

Chapter 16

Land use and planning

16.1 Overview

This chapter describes the land use and planning aspects of the construction, operation and decommissioning of the project. The information is based on the impact assessment prepared by Energy Forms and presented in Appendix H – *Land use and planning*.

The project is consistent with the relevant Victorian and local planning policies. At the state level, it would contribute to achieving the greenhouse gas emission reductions set via the *Climate Change Act 2017* and renewable energy generation targets set via the *Renewable Energy (Jobs and Investment) Act 2017* (refer to Chapter 2 – *Project rationale and benefits*). At a local level, the project has limited potential impacts to people and the environment through careful design and by proposing management measures for residual impacts (refer to other specialist study chapters and Chapter 26 – *Environmental management framework*).

The project is subject to the provisions of the Moyne Planning Scheme. Most of the project site is within the Farming Zone, with small areas of Special Use Zone also proposed to host project infrastructure. How the project addresses relevant planning policy is discussed in Section 16.5.1 of this chapter and in Appendix H – *Land use and planning*. Benefits of the project are outlined further in Chapter 2 – *Project rationale and benefits* and Appendix I – *Economic and social*.

The main land use within the project site is agricultural, with most of the land already cleared and used for cattle and sheep grazing. Some properties are used for dairy farming and cropping.

There are dwellings owned by project stakeholders on several lots within the project site and on neighbouring land. All non-stakeholder (neighbour) dwellings are more than 1.5 kilometres from a proposed wind turbine.

An existing 220 kV overhead transmission line traverses the project site north-south to connect the Macarthur Wind Farm to the Tarrone Terminal Station.

Proposed changes to the land use are consistent with the Moyne Planning Scheme. While a small percentage of agricultural land would be occupied by project infrastructure, this is not expected to have a material impact on land productivity. Stakeholders would benefit from improved access to and within their properties via new or upgraded and well-maintained gates and access tracks. They would also benefit via diversified income from project lease revenue.

It is acknowledged that land uses within and close to the project site may experience impacts related to noise, dust and visual amenity, which are discussed further in Appendix H – *Land use and planning* and other relevant chapters of this EES (i.e., Chapter 13 – *Noise and vibration*, Chapter 14 – *Landscape and visual* and Chapter 20 – *Air quality*). Cumulative effects have also been identified and are discussed in Chapter 24 – *Cumulative effects*.

16.2 EES objectives and key issues

The EES scoping requirements specify the draft evaluation objective and key issues, outlined in Table 16.1, relevant to land use that have guided this assessment.

Table 16.1 EES draft evaluation objective and key issues

Draft evaluation objective	
<p>Land use and socioeconomic: <i>To avoid and minimise adverse effects on land use (including agricultural and residential), social fabric of the community (with regard to wellbeing, community cohesion), local infrastructure, electromagnetic interference, aviation safety and to neighbouring landowners during construction, operation and decommissioning of the project.</i></p>	
Key issues	<ul style="list-style-type: none"> • Significant disruption to existing and/or proposed land uses, with associated economic and social effects on households and businesses. • Potential adverse effects of wind turbines and associated infrastructure from an aviation perspective, including but not limited to impacts on aerial safety, air traffic control equipment, obstruction and turbulence. • Potential interference with communication systems that use electromagnetic waves as the transmissions medium (e.g., television, radio, mobile reception). • Potential adverse impacts on existing infrastructure, including the high-pressure gas transmission pipelines.

Impacts to amenity and the environment have the potential to affect land use, and therefore are discussed at a high level within this chapter. More detailed information can be found on a specific topic in other chapters cross-referenced in this chapter (e.g., aviation, electromagnetic interference, noise, air quality and visual impacts).

16.3 Legislation, policy and guidelines

Key legislation, policies and guideline relevant to land use and planning are summarised in Table 16.2. The land use and planning assessment has been carried out in consideration of, and is consistent with, relevant legislation, policy and guidance.

Table 16.2 Relevant legislation and policies

Legislation/policy	Description	Relevance to project
State		
<i>Planning and Environment Act 1987</i>	The <i>Planning and Environment Act 1987</i> establishes the legislative framework for the use and development of land in Victoria. This Act is the primary mechanism by which land use and development is permitted, controlled or prohibited, and it sets out the structure and administration of the planning system in Victoria. This is the key legislation for planning and land use to address the relevant EES objectives outlined in the EES scoping requirements. Further detail is provided in Chapter 3 – <i>Legislation and policy framework</i> .	The land within the project site is subject to the requirements of the Moyne Planning Scheme. The scheme includes policies that are directly relevant to the project and are examined further in Section 5 of Appendix H – <i>Land use and planning</i> . Approval is required under this Act for the project.
<i>Aboriginal Heritage Act 2006</i> Aboriginal Heritage Regulations 2018 (Heritage Regulations)	The <i>Aboriginal Heritage Act 2006</i> provides for the protection of Aboriginal cultural heritage in Victoria. This states that a Cultural Heritage Management Plan (CHMP) is required for any project requiring an EES under the <i>Environment Effects Act 1978</i> .	Approval is required under the <i>Aboriginal Heritage Act 2006</i> for the project. A CHMP is being prepared for the project. A planning permit cannot be issued before the CHMP has been approved.

