climatic conditions: Low wind speed curtailment to be implemented when the temperature is above 10°C.
Applying the cut-in wind speed to all turbines of the project.	Adopted, with the nighttime cut-in speed to be applied to all turbines (under the above conditions).
Ongoing monitoring through the BAM Plan and implementation of appropriate additional mitigation measures in response to observed bird and bat impacts, noting that monitoring results should inform the potential need to increase the minimum cut-in wind speed or consider other effective management strategies if Southern Bent-wing Bat mortalities are recorded.	A BAM Plan has been prepared, and forms part of this amendment application. This includes adaptive management measures, including the events that may trigger further increased cut-in speeds and other management strategies.

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Table 7-7 Mitigation measures in alignment with DEECA's Handbook (Nature Advisory, 2026b)

Handbook's mitigation measures	Application to the project
Nighttime low-wind-speed curtailment	Adopted, including of use of species-specific information to select the curtailment approach to timing and season. Temperature and humidity are proposed as an additional condition for curtailment, where curtailment will only be active above 10°C and when it is not raining (relative humidity < 95%) when bats are more active.
Feathering below cut-in speed	Adopted, with feathering proposed for all turbines under all conditions.
Acoustic deterrents	Proposed for trialling as an adaptive management measure after triggering events in the BAM Plan.
Increased turbine height	Adopted. The EES design proposed a minimum wind turbine blade tip-height of 40 metres, which has been increased to 60 metres. Recent research using GPS-tracking found that fewer than 0.2% of modelled flights exceeded 60 metres (see Nature Advisory, 2026b).

Assessment of residual impacts

Based on the on-site bat recording and comparing the results of post construction monitoring of bat deaths, it is likely there would be bat turbine collisions. Species most likely to be affected would be White-striped Freetail Bat, Gould's Wattled Bat, Chocolate Wattled Bat, Large Forest Bat and Little Forest Bat. Each of these are considered to be secure (i.e., not threatened).

Table 7-8 Assessment of impacts to Southern Bent-wing Bat, Yellow-bellied Sheath-tail Bat and Grey-headed Flying-fox (Nature Advisory, 2026b)

Species	Impact pathway	Initial Impact Rating			Mitigation	Residual Impact Rating		
		Likelihood	Consequence	Impact Rating		Likelihood	Consequence	Impact Rating
Southern Bent-wing Bat	Direct impacts (collision)	Likely	Moderate	Medium	AV01–04, MM01 – 05	Less likely	Moderate	Low
	Indirect impacts (habitat loss, disturbance, displacement, and/or barrier effects)	Less likely	Low	Very Low	AV01–05, MM06	Less likely	Low	Very Low
Yellow-bellied	Direct impacts (collision)	Possible	Low	Low	AV02–05, MM01 – 05	Less likely	Low	Very Low

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Species	Impact pathway	Initial Impact Rating			Mitigation	Residual Impact Rating		
		Likelihood	Consequence	Impact Rating		Likelihood	Consequence	Impact Rating
Sheath-tail Bat	Indirect impacts (habitat loss, disturbance, displacement, and/or barrier effects)	Less likely	Low	Very Low	AV01 – 5, MM06	Less likely	Low	Very Low
Grey-headed Flying-fox	Direct impacts (collision and/or electrocution)	Less likely	Low	Very low	AV01–02, MM01–03, MM05	Less likely	Low	Very low
	Indirect impacts (habitat loss, disturbance, displacement, and/or barrier effects)	Less likely	Low	Very low	AV02 – 04	Less likely	Low	Very low

Nature Advisory (2026b) conclude that potential impacts to the Southern Bent-wing Bat (SBWB), Yellow-bellied Sheath-tail Bat (YBSB) and Grey-headed Flying-fox (GHFF) have been substantially reduced through application of the mitigation hierarchy and detailed project refinement. Extensive bat utilisation surveys undertaken between 2009 and 2020 identified generally low levels of threatened bat activity across the site, with SBWB activity largely concentrated around retained habitat features such as waterways, wetlands and treed corridors. No Grey-headed Flying-fox camps or significant foraging habitat were identified within the project area.

The project has undergone substantial redesign since the EES, including a significant reduction in turbine numbers, refinement of turbine siting, increased separation from key habitat features, increased blade tip heights and implementation of operational mitigation measures including blanket low wind speed curtailment across all turbines. These measures are further supported through the proposed Bat and Avifauna Management Plan (BAM Plan), which includes ongoing monitoring and adaptive management measures where required.

While a residual collision risk for threatened bat species cannot be entirely eliminated, the assessment concludes that residual impacts are expected to be low or very low and manageable following implementation of the proposed avoidance, mitigation and adaptive management measures (Table 7-8), consistent with the Minister's Assessment and the DEECA Handbook.

Consistency with planning provisions

The provisions of the Moyne Planning Scheme have been considered in the design of the project to assist in the protection and conservation of Victoria's biodiversity consistent with the provisions of Clause 12.01-1S. This has included due consideration for impacts to threatened bat species,

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and the application of a mitigation hierarchy approach to limit these impacts so far as reasonably practicable.

7.3.5 Brolga

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Purpose

The potential impact of wind farms on Victoria's Brolga population is seen as a key environmental issue for the wind energy industry in south-west Victoria. This is because a large proportion of the Victorian Brolga population's range occurs in areas proposed for wind farm development.

This section describes the assessment of potential impacts from the construction, operation and decommissioning of the project on Brolga, and measures taken to avoid and minimise these impacts in accordance with DEECA's recently released Handbook, which contains guidance to avoid, minimise, mitigate and compensate for impacts on threatened bird and bat species. The Handbook includes a species-specific guide for Brolga:

- *Appendix 2 – species specific guidance for onshore wind energy facilities – Victorian Brolga (DEECA 2025, Appendix 2)*

This document was released following the project's EES and Minister's Assessment, and supersedes the Interim Brolga Guidelines which were applied for the original Brolga Impact Assessment.

The Minister's Assessment indicated potential impacts to Brolga resulting from the project would be acceptable provided the following key management measures were implemented:

- Application of buffers for Brolga Breeding Wetlands
- Avoidance of buffers with wind turbines, including the sweep of turbine blades
- Avoidance of construction during the breeding season
- Development of a collision mortality monitoring program and compensation plan.

The recommendations outlined in the Minister's Assessment were informed by the earlier Interim Brolga Guidelines. As such, where there are any inconsistencies between these recommendations, and the guidance contained within the Handbook, the Handbook has been applied as the most current Brolga guidance.

A detailed and updated assessment of the impact of the project on Brolga, which responds to the Minister's recommendations and applies the new Handbook, has been prepared by Nature Advisory (2026a) and is submitted in support of this amendment application. This assessment also considers the updated project design and layout.

Assessment

The Brolga is an iconic wetland bird that is listed as endangered in Victoria. The southern portion of the population has experienced significant decline since European settlement attributed to habitat loss from agriculture and wetland drainage, predation from foxes, and collisions with fences and powerlines.

Over the last decade significant efforts have been made to assess Brolga activity and suitable habitat at the project site and surrounding area. Assessment has included a review of existing Victorian Government database records, consultation with project and surrounding landowners, aerial surveys,



many field surveys of wetlands recording Brolga activity and the suitability of wetlands as Brolga habitat, and hydrological modelling to identify potential habitat.

Following the EES and release of the Minister's Assessment, further on-ground breeding surveys were undertaken by Nature Advisory between 2024 to 2025, as well as additional hydrological/wetland assessments in 2024 and 2025.

A map showing Brolga breeding records within and surrounding the project site is provided at Figure 7-13 below.

