Application to use and develop land for the purpose of wind measurement by an anemometer

Planning Permit Application

October 2020

Proponent: Willatook Wind Farm Pty Ltd

PO Box 110
Fitzroy VIC 3065
AUSTRALIA
Contact: Shari Rankin
Ph: +61 433 845 432
Fax: +61 3 9380 2471
Email: shari.rankin@windprospect.com.au
Web: www.windprospect.com.au

CONFIDENTIALLY

REGISTER SEARCH STATEMENT **Land Victoria** Page 1 of 1

Security no : 124027758343R Volume 04383 Folio 488
Produced 23/09/2020 11:31 am

LAND DESCRIPTION

Crown Allotments 1,2 and 1A1 Section 8 Parish of Kapong.
PARENT TITLE Volume 04008 Folio 460
Created by instrument 0971020 29/10/1920

REGISTERED PROPRIETOR

Estate Fee Simple
Joint Proprietors
ERIC CHARLES WYTHE
HELEN SYLVIA WYTHE both of BROADWATER 3284
T446276N 05/12/1994

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AC295294Q 28/08/2003
RURAL FINANCE CORPORATION OF VICTORIA

For details of any other encumbrances see the plan or imaged folio set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

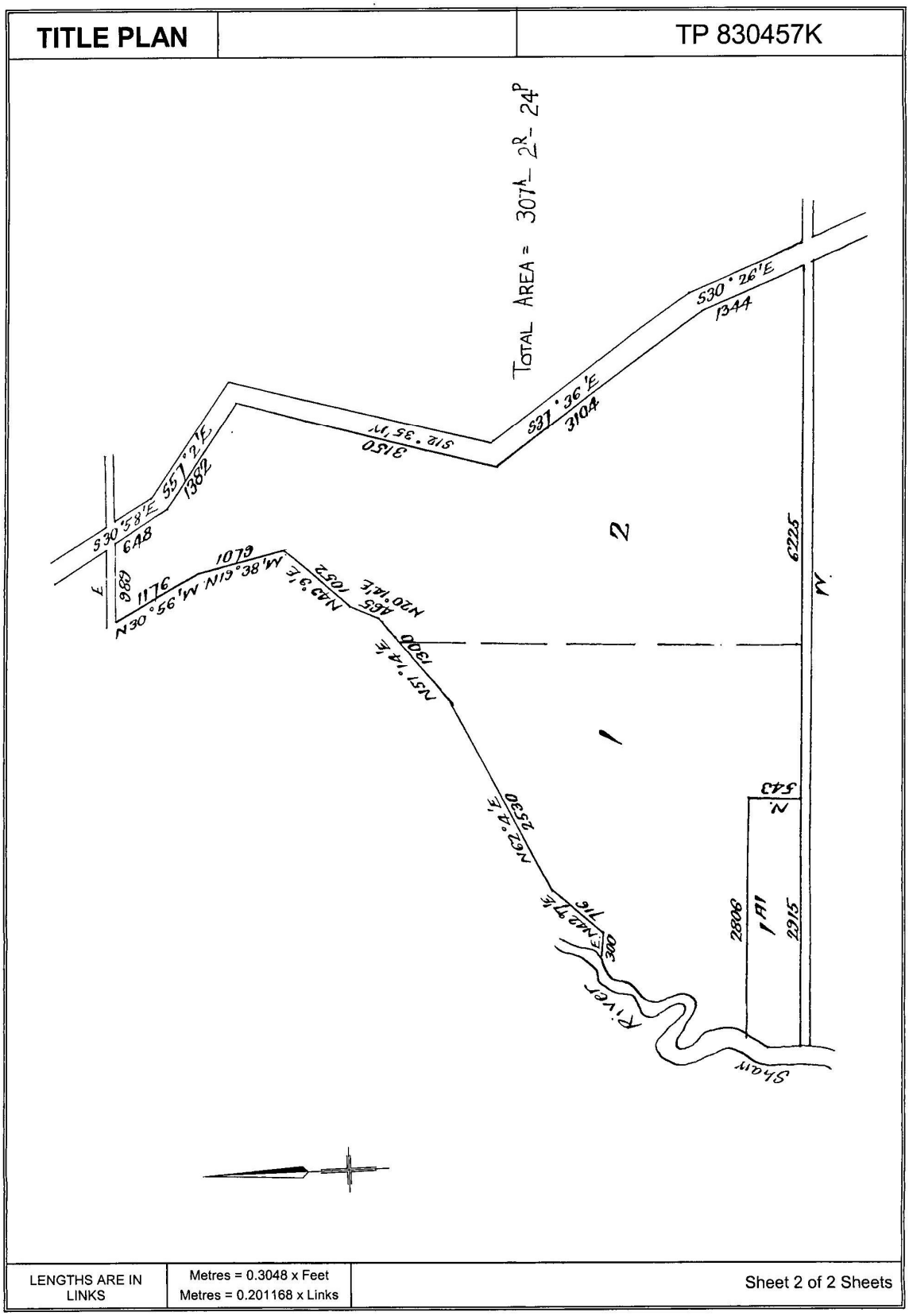
SEE TP830457K FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