Legislation/policy	Description	Relevance to project
<i>Environment Effects Act 1978</i>	The <i>Environment Effects Act 1978</i> provides for assessment of proposed projects (works) that can have a significant effect on the environment.	The project was referred to the Minister in September 2018, in accordance with Section 8(3) of the <i>Environment Effects Act 1978</i> , to determine if an EES was required. On 27 December 2018, the Minister determined that an EES would be required due to the potential for the project to cause significant environmental effects.
<i>Environment Protection Act 2017</i>	<p>The <i>Environment Protection Act 2017</i> establishes the legislative framework for protecting the environment in Victoria. It regulates certain activities with the potential to impact on the environment and prohibits the occupier of 'scheduled premises' from doing any act or thing (installing any plant, equipment or process) that is likely to cause the discharge or emission of waste to the environment, unless authorised to do so.</p> <p>The <i>Environment Protection Act 2017</i> also provides for the preparation of subordinate legislation to implement the policies outlined in the primary legislation to protect the environment. The subordinate legislation regulates emissions to air, water and land in Victoria (including through noise and waste).</p>	The design and delivery of the project must comply with appropriate regulations and guidelines under the <i>Environment Protection Act 2017</i> where they apply to works and other project activities.
<i>Mineral Resources (Sustainable Development) Act 1990</i>	The <i>Mineral Resources (Sustainable Development) Act 1990</i> provides a legislative framework for the development and regulation of the mineral exploration and mining industry, and extractive industries (quarries) for the extraction of stone resources in Victoria.	Approval by the Minister for Resources is required under this Act for the project on-site quarry.
<i>Crown Land (Reserves) Act 1978</i>	The <i>Crown Land (Reserves) Act 1978</i> provides for the reservation and management of Crown land in Victoria. Reserved Crown land supports a wide range of uses, such as sports grounds and parks, which are managed various organisations including local councils and Parks Victoria.	The project seeks to use some Crown land, including unnamed government roads (also called paper roads) within the project site and some road reserve land.
Gas pipeline legislation and regulations	In Victoria, gas transmission pipelines are operated in accordance with the requirements of the <i>Pipelines Act 2005</i> , <i>Pipelines Regulations 2017</i> , <i>Gas Safety Act 1997</i> , <i>Gas Safety (Gas Quality) Regulations 2017</i> and <i>Gas Safety (Safety Case) Regulations 2018</i> . Under the <i>Pipelines Act 2005</i> and <i>Pipelines Regulations 2017</i> , pipeline construction and operation activities are required to comply with Australian Standard (AS) 2885: <i>Pipelines – Gas and Liquid Petroleum</i> . This standard exists to ensure protection of the pipeline, which in turn ensures the safety of the community, protection of the environment and security of gas supply to users.	Clause 79C of the <i>Gas Safety Act 1997</i> requires an authority from the gas company (SEA Gas) to carry out any excavation or boring or open any ground within 3 metres of a transmission pipeline. However, the design of the project is such that the SEA Gas pipeline is approximately 2.2 kilometres from the closest proposed infrastructure.

Legislation/policy	Description	Relevance to project
<i>Planning and Policy Guidelines for Development of Wind Energy Facilities in Victoria</i> (Policy and Planning Guidelines) (DELWP, 2021f)	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.	The Policy and Planning Guidelines have been considered and have guided decision making in the design of the project.
<i>Guidelines for the removal, destruction or lopping of native vegetation</i> (the Guidelines) (DELWP, 2017b)	The purpose of the Guidelines is to set out and describe the application of Victoria's state-wide policy in relation to assessing and compensating for the removal of native vegetation.	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 the Guidelines, as well as the EPBC Act and FFG Act, the project would use appropriate offsets where native vegetation removal cannot be avoided. The assessment of the project's impact on native vegetation is provided in Chapter 12 – <i>Biodiversity and habitat</i> . The project's offset strategy is included within Appendix D – <i>Biodiversity</i> .
<i>Design Guidelines and Model Requirements for Renewable Energy Facilities</i> (CFA Guidelines) (CFA, 2022)	The purpose of the CFA Guidelines is to provide details about standard measures and processes in relation to fire safety, risk and emergency management that should be considered when designing, constructing and operating new renewable energy facilities, and upgrading existing facilities.	CFA Guidelines have been considered and incorporated into the design of the project. Additional commitments from the CFA Guidelines have been adopted for management controls that would be implemented during construction and operation of the project.
Local		
<i>Great South Coast Regional Growth Plan</i>	The regional growth plans are the next stage in planning for growth and change in regional Victoria. It is noted the region has good energy assets. New and renewable energy is seen as a major economic opportunity for the region.	The Great South Coast Regional Growth Plan has been considered in the development of the project.

16.4 Method

The land use and planning assessment involved:

- a baseline land use analysis to identify and verify existing land uses and land use conditions within and surrounding the project site
- a review of the legislative framework which applies to the land within and adjoining the project site
- carrying out an impact assessment.

The legislative framework review included the provisions of the Moyne Planning Scheme, including the Planning Policy Framework, Zones, Overlays, Particular and General provisions, and any other relevant clauses. Other legislation and policies relevant to the land use and planning assessment have also been considered.

16.5 Existing conditions

16.5.1 Moyne Planning Scheme

The project site is within Moyne Shire and is subject to the provisions of the Moyne Planning Scheme. The planning 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 planning 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 *Planning and Environment Act 1987*.

The planning scheme includes the following sections, each of which contain several clauses that provide a clear and consistent framework within which decisions about the use and development of land can be made.

Project land use terms

The land use for the project works are 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.

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.

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. The Planning Policy Framework seeks to ensure the objectives of planning in Victoria are adopted through appropriate land use and development that considers relevant environmental, social and economic factors to benefit the community and promote sustainable development.