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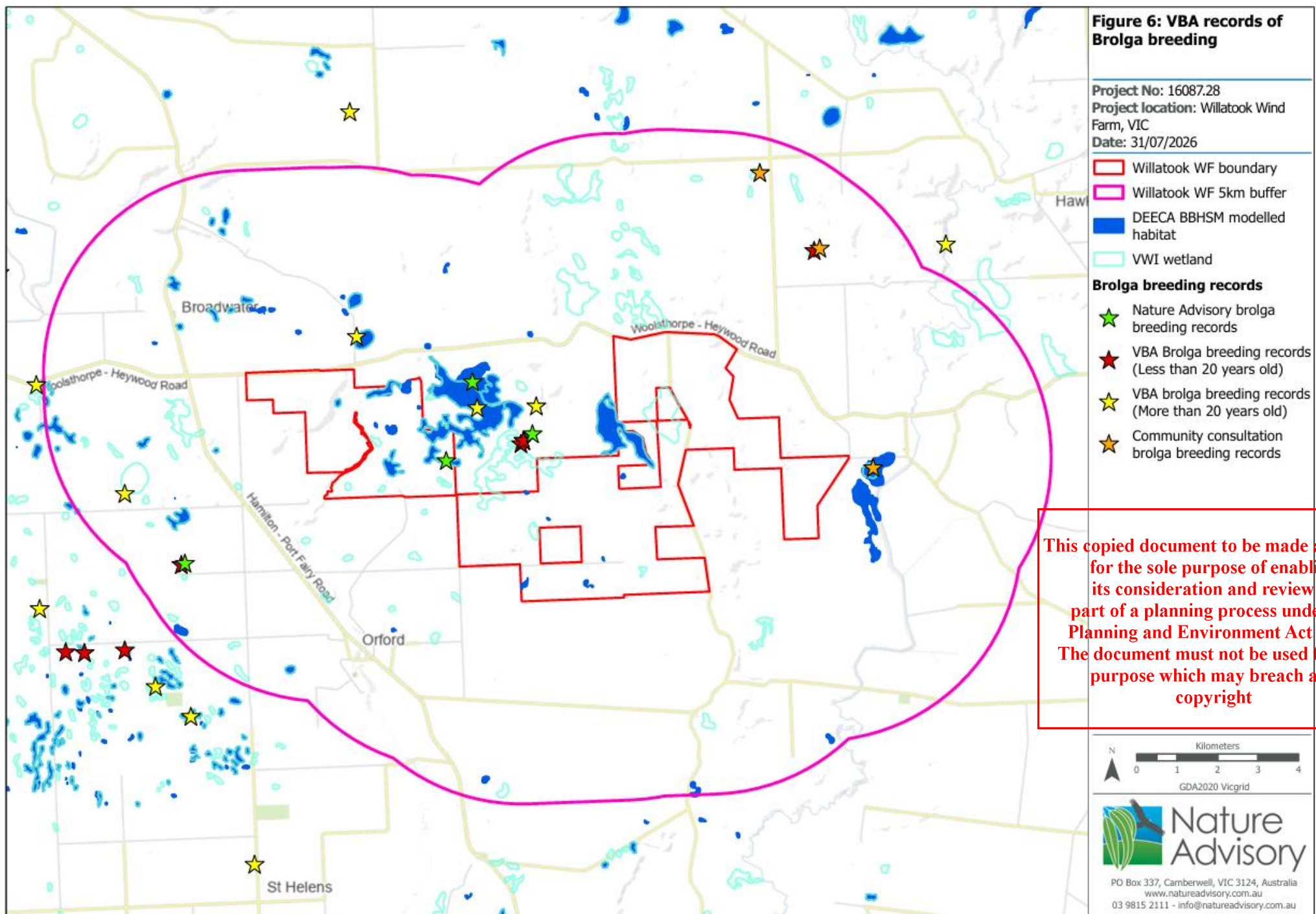


Figure 7-13 VBA records of Brolga Breeding (Nature Advisory, 2026a)

The key findings of the survey work, and the Brolga assessment with respect to flocking and breeding/potential breeding wetlands indicate that the project is not expected to cause significant impacts on Brolga, with the implementation of appropriate mitigation measures (detailed below).

Flocking

The nearest known flocking site is located near Lake Bolac, 28 kilometres north of the project site. No unmapped Brolga flocking sites were found within the 5 kilometres investigation area. The project is located outside of mapped and unmapped Brolga flocking areas, and is therefore unlikely to impact any flocking areas for the species. The findings indicate that no further mitigation is required relating to flocking behaviour.

Breeding and potential breeding wetlands

The updated Brolga Impact assessment applies the criteria contained within the new DEECA Handbook to identify breeding and potential breeding wetlands within the 5 kilometres investigation area. Within this investigation area:

- 71 wetlands were considered unsuitable for breeding
- 51 wetlands were conservatively identified as potential Brolga breeding wetlands. Noting that the hydrological modally extent did not extend to most of these sites.
- 7 wetlands were identified as Brolga breeding wetlands, with the following 5 Brolga breeding wetland buffers (Nature Advisory, 2026a):
 - **Cockatoo Swamp-W4-6832 Cluster** – this buffer extends over central areas of the wind farm and includes 4 Breeding Wetlands and seven Potential Breeding Wetlands.
 - **Wild Dog Swamp Cluster** – this buffer extends into the eastern boundary of the wind farm and includes one Breeding and one Potential Breeding Wetland.
 - **Mt Misery Road Cluster** – this buffer does not overlap with the wind farm boundary and includes one Breeding and two Potential Breeding Wetlands.
 - **Wetland VWI 25741** – this is an isolated Breeding Wetland within the 5 kilometres assessment area but outside the wind farm boundary.
 - **Wetland VWI 25729** – this is an isolated Breeding Wetland within the 5 kilometres assessment area but outside the wind farm boundary

The main form of mitigation implemented during the original project design to avoid or minimise impacts to the Victorian Brolga population has been the development of turbine free buffers around Brolga wetland habitat.

The turbine free buffer areas were designed to limit impacts to Brolga during construction (i.e., habitat destruction and/or disturbance) and operation (i.e., collision with wind turbines). project-specific Brolga buffers were developed based on:

- Extensive field surveys of the project site and surrounding areas
- Consultation with landowners, land managers and special interest groups
- Understanding of Brolga movements around breeding sites from observational studies by Nature Advisory over the last 15 years

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- Observations of the movements of Brolga breeding at the Macarthur Wind Farm since 2012 the recent Brolga research undertaken by Veltheim et al. (2019).

The modification of the project design and layout following the EES and Minister's Assessment has been informed by wetland buffers (Figure 7-14), together with the guidance in the Handbook and the Minister's recommendations, with the intention to protect Brolga breeding habitat through siting project infrastructure outside of these buffer areas wherever possible. The updated project layout provides a 300-metre disturbance buffer around most of the identified breeding and potential breeding wetlands.

Areas where the recommended Brolga buffers cannot be fully achieved are limited and have been minimised through iterative design, include:

- **Cockatoo Swamp-W4-6832 (Breeding Wetland)** – intersection by approximately 1.6 kilometres section of underground cabling and 800 metres of access track that connects to a formed road, both of which would be constructed outside the breeding season to reduce disturbance. The Brolga guidelines recognise that, in some circumstances, linear infrastructure (e.g., access tracks and cabling) may intersect buffer areas where avoidance is not reasonably practicable. In these cases, the guidelines provide for a mitigation hierarchy approach, with impacts to be minimised and any residual impacts addressed through compensation.
- **Wetland 12a (Potential Breeding Wetland)** – intersected by one turbine (T31) and associated tracks, and cables. This location reflects a balance of environmental and technical constraints, where further avoidance is not practicable. Consistent with the guidelines, impacts are minimised through siting refinement, targeted construction management measures, and operational controls where relevant. Residual impacts are addressed through compensation measures in accordance with the mitigation hierarchy.

The hydrological assessments undertaken for the project also influenced the siting of turbines and other aspects of the development footprint, to ensure water flow paths and wetland inundation patterns are not impacted.

Additionally, the change in turbine design, which includes an increased minimum tip height from 40 metres to 60 metres, further reduces collision risk as this height exceeds the flight height of 97% of local Brolga flights. Changes from the original concept design also have reduced collision risk to Brolga include the reduced length of the proposed overhead transmission line by 4.2 kilometres, and the provision of line-marking in accordance with the guidance within the Handbook. Mitigation measures, such as the Bat and Avifauna Mitigation Plan (prepared in consultation with DEECA), will further seek to limit collision risks through monitoring and management strategies.

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Figure 9: Brolga buffers

Project No: 16087.28
Project location: Willatook Wind Farm, VIC
Date: 31/07/2026

- Willatook WF boundary
 - Willatook WF 5km buffer
 - Associated Infrastructure
 - Power line
 - Civil infrastructure inc. tracks
 - Metmast tracks
 - Metmasts
 - Turbines
 - Turbine blade envelope
 - Breeding wetland buffer
 - Foraging and movement corridors
 - Potential breeding wetland buffer - 300m
- Wetland assessment**
- Breeding
 - Potential breeding

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Earthstar/Geographics

Figure 7-14 Updated Brolga buffers (Nature Advisory, 2026)



Figure 7-15 Nesting Brolga

Management and mitigation

A summary of the management and mitigation measures proposed for the project to minimise impacts to Brolga is included in the Brolga Impact Assessment prepared by Nature Advisory, and provided in Table 7-9 below:

Table 7-9 Brolga management and mitigation measures

Principle	Measure and ID	Measure
Avoidance	AV01 Siting of wind farm	The Willatook Wind Farm has been located away from both known and potential flocking areas.
	AV02 Reduction in the size of the wind farm	Design of wind farm reduced from 59 turbines (EES Design) down to 52 in the currently proposed layout.
	AV03 Breeding and Potential Wetland Buffers	Application of 900 metre buffers around Breeding Wetlands and Potential Breeding Wetlands within 2 kilometres, which includes a 600 metre foraging corridor linking wetlands and a 300 metre disturbance buffer around the corridor. Application of 300 metre disturbance buffers around isolated Potential Breeding Wetlands.
	AV04 Siting of quarry	Locating quarry to not overlap with any Breeding or Potential Breeding Wetland buffer.
	AV05 Reduction in above ground transmission line	Reducing of the 4.5 kilometres transmission lines to ~300 metres of above-ground lines, with the balance being installed as underground cables.