STATEMENT END

Title 4383/488 Page 1 of 1



LENGTHS ARE IN LINKS	Metres = 0.3048 x Feet Metres = 0.201168 x Links	Sheet 2 of 2 Sheets

Main Text

Table of Contents

List of Tables

List of Figures

List of Appendices

Abbreviations

AHD	Australian Height Datum
BMO	Bushfire Management Overlay
CASA	Civil Aviation Safety Authority
CHMP	Cultural Heritage Management Plan
DELWP	Department of Environment, Land, Water and Planning
DPCD	Department of Planning and Community Development
EES	Environment Effects Statement
EPBC Act	Environment Protection & Biodiversity Conservation Act 1999
ESO	Environmental Significance Overlay
EVC	Ecological Vegetation Classes
FFG Act	Flora and Fauna Guarantee Act 1988
FIS	Flora Information System
FZ	Farming Zone
km	Kilometre
kV	Kilovolt
MW	Megawatt
RAAF AIS	Royal Australian Air Force Aeronautical Information Service
SLO	Significant Landscape Overlay
WWF	Willatook Wind Farm Pty Ltd

1. Introduction

Willatook Wind Farm Pty Ltd (WWF), the proponent, seeks a temporary 5-year planning permit from the Minister for Planning under clause 72.01-1 of the Victoria Planning Provisions to continue to use land for the purpose a 120m high wind monitoring mast. The existing wind monitoring mast is located in the Moyne Shire approximately 5km north-west of Orford.

The application has been prepared in accordance with the relevant provisions in the Victoria Planning Provisions, and the *Policy and Planning Guidelines for development of wind energy facilities in Victoria* (DELWP 2019).

1.1 Project history

In 2008, WWF commenced a detailed site finding process to establish the most appropriate locations for wind farm developments in Victoria that would maximise the yield of renewable energy whilst limiting any impacts on the surrounding community and environment. This process identified the proposed Willatook Wind Farm (the proposed wind farm), in the Willatook locality of south-west Victoria, as such an area worthy of further detailed investigation.

Under Clause 62.02-1 of the Victoria Planning Provisions, the use of land for wind measurement by an anemometer for three years or less does not require a permit. On 26 September 2017 WWF installed a temporary wind monitoring mast (the wind monitoring mast) on the property of a landowner involved in the proposed wind farm to further assess the suitability of the local wind resource for a wind energy facility.

WWF is submitting this application for the wind monitoring mast, since the period for which no permit is required under clause 62.02-1 of the Victoria Planning Provisions has expired. An additional permitted period of five years is sought under clause 62.02-1 of the Victoria Planning Provisions to enable the wind monitoring mast to remain in its current location to facilitate the continuation of the feasibility assessment and the completion and lodgement of a planning application for the proposed wind farm.

1.2 The proponent

Willatook Wind Farm Pty Ltd (WWF) is the applicant with regard to this planning permit application. The development of the proposed Willatook Wind Farm, including this mast planning application, is being managed by Wind Prospect Pty Ltd (Wind Prospect).

WWF and Wind Prospect are part of the Wind Prospect Group which originated in the United Kingdom and established operations in Australia in 2000. Wind Prospect has over 20 years' experience developing wind farms in Australia. Further information on Wind Prospect is available at www.windprospect.com.au.

2. The Application

2.1 Application requirements

This planning application report provides an overview of the existing wind monitoring mast and addresses the relevant provisions of the Moyne Planning Scheme, Victoria Planning Provisions , and the *Policy and Planning Guidelines for development of wind energy facilities in Victoria* (DELWP, March 2019).

3. The Proposal

The temporary wind monitoring mast was constructed on the Site on 26 September 2017. The purpose of the monitoring mast is to provide wind data necessary for development and planning of the proposed Willatook Wind Farm.

A planning permit is sought to maintain the temporary wind monitoring mast in its current location on the Site beyond the third year anniversary of its construction and the end of the period for which no permit is required under clause 62.02-1 of the Victoria Planning Provisions.