Clauses of the Planning Policy Framework relevant to land use and planning for the project are:

- Clause 11 Settlement
- Clause 12 Environmental and landscape values
- Clause 13 Environmental risks and amenity
- Clause 14 Natural resource management
- Clause 15 Built environment
- Clause 17 Economic development
- Clause 18 Transport
- Clause 19 Infrastructure.

An assessment of how the project responds to these clauses is provided in Appendix H – *Land use and planning*.

Local Planning Policy Framework

The Local Planning Policy Framework provides the vision (objectives and strategies) for land use and development in Moyne Shire.

Clauses of the Local Planning Policy Framework relevant to land use and planning for the project are:

- Clause 21.03 Factors influencing future planning and development
- Clause 21.06 Environment
- Clause 21.07 Economic development
- Clause 21.08 Infrastructure
- Clause 22.01-1 Aboriginal heritage
- Clause 22.02-2 Rare and threatened species
- Clause 22.02-8 Flora and fauna local policy
- Clause 22.03 Economic development
- Clause 22.03-4 Agricultural production
- Clause 22.03-8 Fire Protection Local Policy.

An assessment of how the project responds to these clauses is provided in Appendix H – *Land use and planning*.

Planning controls

Zones and overlays are contained within the state-wide Planning Policy Framework. ‘Schedules’ to zones or overlays are specific to the Local Planning Policy Framework and may, for example, refer to specific properties or exemption provisions relevant to the specific municipal planning scheme.

Zones

All land in Victoria is covered by planning ‘zones’. These are defined by local councils and determine the use of the land, and can influence whether a planning permit is required to construct a building or carry out works. Zones may include uses such as residential, industrial or public use.

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 16.3 and shown in Figure 16.1.

Table 16.3 Summary of zoning permit triggers

Planning zone	Purpose and relevance	Permit required?
Clause 35.07 Farming Zone	Recognises the purpose of the zone is to provide for the use of the land for agriculture. It also ensures that non-agricultural uses do not adversely affect the use of land for agriculture. A permit is required for: <ul style="list-style-type: none"> • 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) • earthworks. 	Yes*
Clause 37.01 Special Use Zone Schedule 5 and Schedule 6	Recognises or provides for the use and development of land for specific purposes. Of relevance to the project, Special Use Zone Schedule 5 relates to the permitted Shaw River Power Station and Special Use Zone Schedule 6 relates to the Tarrone Power Station. A permit is required for a utility installation within these zones.	Yes
Clause 36.04 Transport Zone 2	Transport Zone 2 is for the purpose of the principal road network. A permit is required to use land within the Transport Zone 2 for a utility installation.	Yes

* 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 Table 16.5 below).