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Principle	Measure and ID	Measure
Mitigation	MM01 Reducing hydrological alterations	Placing turbines and associated infrastructure outside of water flow paths to reduce impacts on existing hydrological processes.
	MM02 Construction Environmental Management Plan (CEMP)	Development of a management plan to limit the effects of construction, including the timing of activities and restoration of temporary impacts. Aimed at limiting impacts on wetland water quality.
	MM03 Sediment, Erosion and Water Quality Management Plan	Development of a management plan to reduce the impacts of sediment, erosion, and water quality to limit impacts on wetland water quality. In consultation with the Catchment Management Authority and EPA Victoria.
	MM04 Management of contaminated soils on waterways	Development of a risk-based approach to managing potential acid sulphate soils and contaminated material to limit impacts on wetland water quality.
	MM05 Management of potential waterway pollutants	Measures to manage potential pollutants (hydrocarbons, chemicals, etc.), to limit impacts on wetland water quality.
	MM06 Marking transmission lines	Addition of markers to make above-ground lines more visible for Brolga and other species.
	MM07 Scheduling construction	Timing of construction activities to reduce potential disturbance to Brolga during the breeding season.
	MM08 Reduce Quarry Disturbance	Development of a Blast Plan to reduce the likelihood of events that may disturb nearby Brolga during the breeding season.
	MM9 Monitoring during construction and quarry blasting	Monitoring plan that can inform the efficacy of mitigation measures, including disturbance during construction and quarry blasting.
	MM10 Bat and Avifauna Management Plan (BAM Plan)	Development of a BAM Plan in agreement with DEECA, with the aim to: - Minimise the impacts from the project on threatened fauna listed under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) and/or the Victorian <i>Flora and Fauna Guarantee Act 1988</i> (FFG Act); - An informed understanding of the turbine collision risk to Brolga (and other listed fauna) that occurs on-site; - An informed understanding of how Brolga (and other listed fauna) use the site changes in response to wind farm construction and operation; - Monitoring for the timely identification of turbine collisions and the timely collection and analysis of data; - Responsive updates to, and regular validation of, the impact assessment framework for Brolga (and other listed fauna regularly recorded on site), using monitoring data to support a robust adaptive management approach to reducing impacts, where possible; and
Where applicable, the development and implementation of		

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Principle	Measure and ID	Measure
		tangible, on-ground management actions to promote a long-term collision risk reduction on Brolga and other listed threatened and migratory bird and bat species
	MM11 Turbine height	Raise the minimum tip height from 40 metres to 60 metres above the ground. This is not a mitigation measure specifically contemplated in the Handbook, but is considered a consequential design mitigation, as evidence-based information suggests it may reduce Brolga collisions with wind turbines during local flights.
Compensation	C01 Identification of suitable Brolga breeding wetlands	Selection of potential breeding wetlands suitable for enhancement and protection.
	C02 Hydrological restoration and enhancement	Undertaking works to improve inundation frequency and duration of wetland(s) to suit Brolga.
	C03 Habitat management and revegetation	Improve habitat conditions through actions such as grazing control, planting, and encouraging regrowth of vegetation.
	C04 Provision of nesting materials	Supplement materials used for nesting where they are limited.
	C05 Predator (fox and cat) control	Implement a control program focused on foxes and cats in the Brolga breeding season.

Consistency with planning provisions

The design of the project has had due consideration of the guidance on Brolga contained within the Handbook, the Planning Guidelines and the key sections of the planning scheme including in relation to protection of biodiversity at Clause 12.01-1S. The impact of the project on rare or threatened species including Brolga is considered acceptable under the relevant policy of the planning scheme and the Handbook.

7.4 Heritage

7.4.1 Aboriginal cultural heritage

Purpose

Clause 52.32 stipulates that proponents of a wind farm project must address the potential impacts upon Aboriginal or non-Aboriginal cultural heritage. A CHMP is being prepared for the project and is well advanced, and ongoing consultation with the RAPs has occurred.

Assessment

A CHMP is being prepared for the project in accordance with Part 4 of the AH Act.

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Representatives of the RAPs have been involved in heritage surveys for the project. Discussions have also occurred regarding the project and the intangible Aboriginal cultural heritage that may exist within and surrounding the project site.

The CHMP included all three levels of assessment:

- A background review (desktop assessment)
- Field survey (standard assessment)
- Subsurface excavation (complex assessment).

Since the EES, extensive and complex archaeological investigations have been undertaken across the project area, including detailed testing of all proposed turbine locations and associated infrastructure corridors. These investigations have significantly refined the understanding of Aboriginal cultural heritage values across the site and have directly informed ongoing project design refinement, including avoidance and minimisation measures for areas of identified or potential cultural heritage sensitivity. This program of investigation remains ongoing and will continue to inform preparation of the Cultural Heritage Management Plan (CHMP).

The project CHMP will be finalised in consultation with the RAP and submitted to First Peoples – state Relations Group for evaluation.

Management and mitigation

Avoidance by design has been the primary measure to limit impacts to Aboriginal cultural heritage places. Based on the results of the complex assessments supporting the EES, areas likely to contain Aboriginal cultural heritage were determined to be concentrated to land:

- Within 200 metres of the Shaw River in the west of the project site
- Within 200 metres of Moyne River east of the project site
- Within 200 metres of two watercourses (Back Creek and an unnamed tributary) in the north-east of the project site.

Impacts to these areas and identified Aboriginal places were limited through design modifications including micro-siting of turbines, cabling, tracks and other associated infrastructure. The proposed access track crossing over the Shaw River was also the focus of complex assessment, which did not identify any Aboriginal places.

Since the EES, extensive additional complex assessment has been undertaken across the amended project layout, including at proposed turbine locations and associated infrastructure areas, resulting in the identification of additional Aboriginal cultural heritage places and further refinement of areas of cultural heritage sensitivity. The Cultural Heritage Management Plan (CHMP), currently being prepared, will outline further measures to avoid and minimise potential impacts to Aboriginal cultural heritage during construction and operation of the project.

All recorded Aboriginal cultural heritage places identified through both the EES and subsequent investigations have been incorporated into the project constraints mapping and are being actively considered through the CHMP and detailed design process.

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The approved CHMP will contain conditions for the management of known Aboriginal heritage places, and contingency plans for the unexpected discovery of Aboriginal cultural heritage and human remains. These conditions would ensure that any potential impacts are avoided or minimised.

Consistency with planning provisions

The CHMP and associated work is consistent with the provisions of Clause 15.03, which has the objective to protect and conserve places of Aboriginal cultural heritage significance, and the Protection of environmental and cultural heritage values.

7.4.2 Historical cultural heritage

Purpose

Clause 52.33 triggers a planning permit for removal or alterations to dry stone walls. Clause 15.03 seeks to ensure the conservation of places of heritage significance.

Assessment

Existing conditions

The desktop assessment indicated four historical heritage places recorded on the Victorian Heritage Inventory within a five kilometre radius of the site:

- H7321-0022 (Moyne River Stone Foundation)
- D7321-0040 (Landers Lane Dry Stone Wall)
- D7321-0025 (Officer DSW1)
- D7321-0039 (Harton Hills Dry Stone Wall Complex).

One additional historic place, Turkish Bath House, is listed on the Register of the National Estate and Register of the National Trust. The field assessment identified two new historic heritage places within the project site and included in the Victorian Heritage Inventory for their potential to contain archaeological deposits (H7321-0104 Woolsthorpe-Heywood Road Hut 1 and H7321-0105 Woolsthorpe-Heywood Road Ruin).

Management and mitigation

As the project became aware of the locations of known and newly discovered locations containing historical heritage values, the design was reviewed to ensure the project did not impact these sites. The locations were marked in design layers to ensure avoidance as the project design developed.

The exception to this was the design of accessways and cable routes crossing Landers Lane impacting some sections of the dry stone wall. The design of the accessways sought to minimise the number of crossings of Landers Lane, however these impacts had to be considered alongside other environmental factors and safety considerations of the local road network. With consideration of the historical heritage values of the Landers Lane Dry Stone Walls, the design has minimised the number of crossings of Landers Lane and the width of the gates required.

The access routes to the project site have been designed to avoid construction traffic using Landers Lane except for crossing the road. Additionally, the design of the electrical cabling routes has sought to

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collocate the accessways and cable routes to minimise the impacts to environmental and heritage constraints wherever feasible.

In addition to these design measures, proposed management measures to address residual impacts on historical heritage values in the construction and operation phases of the project include:

- Prior to commencement of works at individual construction locations, construction sites would be surveyed for archaeological places or relics. Should any items of historical heritage value be identified during construction that have not been previously identified, a heritage advisor would be required to assess the site.
- An Unexpected Finds Protocol would be developed prior to the commencement of works and incorporated into the Construction Management Plan.
- Where dry stone walls are impacted by the project, planned or accidental, and that impact is not permanently required (i.e., for access), the dry stone walls would be rebuilt to its existing condition by an experienced stone mason.