An additional permitted period of five years is sought under clause 62.02-1 of the Victoria Planning Provisions to enable the wind monitoring mast to remain in its current location. An additional five year period would provide adequate time for the following actions and processes to take place:

- to collect additional wind data to continue to inform the feasibility assessment of the proposed wind farm;
- for completion of other relevant site assessments;
- to lodge a planning permit application and Environment Effects Statement (EES) for the proposed wind farm (including temporary and permanent wind monitoring masts); and
- for a decision regarding the planning permit application and EES for the proposed wind farm by the Responsible Authority.

The mast is an 120 metre high guyed, lattice wind monitoring mast. The specifications for the mast are shown in Table 1. The elevation at the base of the monitoring mast is approximately 95 metres AHD and the elevation at the tip of the monitoring mast is approximately 215 metres AHD.

Table 1: Key facts for the wind monitoring mast

Mast Type	Guyed lattice mast
Mast Height	120 m
Mast Base Elevation	Approx. 95 m AHD
Mast Tip Elevation	Approx. 215 m AHD
Latitude MGA84 (54)	-38.16243°
Longitude MGA84 (54)	142.10632°
Monitoring mast footprint (ha)	1.45 ha

The monitoring was supplied and erected by Australian Radio Towers (ART). It is fitted with meteorological monitoring instruments including anemometers, wind vanes and temperature sensors. The instruments are attached at heights of approximately 120 metres, 100 metres, 80 metres and 60 metres. Data collected from these instruments is recorded by a Campbell CR1000 data logger, power by a 50 watt solar panel at the base of the mast.

The tower structure of the mast is supported by a series of guy wires attached to six anchors in the ground. Five guy wires are attached to each anchor and the guy wires extend from the mast in three different directions (80°, 200° and 320° from the mast base). The three inner anchors are spaced 35m from the base of the mast, and the three outer anchors are spaced 68m from the base of the mast. Installation of the anchors involved excavation of six approximately 2.5 metre by 2 metre

trenches. The concrete pad at the base of the mast is approximately 1.4 metres wide and 1.4 metres long. Upon installation, the base of the tower and the anchors were fenced to prevent livestock access.

Safety features of the mast include a fall arrest system to allow for safe climbing of the mast. A 1.4 metre lightning spike was installed at the top of the mast and this is connected directly to an earth spike at the base of the tower. This system protects the monitoring instruments under most circumstances. The data logger at the base of the mast is designed to withstand most electrical surges related to lightning strikes. The wind monitoring mast has an installation and workmanship warranty of 12 years from ART and the mast structure itself has a warranty of 25 years. The mast has aviation markers, attached to the guy wires extending in each direction at a height of 110m, as well as alternating red and white paint on the top third of the mast to improve the visibility of the mast to local aerial agricultural operators.

Maintenance on the wind monitoring mast was most recently conducted in June 2020. Maintenance is scheduled on an annual basis, with full refurbishment of instruments occurring on a biannual basis. Weekly reporting of remote monitoring of meteorological data allows the assessment of the functioning of instruments. The wind data is downloaded remotely over the internet and Wind Prospect employees and contractors visit the wind monitoring mast on an 'as-needs' basis for specific maintenance requirements.

4. Site and Context

4.1 Site location and site aspects

The wind monitoring mast is located on Crown Allotment 2, Section 8, in the Parish of Kapong within the Moyne Shire Council local government area in the south west of Victoria (the Site) and has a footprint of approximately 1.45 hectares. The Site is owned by Eric and Helen Wythe and is bordered by Old Dunmore Road to the east. The location of the wind monitoring mast is illustrated in Figure 1.

A number of small townships and localities are situated within the landscape surrounding the Site. Within a 10 km radius of the wind monitoring mast these include:

- Orford (approximating 5km south-west of the wind monitoring mast)
- Broadwater (approximately 6km north-east of the wind monitoring mast)
- Tarrone (approximately 10km south-east of the wind monitoring mast)

A number of roads are in proximity to the wind monitoring mast and these are labelled in Figure 3. The Site is accessed from Old Dunmore Road.

The coordinates for the centre of the Site on which the wind monitoring mast is located and for the wind monitoring mast itself are provided in Table 1 below. The surrounding area is predominately low lying undulating plains with rocky rises.

Table 2: MGA 94 (54) coordinates for the Site.