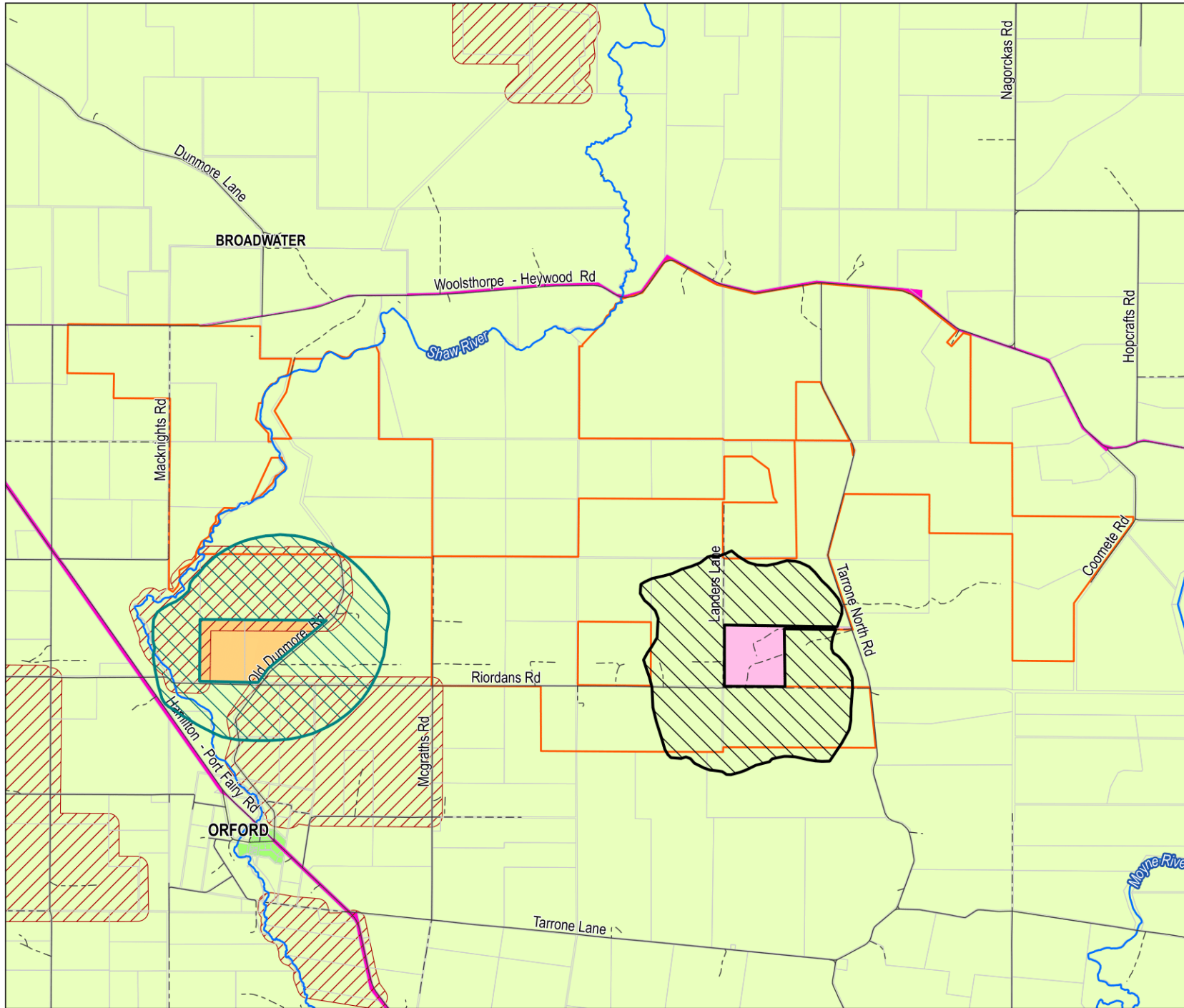
Overlays

In addition to zones, land can also be covered by one or more planning ‘overlays’, which apply additional controls to the use and development of land. While all land has a zone, not all land is affected by overlays. In rural environments they generally relate to physical environment constraints but can also relate to built form outcomes.

Part of the project site is affected by planning overlays, as shown in Table 16.4. Overlays apply additional controls to the use and development of land.

Table 16.4 Summary of overlay permit triggers

Planning overlay	Purpose and relevance	Permit required?
Clause 42.01 Environmental Significance Overlay Schedule 4 and Schedule 5	The Environmental Significance Overlays relate to the permitted Shaw River (Schedule 4) and Tarrone power stations (Schedule 5) within the Special Use Zones. The overlays do not trigger a planning permit associated with buildings and works. However, a permit is required for native vegetation removal under Environmental Significance Overlays Schedule 4 and 5.	Yes
Clause 44.06 Bushfire Management Overlay	The Bushfire Management Overlay 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 project does not trigger the requirement for a permit within the Bushfire Management Overlay, noting that infrastructure is not proposed near the area affected by the overlay.	No




LEGEND

- Road
- - - Track
- Watercourse
- Willatook Wind Farm boundary
- Property
- Planning Overlay**
- Bushfire management overlay
- Environmental significance overlay - Schedule 4
- Environmental significance overlay - Schedule 5
- Planning Zone**
- Farming zone
- Transport zone 2
- Special use zone - schedule 5
- Special use zone - schedule 6
- Township zone

SOURCE:
 Willatook Wind Farm boundary from Wind Prospect.
 Terminal station from Tetra Tech Coffey.
 Roads, transmission line, watercourses, property and planning overlay from Vicmap.
 Imagery from ArcGIS Online (various capture dates).

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 SCALE 1:75,000
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 PROJECTION: GDA 1994 MGA Zone 54

WIND PROSPECT
 WILLATOOK WIND FARM
FIGURE 16.1
 Planning zones and overlays



Particular, general and operational provisions

Particular provisions (Clauses 50 to 59) are planning provisions that apply in certain circumstances, and are in addition to any zone and overlay controls.

General provisions (Clauses 60 to 67) outline the technical details of the planning scheme, including how the planning scheme is to be administered, permit exemptions, existing use rights and ancillary land use.

Operational provisions (Clauses 70 to 74) relate to administration and enforcement of the planning scheme.

The particular provisions relevant to the project are summarised in Table 16.5.

Table 16.5 Summary of relevant particular provisions

Provision (clause)	Relevance	Permit required?
Clause 52.05 Signs	A business sign would be installed.	A permit is required to construct business identification signage up to an area of 3 square metres.
Clause 52.06 Car Parking	Car parking would be required for project employees and contractors.	No permit is required under this clause, however, before the new use commences, car parking spaces must be provided to the satisfaction of the responsible authority.
Clause 52.08 Earth and Energy Resources	An on-site quarry is proposed to supply crushed rock for project construction, primarily access tracks and hardstands.	A permit is not required if an EES has been prepared under the <i>Environment Effects Act 1978</i> , the Minister for Planning's assessment of the EES has been submitted to the Minister for Resources, and a work authority has subsequently been granted by the Minister for Resources.
Clause 52.09 Extractive Industry and Extractive Industry Interest Areas	Clause 52.09 – Stone Extraction Decision Guidelines outlines a range of considerations, which have been considered in relation to the proposed on-site quarry.	Appendix H – <i>Land use and planning</i> provides an assessment of the project against the provisions of Clause 52.09-5 (Decision Guidelines), noting that a permit is not required if an EES has been prepared and a work authority has been granted by the Minister for Resources.
Clause 52.17 Native Vegetation	4.2 hectares of native vegetation would be cleared to construct the project.	A permit is required under this clause to remove, destroy or lop native vegetation, including dead vegetation.
Clause 52.29 Land Adjacent to the Principal Road Network	An access point and turn-out from the Transport Zone 2 is proposed. A section of Woolsthorpe-Heywood Rd would also require upgrades.	A permit is required to create or alter access to a road in a Transport Zone 2.
Clause 52.32 Wind Energy Facility	The project is defined under the planning scheme as a 'wind energy facility'.	A permit is required under this clause to use and develop land for a wind energy facility.
Clause 52.33 Post boxes and dry stone walls	The project access tracks and cables would be required to cross the Landers Lane dry stone wall.	A permit is required under this clause to alter a dry stone wall along Landers Lane.

Before deciding on an application or approval of a plan, the responsible authority must consider a series of matters (as appropriate) outlined in Clause 65 (Decision Guidelines) of the general provisions. Under Clause 66 (Referral and Notice Provisions), applications must be referred to the relevant authority for recommendations or determinations on specific matters (e.g., DELWP for native vegetation removal, AusNet Services for electricity infrastructure, and Transport for Victoria for Transport Zone 2 matters).