Consistency with planning provisions

The design of the facility has considered the provisions of Clause 15.03 Heritage. The purpose of Clause 52.33 to conserve dry stone walls has been considered and the project is found to be acceptable. This is detailed further in the Dry Stone Wall Assessment and Management Plan prepared for the project.

Impacts to the identified heritage places are limited to the Landers Lane Dry Stone Wall. The heritage fabric that is likely to be impacted by the proposal would be replaced like for like through the construction process, resulting in minimal and acceptable impacts. Impacts on the dry stone wall would not affect the significance of the heritage place based on the findings of the heritage assessment and the minimal to negligible impact on the heritage fabric. Environmental and historic heritage values would be supported in accordance with Clause 52.33 Post Boxes and Dry Stone Walls.

7.5 Community and safety

7.5.1 Aircraft safety

Purpose

Both Clause 52.32 and the Planning Guidelines stipulate that proponents of wind farms must address the potential impact of the project on aviation. Policy at Clause 18.02-7S (Airports and Airfields) also supports the appropriate management of development to avoid undue impacts on aviation facilities to strengthen their role within the state's economic and transport infrastructure, facilitate their siting and expansion and protect their ongoing operation.

An aviation impact assessment has been prepared by Chiron Aviation Consultants and accompanies this amendment application..

Assessment

Existing conditions

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The aviation impact assessment investigation area included the project site and a buffer of 30 nautical miles (or 55.6 kilometres) of the project site to encompass all registered and certified aerodromes within this area as per the Airservices Australia requirements for an Aviation Impact Statement.

There are three regulated aerodromes located within 30 nautical miles of the project site (Figure 7-6):

- Portland, located approximately 31 nautical miles (or approximately 57 kilometres) west-south-west of the project site
- Hamilton, located approximately 28 nautical miles (or approximately 52 kilometres) north-west of the project site
- Warrnambool, located approximately 12 nautical miles (or approximately 23 kilometres) south-east of the project site.

There is an unregulated aircraft landing area at Port Fairy, approximately 11 nautical miles (or 21 kilometres) from the project site. There are also nine uncertified private airstrips on properties within and close to the project, one of which would be affected by the project due to its proximity to wind turbines, although it is situated outside the aviation safety buffer. The use of this airstrip could continue with caution.

Additionally, there are four air routes which pass over or near the project site, and four known aerial applications operators which work in the general area of south-western Victoria.

The project is located within Class G airspace, which is located beneath Class E airspace. Class G airspace refers to airspace that is uncontrolled (i.e., does not require air traffic control clearance), while Class E airspace is a mid-level en-route controlled airspace with a lower limit of 18,000 feet.

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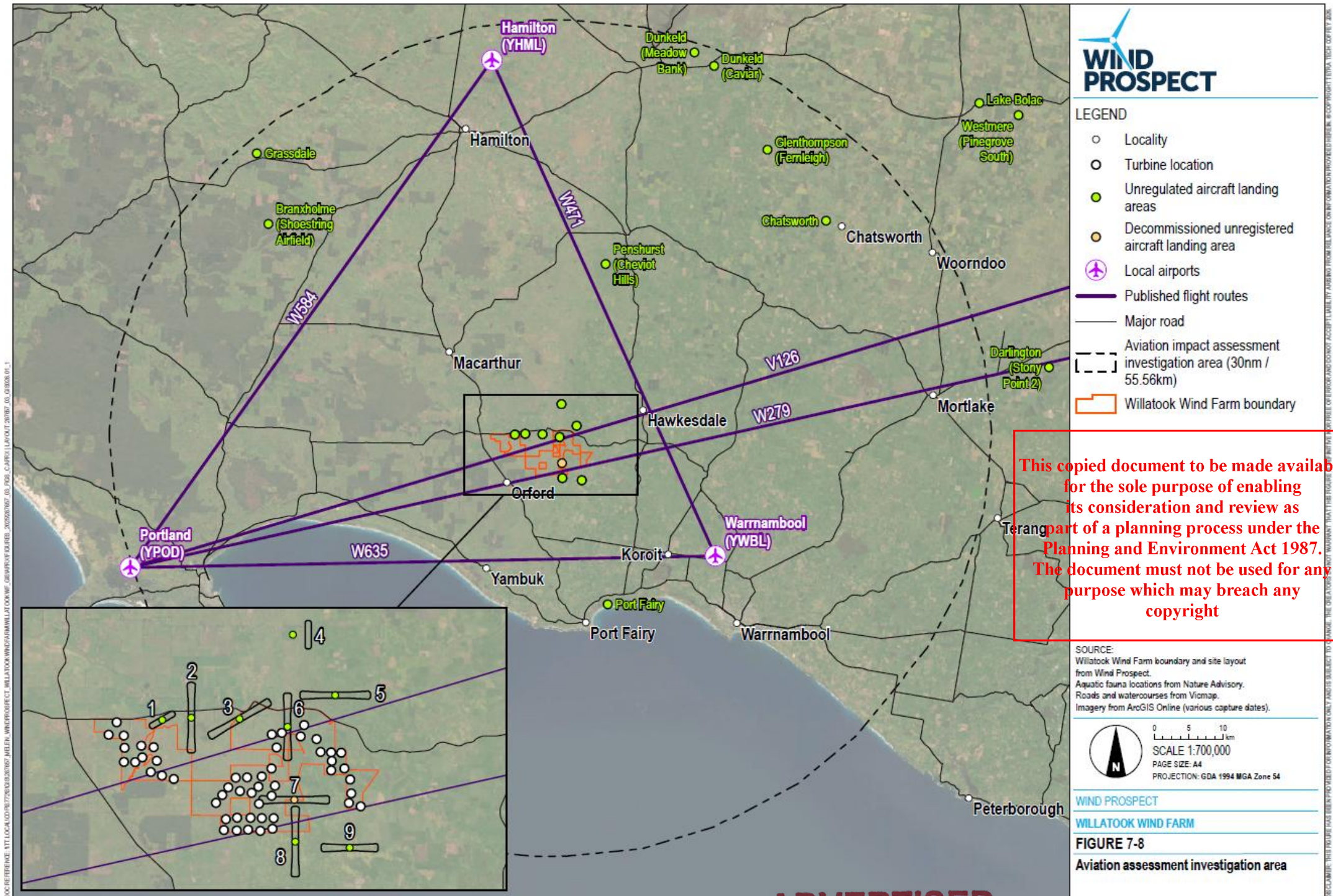


Figure 7-16 Aviation assessment investigation area



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Impact Assessment

The project would not impact the Obstacle Limitation Surface for the Portland, Hamilton or Warrnambool Aerodromes. Similarly, the project would not impact the Procedures for Air Navigation Services – Aircraft Operations surfaces prescribed airspace of the Instrument Approach Procedures for the Portland or Hamilton Aerodromes.

The updated Aeronautical Impact Assessment undertaken by Chiron Aviation Consultants considers the modified project layout and design, including the removal of 7 turbines, shifting of 9 turbines, and increase in the maximum turbine tip height to 254 metres above ground level (AGL).

The Minister's Assessment found that "Subject to the recommendations of my assessment to ensure no turbines penetrate the minimum safe altitude for Warrnambool airport operations, the project infrastructure will have acceptable effects on aviation safety and aircraft operations."

Since the last assessment under the EES, the 10 nautical mile Minimum Safe Altitude (MSA) for Warrnambool Airport has increased from 2100ft to 2200ft which removes the impact of the amended layout to the approach path of this aerodrome. This change occurred after 7 September 2023. The amended design has not resulted in any increased aviation impacts. It is therefore concluded that the amended layout complies with the recommendations of the Minister's Assessment with respect to aviation safety and aircraft operations.

Overall, the impact assessment identified the potential to impact aviation operations in the project region is low and does not pose a hazard to aircraft safety. As such, the obstacle lighting review concluded that wind turbines would not need obstacle lighting. However, the project wind turbines and meteorological monitoring masts are considered to be tall structures and therefore must be reported to the Vertical Obstacle Database, managed by Airservices Australia.

Management and mitigation

Avoidance by design has been the primary measure to limit aviation impacts. This has included establishing buffers around local airstrips in the concept design, incorporating the recommendations of the CFA Guidelines in the project design and management measures, and committing to marking the meteorological monitoring masts in accordance with the *National Airports Safeguarding Framework Guideline D: Managing the risk to aviation safety of wind turbine installations (wind farms)/wind monitoring towers* to improve visibility for pilots of low-flying aircraft.

The project does not require obstacle lighting as it is not considered to be a hazard to aircraft safety. The project turbines would be appropriately painted, and meteorological masts marked, as per the design controls, to ensure they are visible by day.