The Minister for Planning is the responsible authority for wind energy facility applications and utility installation used to transmit or distribute electricity generated by a wind energy facility, as defined under operational provision Clause 72.01-1 (Responsible Authority for this Planning Scheme).

16.5.2 Land use

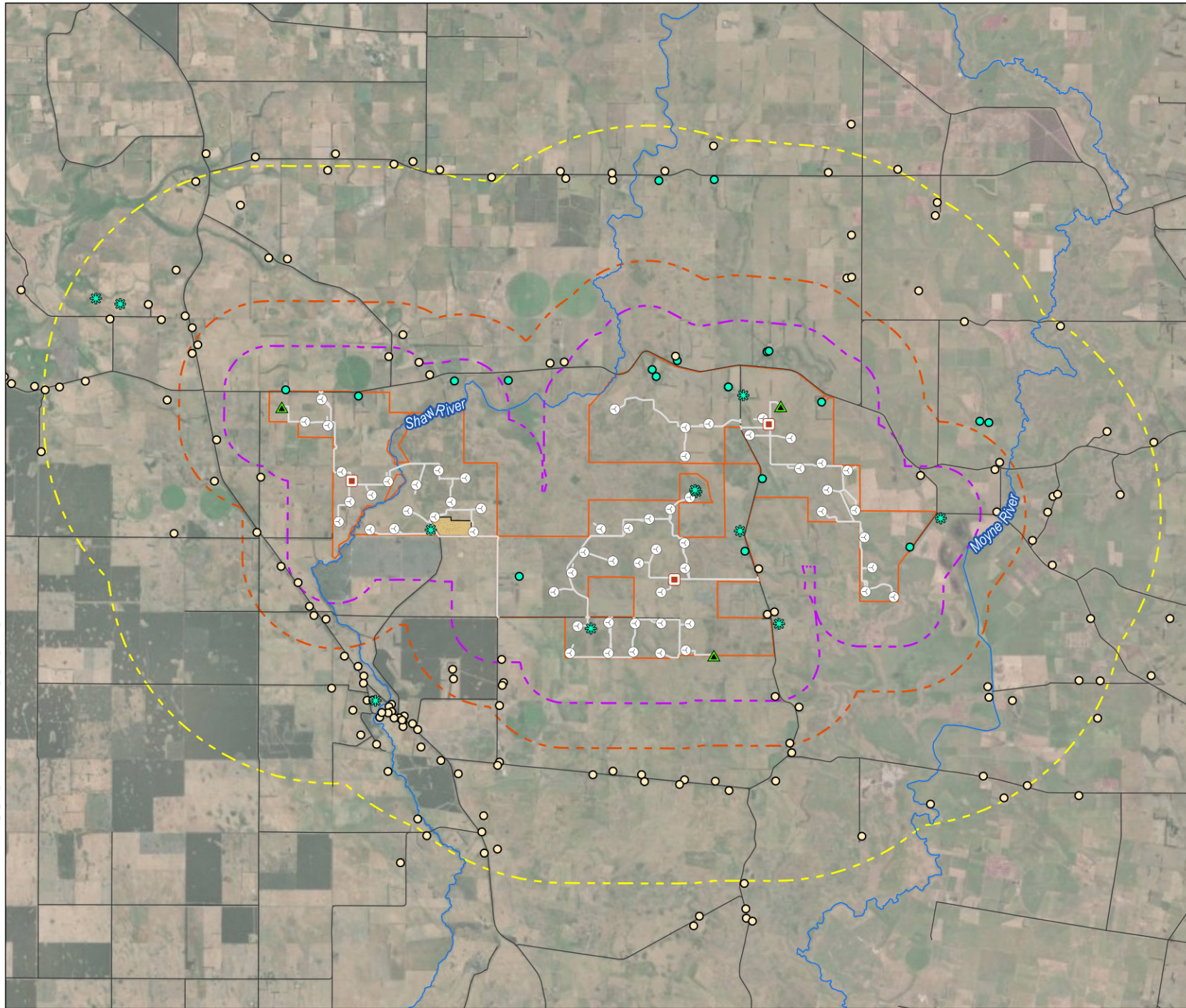
Surrounding area

Covering an area of about 5,478 km², 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.

Project site

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 (dry stone walls) with heritage value, access tracks and agricultural infrastructure such as sheds.

There are 16 stakeholders (hosting project infrastructure) with land parcels of varying size. There are eight dwellings and a further four dilapidated dwellings that are within the project site, all owned by stakeholders. Stakeholder and non-stakeholder dwellings near the project site are shown in Figure 16.2.



LEGEND

- Turbine location
- Permanent met mast
- Non-stakeholder dwelling
- Stakeholder dwelling
- Dilapidated dwelling
- Access track
- Road
- Watercourse
- Concrete batch plant
- Quarry area
- Willatook Wind Farm boundary
- 1 km buffer
- 2 km buffer
- 5 km buffer

SOURCE:
Willatook Wind Farm boundary from Wind Prospect.
Terminal station from Tetra Tech Coffey.
Roads, transmission line and watercourses from Vicmap.
Imagery from ArcGIS Online (various capture dates).



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PROJECTION: GDA 1994 MGA Zone 54

WIND PROSPECT

WILLATOOK WIND FARM

FIGURE 16.2

Dwelling locations within and surrounding the project site



The distance from the project wind turbines to dwellings is summarised in Table 16.6. A total of 19 dwellings are within 1,525 metres of the project. These are either stakeholder dwellings or dilapidated dwellings on stakeholder property. Non-stakeholder dwellings are at least 1,525 metres from a wind turbine.