Consistency with planning provisions

The project meets the provisions of Clause 52.32 as it considers the potential impact of the wind farm on aviation and concludes that there are no impacts. The purpose of Clause 18.02-7S Airports and Airfields is met with any relevant aviation facilities being protected. The minor impact on aerial agricultural activities mostly affects host landowners, and ultimately would not undermine the agricultural productivity of the area so is consistent with the objectives of the Farming Zone and policies relating to agricultural protection.

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7.5.2 Traffic and road impacts

Purpose

Clause 52.32 requires that proponents of wind farms consider the proximity of the project to sufficient road infrastructure and to provide a concept plan of access road options.

A permit is triggered for changes to a road in the Transport Zone 2 pursuant to Clause 52.29.

The traffic impacts are detailed in the traffic and transport assessment prepared by Ratio Consultants which accompanies this amendment application..

Assessment

Existing conditions

The existing local road network within and surrounding the project site is shown in 7-17 below. The project site is bordered to the north by Woolsthorpe-Heywood Road (Transport Zone 2), an arterial C class road. Tarrone North Road is a sealed sub-arterial road running north–south on the eastern side of the project site. Old Dunmore Road is as an unsealed local access road that extends north from Hamilton-Port Fairy Road as an unsealed local access road, crossing Riordans Road and continuing a short distance further to the north.

Riordans Road extends east from Hamilton-Port Fairy Road as unsealed road to Tarrone North Road that provides access to several dwellings and farms along the road. McGraths Road is an unsealed minor road that extends east from Tarrone Lane in the south and terminates in private property approximately 1,500 metres north of the intersection with Riordans Road.

Landers Lane, Barrys Road, Frys Road, Poyntons Road and Hopcrafts Road are all lower order roads that border or extend through/within the project site and provide for local property access.

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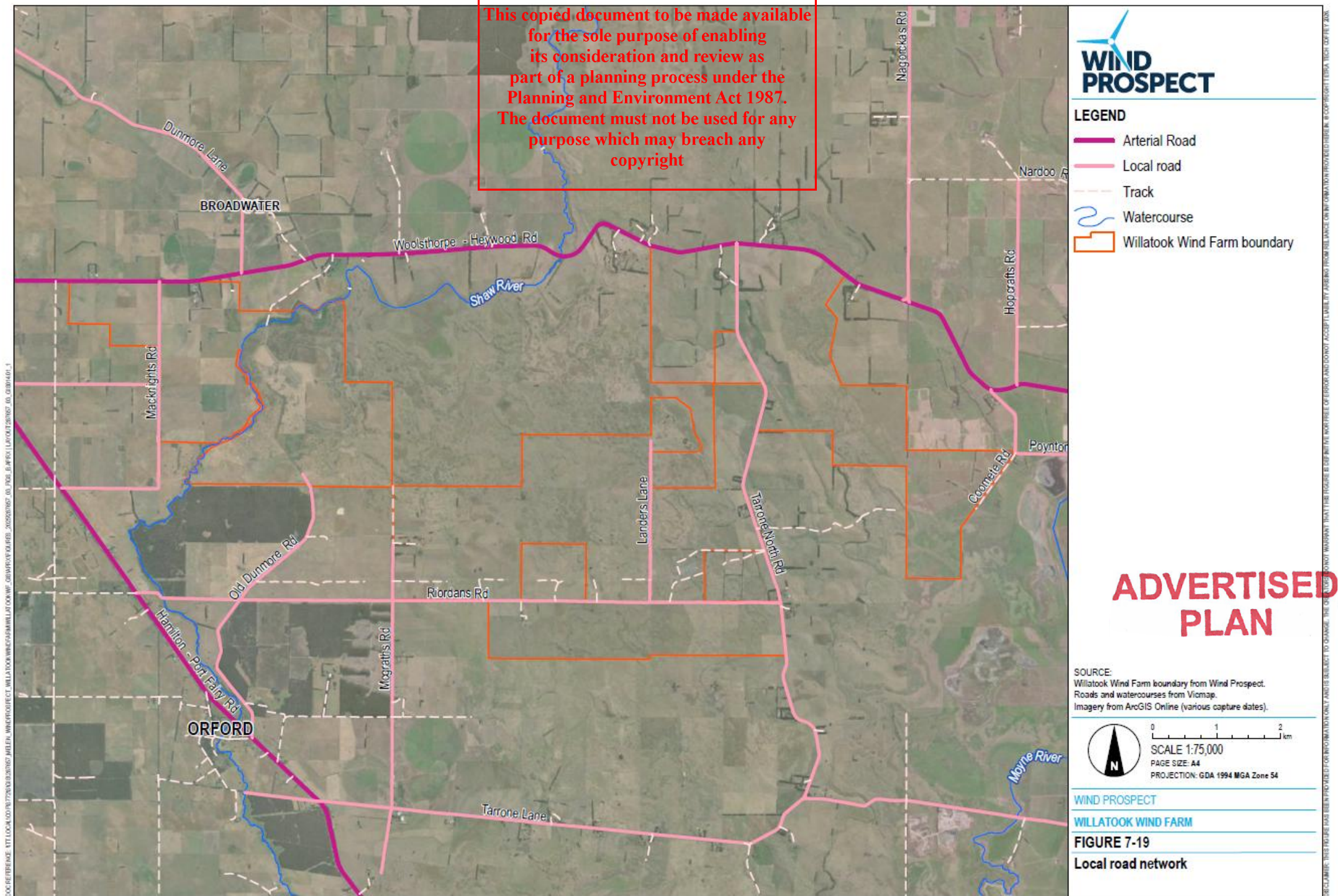


Figure 7-17 Local road network

Assessment

The project site would be accessed via a network of internal access tracks extending from Woolsthorpe-Heywood Road, Tarrone North Road and Riordans Road.

Internal access tracks (approximately 6 to 8 metres wide) would provide access for construction and for ongoing maintenance throughout the life of the project. The project would also rely on some sections of public roads as links between various areas of the site.

Construction and delivery of the project would occur across a 24-month period and would include the following key work phases and indicative tasks:

- Site establishment – including the establishment of the temporary concrete batching plants, delivery of key plant and construction vehicles and the construction of initial access tracks required for the delivery of materials and goods for further construction. This period would also include the establishment of on-site quarrying and water sourcing (if pursued).
- Public interface works – including road and intersection upgrades, and vegetation management.
- Civil construction works – including the construction of the balance of internal access tracks, hardstand areas, wind turbine generator turbine footings, construction of on-site substation and battery energy storage system, and internal power infrastructure.
- Wind turbine delivery – including wind turbine blade delivery, tower section delivery and other associated wind turbine generator components.
- Wind turbine generator installation – including the use of mobile cranes and associated infrastructure.

The traffic assessment considers impacts associated with the project including an on-site quarry, and also provides an assessment under the scenario where an on-site quarry is not pursued for the project.

A large proportion of daily project traffic across all work stages would be associated with staff movements to and from the project site. This traffic would be concentrated to the mornings and afternoon periods when construction staff are arriving at and departing from the project site, with limited activity at other times. The traffic from heavy vehicles would be more broadly spread with daily volumes translating to an average of four heavy vehicles per hour where road/hardstand materials are sourced on-site and eight heavy vehicles per hour if the material is all sourced externally.

A swept path analysis 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.

The intersections requiring upgrades are:

- Henty Highway/New Street, Portland
- Princes Highway/Henty Highway, Portland
- Princes Highway/Tyrendarra-Etrick Road, Tyrendarra
- Tyrendarra-Etrick Road/Woolsthorpe-Heywood Road, Homerton
- Woolsthorpe-Heywood Road/Hamilton-Port Fairy Road, Broadwater.

Three of the intersections are located within the Glenelg Shire and a separate planning permit is being sought for those works and the associated removal of native vegetation. Two intersections are within

the Moyne Shire. A small amount of native vegetation removal is required associated with the works. This is also addressed in 7.3.3 Biodiversity.

The findings of the amended Traffic Impact Assessment are provided below:

- Wind Farm traffic generated to external roads during construction will be limited to staff vehicles, HV traffic associated with external bulk materials haulage and OD/OSOM vehicles associated with WTG and other major component delivery. Additional traffic associated with internal Wind Farm traffic will also be generated to local sections of Woolsthorpe – Heywood Road within the Wind Farm site;
- During peak construction, external Wind Farm traffic will add up to 824 vehicle movements per day on Woolsthorpe – Heywood Road, subject to the level of on-site materials sourcing. This traffic can be catered for within Woolsthorpe – Heywood Road with the exception of the 2.4-kilometre single lane section of road between Poyntons Road and No 2169 Woolsthorpe – Heywood Road, the 2.8-kilometre single lane section of road between Kangaroo Creek and Shaw River, and the 3.2 kilometre single lane section of road between Hamilton-Port Fairy Road and 3261 Woolsthorpe-Heywood Road if western quarries are used, which will require widening;
- Subject to the resolution of specific traffic management requirements, the identified over dimensional vehicle route option from the Port of Portland to the Wind Farm site for the transport for WTG and other imported major components have been assessed and are suitable for OD and OSOM transport vehicles; and
- Local traffic impacts within the project area during all project phases can be suitably and safely managed.

The findings of this assessment are consistent with the EES assessment and the Minister's Assessment, which notes that traffic and transport effects resulting from the project will be acceptable with the management measures identified in the EES and the IAP's report, and that the local and wider road network is capable of accommodating the increased traffic volume and road requirements through the life of the project.

While the amended project includes fewer turbines and a reduced overall footprint, updated construction assumptions and revised access arrangements have altered traffic generation patterns compared to the EES assessment. The updated TIA identifies higher peak construction traffic volumes on some roads, primarily due to revised construction methodologies, larger hardstand requirements and increased reliance on public roads between project areas. Notwithstanding this, the assessment concludes that impacts can be appropriately managed through road upgrades, maintenance and traffic management measures (Ratio, 2026).

The increased reliance on Woolsthorpe-Heywood Road and Tarrone North Road reflects the project's response to environmental constraints identified through the EES and Minister's Assessment, which has prioritised avoidance of sensitive areas at the expense of internal road connections within the project boundary.

During operation of the wind farm, transport and access to the project site would consist of daily access from a small workforce of between two to five people. There would also be weekly or fortnightly minor maintenance that would involve a team of up to fifteen people attending the site, with up to four vehicles.



Management and mitigation

Several management and mitigation measures have been identified for the project, informed by the findings of the traffic impact assessment. These measures include:

- Road upgrade and temporary infrastructure works within the project area and along the OSOM / WTG component haulage route;
- Traffic Management Plans to manage project traffic movements and mitigate specific short and long-term traffic impacts;
- Green Travel Plans to encourage sustainable travel and to minimise project traffic generation
- Road maintenance agreements to manage short-term impacts to local roads and key arterial road sections to maintain road conditions for all users during project construction; and
- Stakeholder consultation and engagement to assist the development of appropriate traffic management measures and to communicate any road network changes required

The proposed road mitigation works for the project are shown in Figure 7-18 overleaf.

Consistency with planning provisions

The proposed new access on to Woolsthorpe-Heywood Road (Transport Zone 2) would be designed to not impact the traffic flow and road users. The proposed management measures are designed to minimise the disruption during the construction period, ensure road safety and plan for required maintenance to roads as required.

In accordance with the above assessment and the traffic impact assessment, the project will not have an unreasonable impact on traffic and the road network through construction, operation and decommissioning. The majority of impacts will be through construction via number of vehicles and oversize loads for construction of the main project facilities. Potential impacts range from negligible to moderate yet may be managed through appropriate traffic management measures and also through implementation of a relevant traffic management plan ensuring no unreasonable adverse impact on Council assets.

The purposes of Clause 36.04 (Transport Zone 2) and Clause 18.02-5S (Roads) will be met by the project with impacts being manageable and acceptable.

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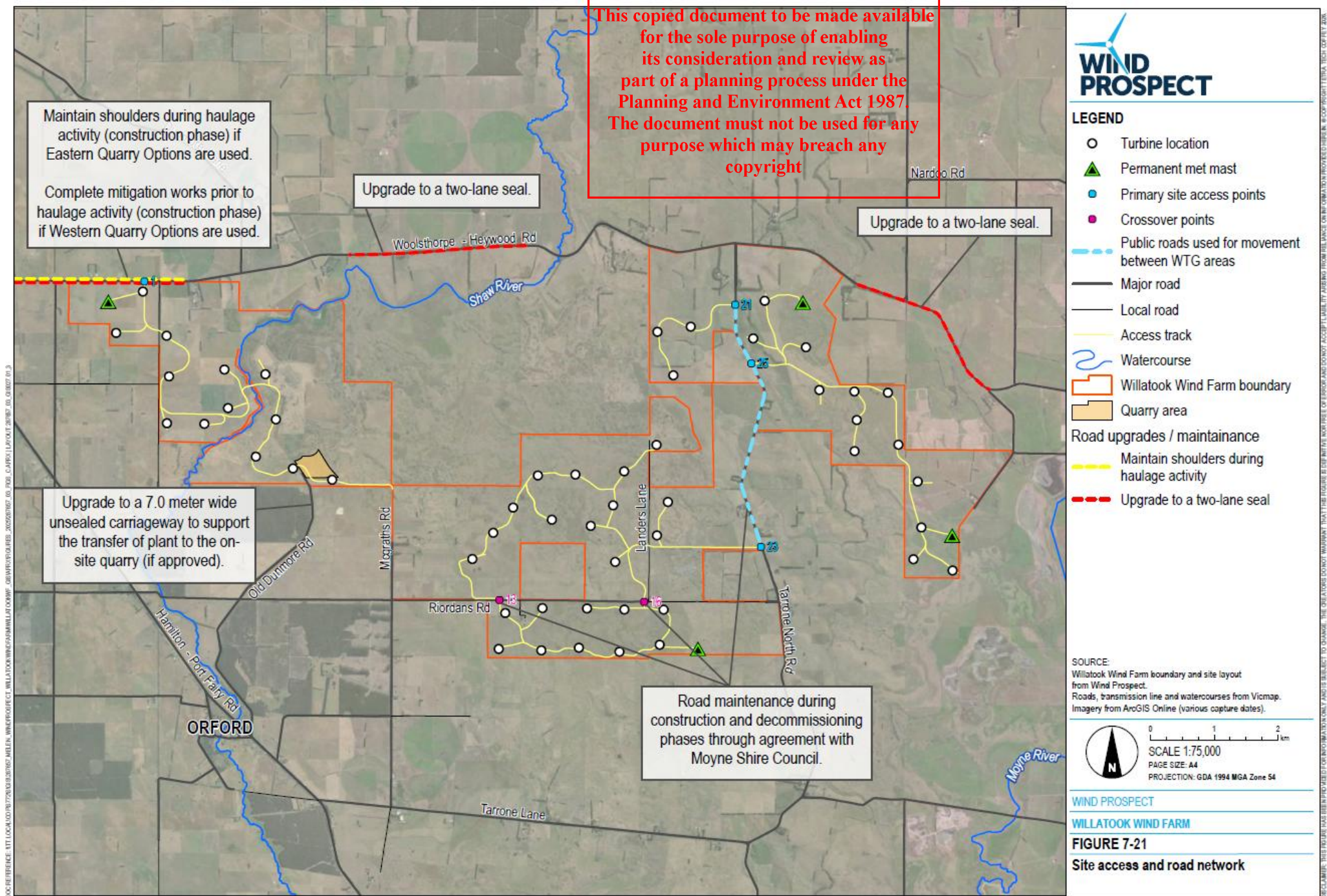


Figure 7-18 Site access and road network

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7.5.3 Blade drop

Blade drop is the very rare occurrence of a structural failure to a wind turbine generator during operation resulting in the blade or part of it to fall to the ground. In recent times there have been several incidences of blade drop, but there have been no injuries.

There are no planning provisions that require the consideration of blade drop, however this section outlines the consideration of the siting of the turbines and the risk of blade drop to roads and neighbouring properties.

In relation to the project, the proposed wind turbine blades have been conservatively assessed as 87 metres. The siting and setback distances of wind turbines provide a minimum setback of 100 metres from any made or all-weather roads and neighbouring property boundaries. The neighbouring properties are absent of structures and generally vacant cropping or grazing land. The neighbouring land holdings are mostly large in size and used for farming purposes. There are no structures located near the project boundary. There are some farm dams on adjoining properties located proximate to the shared boundary with the site. There are no sensitive farming uses, such as horse studs, located on adjoining properties.

Given the size of the properties and the nature of the farming uses, there will be very few occasions where the landowner or another person will be near the boundary where there are turbines. In the event that a neighbour is near the boundary in a location where a turbine is within 200 metres, the actual risk of blade drop is very low.

7.5.4 Fire prevention and safety

Purpose

There are no specific permit triggers under the planning scheme that apply to the project site relating to bushfire risk, however Clause 52.32 requires proponents of wind farms to address bushfire risks. The CFA Guidelines are relevant to the project, and along with Clause 13.02-1S and Clause 44.06 (BMO) have been considered in this assessment. It is noted the site is within a designated Bushfire Prone Area under the *Building Act 1993* and that a small area of the project site and proposed infrastructure is affected by the BMO.

This section addresses how the project layout has been designed in respect of the CFA Guidelines, the Policy and Planning Guidelines, and address the relevant bushfire objectives of the planning scheme with particular reference to Clause 13.02-1S. An updated Risk Management Plan has been prepared by Fire Risk Consultants to reflect the amended project design.

Assessment

The proposed battery is located with suitable fire breaks, and static water supplies will be installed in strategic locations through the project area. Consultation has occurred with CFA regarding the design and mitigation measures of the project, and their recommendations have been incorporated into the layout and fire mitigation and safety measures proposed. The CFA recommendations that have been adopted following consultation include a minimum of 3-metre separation distances between BESS units, and a minimum fire water supply of 576kL between two tanks within the BESS area.