Table 16.6 Distance from wind turbine locations to dwellings

Distance (m)	Stakeholder dwelling	Dilapidated dwelling (stakeholder)	Non-stakeholder dwelling	Total
0–1,025	6	5	–	11
1,025–1,525	7	1	–	8
1,525–2,025	1	–	20	21
2,025–3,025	3	–	22	25
3,025–6,025	6	–	99	105

Infrastructure

Roads within and near the project site include Hamilton-Port Fairy Road (traversing north-west to south-east, approximately 1.5 kilometres west of the project site) and Peshurst-Warrnambool Road (traversing north-south, approximately 7 kilometres east of the project site). The Tarrone North Road (traversing north-south) bisects the project site and Woolsthorpe-Heywood Road (traversing east-west) defines the northern extent. Other local roads that border or extend through/within the project site and provide for local property access include Landers Lane, Barrys Road, Frys Road, Poyntons Road and Hopcrafts Road.

The 500 kV Moorabool to Heywood transmission line runs east-west through the southern portion of the project site, and a 220 kV overhead transmission line (traversing the site north-south) connects the Macarthur Wind Farm to the Tarrone Terminal Station. Powercor owns and operates the electricity distribution network in the project site. The SEA Gas pipeline is located approximately 2.2 kilometres north-east of the closest wind turbine. Both the transmission lines and gas pipeline exist within dedicated easements.

The Special Use Zones created for the permitted Tarrone Power Station and Shaw River Power Station are currently used for agriculture (grazing). On the Tarrone Power Station project website, AGL states that they have “*no immediate plans to begin construction on this project*”¹, however this may change in the future. The Shaw River Power station permit has expired, and Santos are no longer progressing with the project.

The operating Macarthur Wind Farm is about 6 kilometres (boundary to boundary) to the north. Permitted, but not yet constructed, wind farm projects exist to the east (Hawkesdale and Woolsthorpe wind farms) and to the south (Ryan Corner wind farm).

¹ AGL Tarrone Power Project: <https://www.agl.com.au/content/aglenergy/nsw/en/about-agl/how-we-source-energy/tarrone-power-project> (accessed 27 April 2022)

16.6 Impact assessment

This section describes the potential impacts to land use and planning from the project construction, operation and decommissioning, how they have been mitigated in the design phase, and what residual impacts may occur that need further management.

When evaluating the potential impacts of the project on land use and planning, the significance ratings outlined in Table 16.7 were considered.

Table 16.7 Significance criteria

Rating	Criteria
Negligible	No measurable impact on land use.
Minor	Short-term disruption to existing land use.
Moderate	Moderate and permanent disruption to land use.
High	Major and permanent disruption to land use.
Severe	Severe and permanent disruption to land use.

Significance ratings are assigned in Table 16.9 after the discussion of impacts presented below.

16.6.1 Impact pathways

The use and development of the project site for a wind farm is a permissible use within the Farming Zone, subject to a permit being issued. Potential impacts on the agricultural land use of the site include interference with agricultural management activities including grazing, access to gates for movement and stock safety. Construction would result in a small reduction in agricultural land available for production, with the construction and operational footprints representing 5.4% and 2.4% of the project site, respectively.

Construction machinery and activities would be visible in the landscape. These activities would be temporary and limited to specific areas within the construction footprint of the approximately 4,154 hectare project site.

Construction impacts would occur to both stakeholders and non-stakeholders on land within and surrounding the project site. Impacts on agricultural activities and amenity are likely to be greater for stakeholders involved in the project as construction would occur on their properties. Land parcels would not be segregated as a result of permanent infrastructure. Where areas of the project are fenced off, for example the battery location, farming operations can continue on land parcels around the fencing. The project has been designed to retain access to existing dwellings during the construction phase. This would be done via creating temporary access points that do not conflict with existing access.

The project has been designed so that land parcels would remain in their existing lots and general configuration once the project is operational. Some areas of land may be temporarily fenced or segregated during construction to accommodate laydown areas. Planning in advance of construction would ensure that these temporary impacts are minimised as far as practical.

Non-stakeholders would be periodically impacted by road and changed traffic conditions during construction, and experience impacts to amenity and potential housing availability constraints due to demand from the project workforce. The construction of the wind farm would require traffic management on some roads for periods during construction, which may impact access (e.g., temporary delays) to stakeholder and non-stakeholder properties.

The development and use of the land for the on-site quarry would result in the removal of land from agricultural production. The temporary removal of around 25–30 hectares of land from grazing during project construction and 10.5 hectares during operation would have a modest impact on agricultural productivity as it would reduce the land area available for farming. Once the quarry is no longer needed the area would be rehabilitated and filled with water to be used for farming operations.

The construction and operation of the wind farm has been designed so as not to impact the SEA Gas pipeline. The closest project infrastructure is more than 2 kilometres from the pipeline and therefore physical damage to the pipeline, either via excavation, vehicles crossing over it, or via wind turbine blade throw, are not a realistic hazard.

Concrete batching activities have the potential to impact air, water and land, and create audible noise.

There is the potential for the project to cause a fire or be impacted by fire originating from another source. Fires may be caused by wind turbine electrical faults or faults relating to aboveground electrical infrastructure, such as the short span of transmission line, the on-site substation and the battery energy storage facility. Fires could also feasibly be caused by workshop incidents, vehicle accidents and spills, or other means. Fire may originate on-site or off-site (and travel to the site) by means not related to the project, such as via lightning strikes or uncontrolled burns.

The site selected for the project has most of the CFA's indicators of a low-risk location for bushfires outlined in the CFA Guidelines. Specifically, the project site:

- is almost entirely comprised of grazed grassland
- has a generally flat topography, with some undulation
- has slopes less than 5 degrees (in areas where infrastructure is to be built and for access tracks to the infrastructure)
- has good road access with multiple routes available to and from the project site
- would have no infrastructure built within a Bushfire Management Overlay.

Some wind turbines would be built approximately 150 metres from a plantation forest in the western part of the project site, which is subject to a Bushfire Management Overlay. However, the risk management plan would analyse this risk and determine an appropriate response.

More details on amenity, traffic, social and economic impacts can be found in Chapter 13 – *Noise and vibration*, Chapter 14 – *Landscape and visual*, Chapter 15 – *Traffic and transport* and Chapter 17 – *Socio-economic*.

16.6.2 Design mitigation

The wind farm and on-site quarry have been designed in consultation with stakeholder landowners. Through the design process, a range of environmental, social and infrastructure constraints were considered as part of the planning and design process and, in many cases, buffers were applied to known or modelled sensitive areas (including townships and dwellings, and land where the agricultural activities can continue around the turbines) (refer to Chapter 4 – *Project alternatives and design development*). The project has been designed to retain access to properties during the construction phase with access tracks following fence lines and property boundaries where practicable. The impact to the SEA Gas pipeline has been avoided through ensuring the wind turbines and associated infrastructure are a significant distance (2.2 kilometres at the nearest point) from the gas pipeline.

The quarry has been proposed in a part of the project site away from occupied dwellings. The closest occupied dwelling is 1.4 kilometres from the quarry boundary. Concrete batching plants have been located away from sensitive receivers, such as dwellings and waterways, and will be designed and operated to adequately control dust emissions in accordance with the relevant EPA Victoria guidelines.

The CFA Guidelines have been considered when designing the project. Wind turbines have been placed at least 300 metres apart to allow for aerial firefighting and cleared hardstand areas would be maintained to create firebreaks of at least 20 metres around the base of wind turbine towers. Firebreaks of at least 10 metres would be maintained around other facilities. Two-way access, with passing bays, would be provided for the battery energy storage facility and on-site substation. Water tanks of appropriate sizes would be placed in key locations around the project site, the exact details of which would be determined in consultation with the CFA during the detailed design phase.

16.6.3 Management controls

Where feasible, design measures have been included to avoid potential impacts to land use and planning. To further minimise potential impacts to land use and planning, management controls would be implemented during the construction, operation and decommissioning of the project.

Management measures for most impacts that relate to land use and planning are contained within the specialist EES chapters and summarised in Chapter 26 – *Environmental management framework*. These include management measures for aviation, noise, landscape and visual, and socio-economic impacts. Management measures that are not dealt with in other specialist chapters are included in Table 16.8.

Table 16.8 Land use and planning management measures

Land use impact pathway	Project phase	Management measures	Number
Wind turbines located within 1 kilometre of a dwelling	Design	Micro-siting of wind turbines would occur in accordance with permit requirement and landowner consent.	LP01
Three concrete batching plants are proposed, potentially harming human health and the environment	Construction	Include appropriate control measures from EPA Victoria Publication 1806: <i>Reducing risk in the premixed concrete industry</i> relating to air, water, waste and noise. Follow the four-step process in the guideline to manage risk.	LP02
Fire caused by the project or other cause occurring on or near the project site	Construction	A Risk Management Plan, Fire Management Plan and Emergency Management Plan would be prepared in accordance with the CFA's <i>Design Guidelines and Model Requirements – Renewable Energy Facilities</i> (v3, March 2022), in consultation with CFA, prior to commissioning. The Fire Management Plan would outline measures for design, defensible space, construction, water supply and access, awareness actions, preparedness levels and fire response procedures for the site to address any concerns relating to fire risks including bushfires.	LP03

16.6.4 Impact assessment summary

Table 16.9 summarises the potential land use impacts from the project.

Table 16.9 Summary of potential project impacts and significance ratings

Asset, value or receptor	Impact pathway	Project phase	Likely impact (considering magnitude, extent and duration)	Significance rating and justification
Potential future dwellings	Design	Pre-construction	Possibility of a dwelling being constructed on a neighbouring site between the project approval date and the commencement of construction.	Negligible – Impact unlikely to occur.
Existing dwellings	Design and construction	Pre-construction and construction	Existing dwellings rely on access to their properties. The project has been designed to retain access to properties during the construction phase by creating temporary access points that do not conflict with existing or, if a conflict is necessary, creating an alternate access. This would progressively move across the site, so any one area is likely to be affected for a short period of time. All existing dwelling access would be retained once the wind farm is in operation.	Negligible – Impact unlikely to occur.
Agricultural land use	Construction of windfarm and ancillary infrastructure	Construction and decommissioning	During construction and decommissioning there would be temporary restriction to agricultural access for certain areas. This would progressively move across the project site, so any one area is likely to be affected for a number of months.	Minor – Impact would be temporary.
Agricultural land use	Operation of the windfarm and ancillary infrastructure	Operation	Once in operation the wind farm would take around 100 hectares of land out of direct agricultural production. Farming activities can continue around the infrastructure.	Minor – Only a very small proportion of the land area would be impacted.
Agricultural land use	Operation of the quarry	Construction and operation and decommissioning	The impact is a small, concentrated area and would remove land from agricultural production. The quarry would be allowed to fill with water for use as a farm dam once no longer required.	Moderate – The removal of the land for agricultural use would be for the life of the project.
SEA Gas pipeline	Construction of the wind farm and ancillary infrastructure	Construction and operation	During construction there is potential for construction traffic to damage the SEA Gas pipeline. When the wind farm is in operation there is a risk that blade throw could damage the pipeline.	Negligible – Project has been designed in consultation with the pipeline owner/operator and is separated by more than 2 kilometres.