Access tracks and project infrastructure are sited so emergency vehicles can easily enter and manoeuvre around the site. Further detailed plans will be prepared in collaboration with the CFA

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before construction and commissioning of the project and will be influenced by the outcomes of a detailed risk assessment that aligns with the CFA Guidelines.

As noted within the Aeronautical Impact Assessment, ground based fire fighting is generally used to suppress or extinguish a bushfire while firefighting aircraft are used for support, which are only effective when followed up with intense firefighting activities by ground firefighting crews.

Access for fire trucks and personnel, and consequently their ability to fight the fire within a wind farm, is greatly enhanced by the access roads built for the construction and maintenance of the turbines. These roads also act as fire breaks, which can slow fire spread or contain the fire. The area around the base of each tower is kept clear of vegetation and as such offers a refuge for fire fighters and their vehicles along with also serving as a fire break. There are other water storages associated with the wind farm that are available for firefighting purposes including on site dams.

Through engagement with the Country Fire Authority, no concerns were raised about potential impacts of the project on firefighting operations. Wind turbines are a manageable hazard which form part of standard risk assessment procedures for firefighting pilots.

Wind turbines are not expected to pose unacceptable risks to aerial firefighting.

The CFA Guidelines provide standard design and management protocols for wind farms that can manage fire risk to an acceptable level. These are outlined below.

Management and mitigation measures

The CFA Guidelines outline fire safety, risk and emergency management measures and processes to be considered in the design, construction and operation of renewable energy facilities. These guidelines contain specific conditions to be complied with for the siting, and operation and maintenance of wind energy facilities. In accordance with the CFA Guidelines:

- The proposed wind farm is situated on open grassed paddocks which is considered a low risk landscape by the CFA Guideline.
- The spacing between wind turbines and masts is greater than 300 metres to allow for access by firefighting aircraft
- Wind turbines would be provided with automatic shut-down, and the ability to be completely disconnected from the power supply in the event of fire.
- Wind farm access tracks will amply accommodate firefighting vehicles in the case of an emergency; and
- Static water supply will be located on site to assist with firefighting.

A suitable fire break width would be provided between any landscape buffer/screening vegetation and the battery energy storage system (and related infrastructure). The battery energy storage system is located reasonably adjacent to a site vehicle entrance where emergency vehicles can be accommodated.

A RMP has been prepared to support this amendment application, and reflects the updated project layout. The RMP provides a risk assessment, including a bushfire risk assessment in accordance with Clause 13.02-1S, and recommends several mitigation measures including:

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- Installation of 10 static water supply tanks of a minimum of 45,000 litres for each accessway from a road, spread across the development and 576,000 litres between two tanks at the BESS area that comply with AS2419.1.
- Provision of fire breaks around the base of the wind turbines, BESS, substation and the operations and maintenance area.
- Installation of smoke detection and fire suppression systems within the nacelle.
- Provision of access roads including overtaking bays for the development.
- Ongoing maintenance programs for the life of the project in accordance with the relevant Standards or manufacturer specifications.

The findings of the RMP and risk assessment indicate that the project can occur in the landscape without increasing the risk of fire to surrounding communities, farming assets, or other infrastructure.

Before the development starts, a Fire Management Plan, informed by the Risk Management plan, would be prepared in conjunction with the CFA. An Emergency Management Plan will also be prepared.

Consistency with planning provisions

The project layout is consistent with the CFA Guidelines so as to allow for firefighting aircraft and vehicles in case of an emergency. There would be a static water supply provided on the site for firefighting purposes. It is anticipated that there would be conditions on any permit that may be issued that will require a Risk Management Plan, Fire Management Plan and Emergency Management Plan.

The degree of fire hazard associated with the project location, and the development or management of the land so as to minimise any such hazard has been considered as part of the design of the project, consistent with Clause 65. The project has appropriately considered fire risk in accordance with Clause 52.32 and Clause 13.02-1 Bushfire Planning.

Additional consideration of Clause 13.02 will be addressed in the Risk Management Plan. Designing and managing impacts in consideration of the CFA Guidelines and in consultation with the CFA is considered an appropriate response to the level of bushfire risk posed by the site and proposed project. Risk to settlements, communities and human life would be managed to an acceptably low level.

7.6 Community engagement and benefits

A substantial Neighbour Benefit Sharing Program has been developed in consultation with the local community and draws upon recommendations from the Australian Energy Infrastructure Commissioner's annual reports, the Clean Energy Council's (2019) *A guide to benefit sharing options for renewable energy projects*, and the *Community Engagement and Benefit Sharing in Renewable Energy Development in Victoria – A guide for renewable energy developers*.

The Neighbour Benefit Sharing Program has been shared with the local community through door knocks, information sessions, the Koroit shopfront for the project and mail outs. As part of this community engagement, feedback was gathered and used to shape the proposal.

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The Neighbour Benefit Sharing Program would offer the following benefits to eligible neighbouring landowners and/or residents with a dwelling within 6 kilometres of a constructed wind turbine (excluding those hosting infrastructure):

- One off construction payment of \$1,000
- Neighbour benefit payment of between \$1,000 and \$30,000 annually (subject to eligibility criteria, including proximity of dwellings to constructed wind turbines)
- Energy cost offset plan payment of up to \$2,000 annually.

The benefits, where relevant, would be administered over the life of the project.

The project would also include a Community Benefit Fund (as part of the Neighbour Benefit Sharing Program), administered by a community-led independent fund committee, comprising \$1,000 per operational wind turbine per year indexed annually to the Consumer Price Index from the commencement of the fund.

The community engagement strategy for the project, including neighbour benefit sharing program, and community benefit fund, has been reviewed against VicGrid's recently released *draft community engagement and social value guidelines for renewable energy and transmission projects*, to ensure the project aligns with the requirements and recommendations set out in this document.

To further minimise potential impacts, management controls would be implemented during the design, construction, operation and decommissioning of the project. This would include ongoing engagement and consultation efforts with the community, Aboriginal organisations, and other stakeholders, local business partnerships, facilitating local employment and contract opportunities, and the development of a construction workforce accommodation strategy.

7.7 Environmental management

The specialist reports make recommendations for the preparation of plans to address management measures during the construction, operation and decommissioning of the wind farm. Clause 52.32-4 requires the preparation of an Environmental Management Plan to accompany the planning application. This section outlines the various sub-plans and indicative content as recommended in the specialist reports. It is expected that any permit that may issue will include conditions that will require further Management Plans. The Framework is shown in Figure 7-19. Details on environmental management measures for the project is also contained within the updated Environmental Management Framework at Appendix D.

7.7.1 Detailed design plans

Development plans have been prepared for the project and are provided at Appendix A. The project design will be subject to detailed design during the pre-construction phase, incorporating the results of geotechnical investigations and the detailed design work undertaken by the selected wind turbine manufacturer and civil and electrical contractors. All waterway crossings and culvert and bridge designs would conform to relevant local guidelines and approved by Moyne Shire prior to

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commencement of construction. Any road works will be designed in accordance with relevant guidelines and approved by the relevant road authority.

7.7.2 Environmental Management Plan

An Environmental Management Plan would be prepared before construction starts. The Environmental Management Plan consolidates all environmental management measures that relate to the project and provides details of how they should be performed. The plan would include the recommended measures outlined in the Minister's Assessment, and relevant planning permit conditions (should the project be approved). The Environmental Management Plan would be a key document when preparing detailed designs, and is the main document used when undertaking planning and environmental compliance audits.

The Environmental Management Plan would remain a live document throughout the project pre-construction and construction phases. Some provisions may also apply during the operational phase. The Environmental Management Plan would be updated after the detailed design and pre-construction ecological surveys, and to reflect any changes in legislation, where relevant. All appropriate mitigation and management strategies would be consolidated in the Environmental Management Plan, which would clearly outline what should be done and who has the responsibility for doing it.

The Environmental Management Plan would also apply to the decommissioning phase, acknowledging that decommissioning would occur at least 25 years later and may need significant amendments by that time due to changes in legislation and existing social and environmental conditions.

The Environmental Management Plan for the operation of the wind farm would be reviewed and amended (if necessary) in consultation with Moyne Shire Council and DEECA (where relevant) to reflect operations and any changes to environmental management standards/techniques.