16.6.5 Consistency with planning provisions

The project allows the Farming Zone land to continue to be used as intended by the planning scheme. The project would allow for the ongoing agricultural use of most of the land because:

- the project operational footprint occupies about 2.4% of the project site
- it provides diversification of the agricultural economy and diversification of income for the stakeholders
- it provides a regular income to stakeholders, protecting against any uncertainties in agricultural income
- the construction period and ongoing maintenance would provide for local jobs in the rural community
- the land management and use are sustainable
- the use is anticipated in the Farming Zone, subject to issue of a relevant planning permit.

For the Special Use Zones, it is unlikely the Shaw River and Tarrone power stations would be constructed. If they were constructed, the project would not impact the operations of the facilities. The Environmental Significance Overlays for both power stations relate to potential for noise generated by the power station impacting on any proposed sensitive uses and developments of land surrounding the power station site, particularly accommodation uses and developments. The project does not include any sensitive uses or developments of land.

The project has a minor to negligible impact on the Transport Zone 2. Required approvals would be sought in relation to create access points from the Woolsthorpe-Heywood Road, which is a Transport Zone 2.

The project has been designed considering the objectives of Clause 22.03-8 Fire Protection Local Policy and has committed to developing a Bushfire Management Plan in consultation with the CFA for the construction and operation stages. This plan would outline measures for design, defensible space, construction, water supply and access, awareness, preparedness levels and fire response procedures for the site to address concerns relating to bushfire risk.

Appendix H – *Land use and planning* summarises the performance of the project against the relevant zone and overlays, Planning Policy Framework, Local Planning Policy Framework and Particular Provisions.

The potential impacts associated with wind farms are identified in Clause 52.32 (Wind energy facility) of the Moyne Planning Scheme and are also discussed in the Policy and Planning Guidelines (DELWP, 2021f). A summary of how the project responds to the requirements of these guidelines is included in Table 16.10.

Table 16.10 Wind energy provisions assessment

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 1 kilometre of any turbine (measured 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 from 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 of a wind turbine have consented to the project.
Site context and analysis requirement	Clause 52.32-4 states that a site and context analysis is required to include: <ul style="list-style-type: none"> • 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. Refer to Chapter 2 – <i>Project rationale and benefits</i> , Chapter 4 – <i>Project alternatives and design development</i> and Chapter 5 – <i>Project description</i> .

Provisions	Requirement	Assessment
Noise and vibration assessment	<p>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.</p> <p>Verification by an EPA Victoria accredited environmental auditor that the pre-construction (predictive) noise assessment has been conducted in accordance with the New Zealand Standard NZS6808:2010 is included in Appendix E2 – <i>Pre-construction noise assessment report verification</i>.</p> <p>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.</p> <p>Each post-construction noise assessment report must be accompanied by an environmental audit report prepared by an environmental auditor.</p>	<p>An assessment against the New Zealand Standard is provided Appendix E1 – <i>Noise and vibration</i>. Necessary noise assessments, including a verification report, will be submitted with the planning application.</p> <p>In accordance with the New Zealand Standard, compliance has been demonstrated at all wind speeds at all non-stakeholder dwellings and non-residential noise sensitive locations near the project site.</p> <p>A post-construction noise assessment report and associated environmental audit would be a permit condition of the project.</p>
Shadow flicker, blade glint and electromagnetic interference	<p>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.</p> <p>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.</p> <p>Blades should be finished with a surface treatment of low reflectivity to ensure that glint is minimised.</p> <p>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.</p>	<p>Assessments of blade glint, shadow flicker (Appendix M) and electromagnetic interference (Appendix N) have been prepared.</p> <p>All non-stakeholder dwellings would experience less than 30 hours of shadow flicker per year.</p> <p>Agreements are in place with stakeholders where shadow flicker is predicted to exceed 30 hours per year.</p> <p>In relation to blade glint, all modern wind turbines are finished with a surface treatment of low reflectivity.</p> <p>If required, management measures would be used to avoid or minimise electromagnetic interference to the services assessed in Appendix N – <i>Electromagnetic interference</i>.</p>
Views and visual impact	<p>Clause 52.32-4 requires that an application provide a site and context analysis which includes:</p> <ul style="list-style-type: none"> 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. 	<p>A landscape and visual assessment (Appendix F1) 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.</p>

Provisions	Requirement	Assessment
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 4.6 hectares of native vegetation and eight large trees, representing less than 1% of the native vegetation within the site.
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 the 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 for the project (Appendix O – <i>Aviation</i>).
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 management and monitoring matters.

16.7 Conclusions

The project would avoid and minimise adverse effects on agricultural and residential land use during construction, operation and decommissioning. Potential impacts have been avoided through design and infrastructure siting, and residual impacts would be managed by adhering to the project's construction, operation and decommissioning management plans (see Chapter 26 – *Environmental management framework*). Impacts during construction and decommissioning are likely to be moderate for stakeholders, as project activities would occur on their land. Non-stakeholders may be impacted by traffic changes, construction noise and vibration, dust and visual changes to the landscape.

Land use impacts during operation are expected to be minor as the area occupied by project infrastructure is about 2.4% of the project site. Amenity impacts from wind turbine noise and visual changes to the landscape may occur, but these would be managed within relevant guidelines, pre-construction engagement and standard permit requirements.