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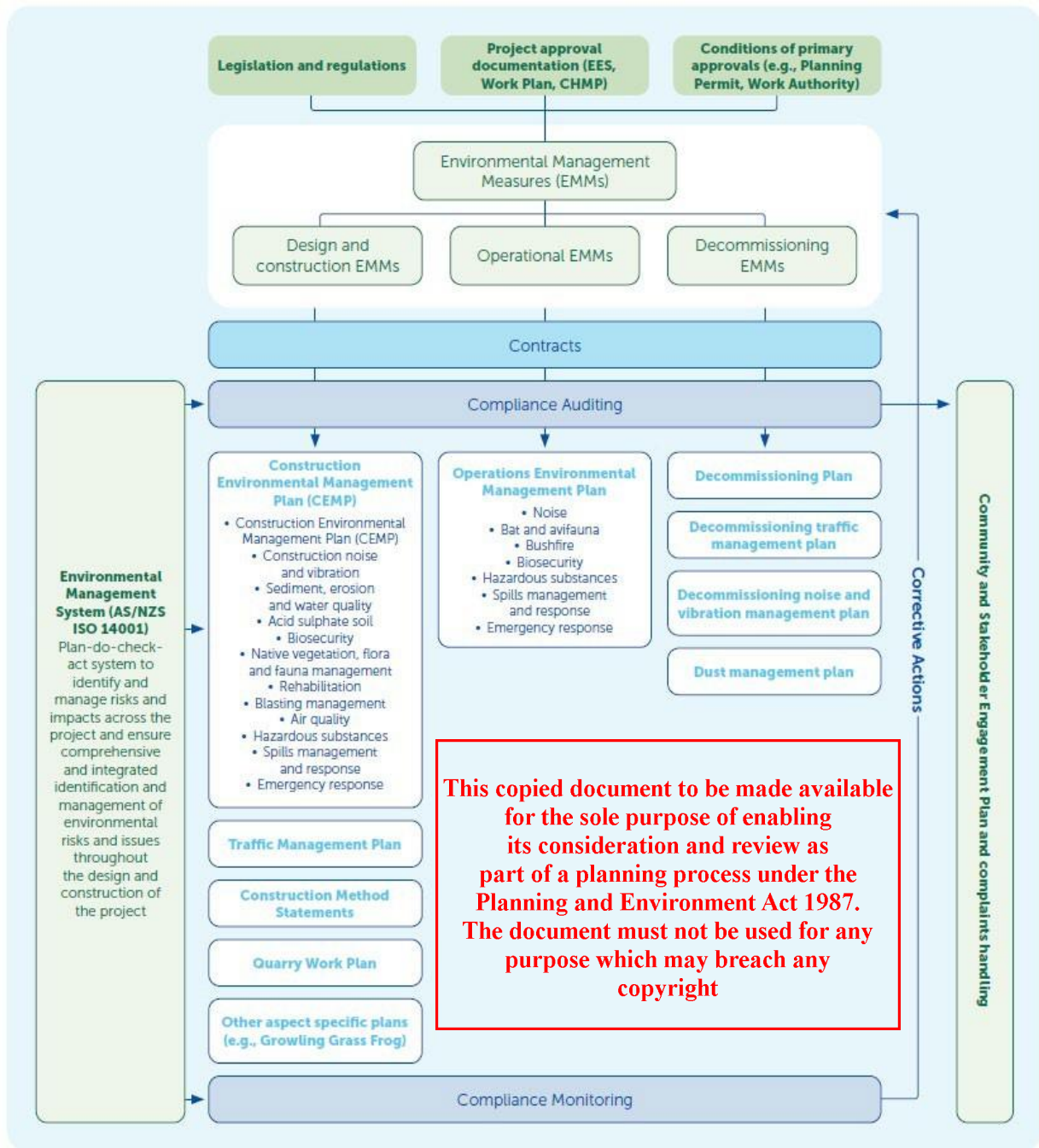


Figure 7-195 Environmental Management Framework

7.7.3 Construction Environmental Management Plan

The development of a CEMP via a standard permit condition will suitably manage the potential impacts to environmental, cultural and amenity values during the construction process. This plan will be prepared prior to the commencement of construction in consultation with authorities as appropriate to ensure best practice procedures are adopted in the CEMP.



This document would be in accordance with the requirements of the *Environment Protection Act 2017* and best practice guidance documents including but not be limited to:

- EPA Victoria Publication 1823: Mining and quarrying – Guide to preventing harm to people and the environment
- EPA Victoria Publication 1834: Civil construction, building and demolition guide.

7.7.4 Decommissioning Plan

The development of a Decommissioning Plan via a standard permit condition will suitably manage the potential impacts of the decommissioning process. This plan will be prepared following the commencement of construction in consultation with DEECA, DTP and Moyne Shire Council as appropriate to ensure best practice procedures are adopted in the Decommissioning Plan. It is noted that the decommissioning plan would need to be submitted and approved by the Responsible Authority closer toward the time of commissioning, to ensure the plan includes best practice measures and reflects current conditions at and around the project site.

It is anticipated that access tracks would remain after decommissioning to assist the landowner with farming activities. Following decommissioning the wind turbine footings will not be removed but will be covered with topsoil and the area above them returned to pasture.

7.7.5 Other management plans

A range of other management plans would be prepared in accordance with a planning permit (should one be granted). These would include:

- Noise and vibration management plan
- CHMP
- Traffic management plan
- Bat and avifauna management plan
- Water management plan
- Bushfire management plan
- Emergency management plan.

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8 Conclusion

This planning report has addressed the planning controls associated with the development of the project in the Moyne Shire, with reference to the relevant planning provisions and guidelines pursuant to the Moyne Planning Scheme.

The requirements specified in the identified permit triggers are addressed in the body of this planning report, with further detailed assessment included in the technical assessment reports submitted in support of this amendment application. Potential impacts have been assessed in accordance with relevant guidelines and policies. The project layout has been the subject of an iterative design over a number of years. The iterations have occurred to minimise environmental impacts, and ensure compliance with relevant standards including noise, visual impact, and ecology.

The project has undergone a comprehensive planning and environmental assessment as part of the EES process, and was subject to an independent panel process through the IAP's assessment of the application. The Minister's Assessment which followed this process ultimately identified two issues with the project, namely potential impacts to Brolga and the Southern Bent-Wing Bat. The Minister's Assessment determined that all other potential impacts associated with the project could be managed to an acceptable level through the implementation of environmental management measures.

The modified project which is the subject of this amendment application is centred on limiting impacts to Brolga and Southern Bent-Wing Bats through the proposed redesign and reduced project scale.

The redesign of the project directly responds to the EES, Minister's Assessment, and the recently released Handbook. The amended proposal is responsive to the Minister's recommendations and the guidance contained within the Handbook, specifically in relation to mitigating Brolga and bat impacts.

The specialist assessments also recommend mitigations measures where appropriate.

The project provides for:

- The generation of electricity through harvesting the power in the wind – that is, sustainable electricity generation, leveraging an excellent wind resource
- Social benefits of the project relate to the opportunities for local job generation and training from the construction and operation phases
- Overall long-term benefits include the project's contribution to the local economy and provision of new renewable energy resources to help address climate change
- Low impact on existing land use, allowing continued farming on the land, and providing an additional income stream
- Community and neighbour benefits.

The project represents compliance with Clause 19 of the Moyne Planning Scheme, which clearly encourages renewable energy to be developed in appropriate locations. The project demonstrates economic and environmental benefits to the broader community of renewable energy generation, while also considering the need to minimise the effects of a proposal on the local community.

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The project has considered the provisions of Clause 52.32 and the Planning and Policy Guidelines and demonstrates a high level of compliance with this Clause. The project is entirely appropriate in the context of the Moyne Planning Scheme including the Planning Policy Framework, local policies, relevant zone and overlay controls and particular provisions. It is consistent with the provisions of the Planning and Policy Guidelines that relate specifically to wind farm development, and also with the CFA Guidelines.

Avoidance and minimisation of impacts has been central to the development of the project. The approach has been to firstly avoid potential impacts, if possible, then to minimise the severity of the impact over space and time.

Amenity impacts such as noise and visual impacts have been considered and appropriate measures proposed to reduce any impacts. The project has considered the impacts of blade glint, electromagnetic interference and shadow flicker and complies with the relevant regulations.

Landscape and visual impacts of the project and other approved and constructed wind farms have been considered from both private and public realm viewing locations and the overall impacts considered low. Landscape screening will be implemented at residences as recommended in the landscape and visual impact assessment.

The amenity impacts to neighbouring properties are considered acceptable.

Mitigation by design has been used to limit the impact on flora and fauna, including brolga, and appropriate buffers put in place to protect environmental assets. The impact of the project on ground and surface water and the relationship with biodiversity has also been considered and concludes that the overall impacts on the environment can be managed. The project has been subject to extensive environmental assessment through the EES process, and the Minister's Assessment concluded that the project can proceed with acceptable environmental effects through the implementation of appropriate management and mitigation measures.

The project will not result in any unreasonable impacts on aircraft safety. Traffic impacts during the two-year construction period will be managed through road upgrades and traffic management measures.

It is considered that the project is consistent with the planning provisions of the Moyne Planning Scheme, relevant policies and guidelines, as well as Victorian policies relating to achieving the State's Renewable Energy Targets.

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Appendix A

Development Plans

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Appendix B

Land Parcels

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Appendix c

Handbook Application Document

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Appendix D

Updated Environmental Management Framework

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