Point	Easting	Northing
Wind monitoring mast	5775582	596922

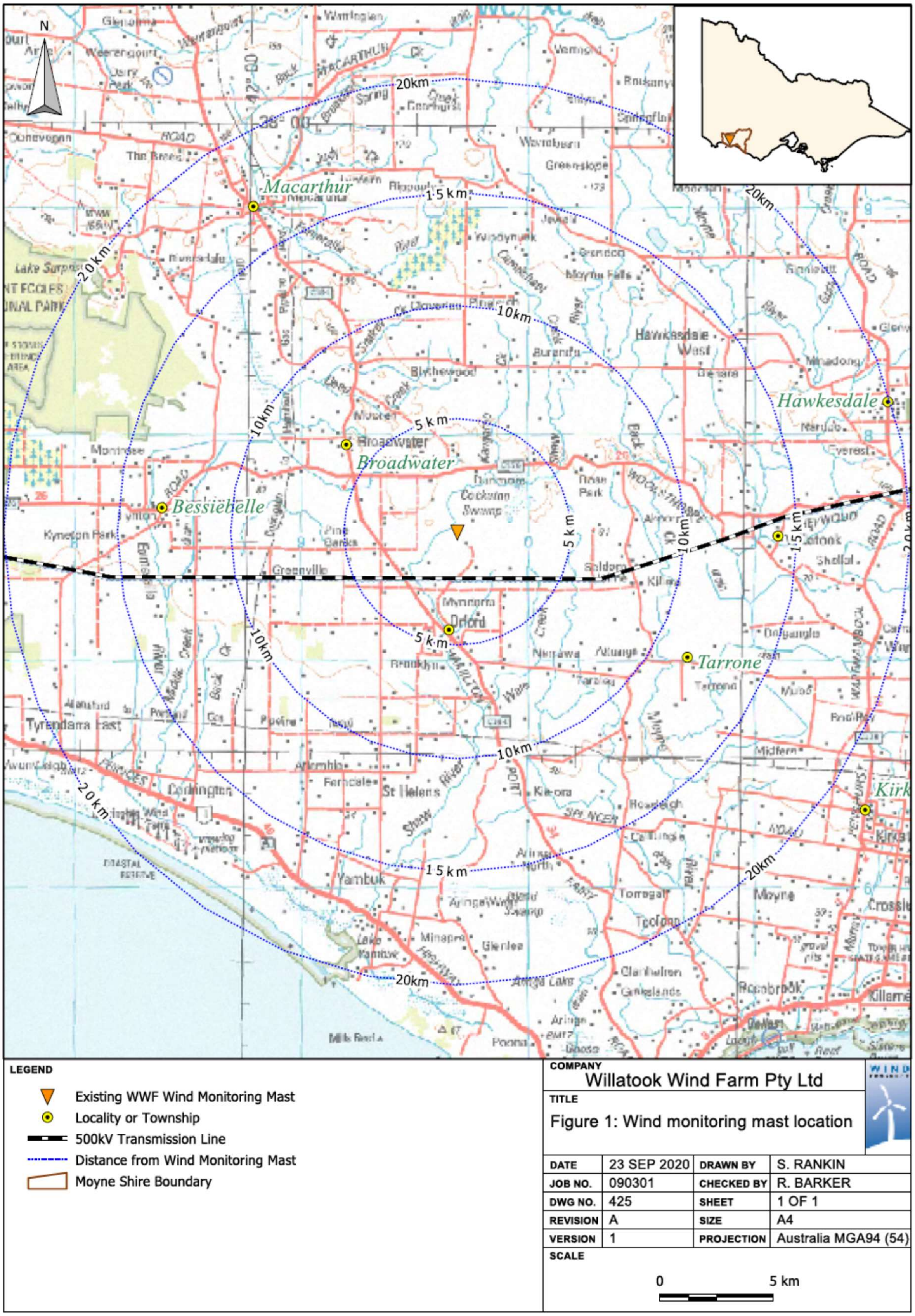


Figure 1: Wind monitoring mast location

4.2 Current Land Use

The Site and the surrounding area are located within the Farming Zone (FZ) as defined in Clause 35.07 of the Moyne Planning Scheme. Wind energy facilities, including wind monitoring masts, are a permissible use subject to the wind energy facility meeting the requirements of Clause 52.32 of the Victoria Planning Provisions. The relevant provisions of Clause 52.32 are addressed throughout this planning application report.

As reflected by the zoning of the Site and the surrounding area, the land use of the Site and surrounding area is predominately cleared agricultural land used for cattle and sheep farming, although some properties are also used for dairy farming and cropping.

Other land uses in the local area include quarrying, timber production (blue gum forests) and tourism. There are also a number of existing and proposed energy projects in the local region. The location of these energy projects within 15km of the wind monitoring mast are illustrated in Figure 3. Most, if not all, of the wind energy projects listed would have at least one existing wind monitoring mast.

4.3 Dwellings and infrastructure

Dwellings proximate to the wind monitoring mast are illustrated in Figure 2.

The nearest involved dwelling is approximately 2.8km from the mast, and the nearest neighbour dwelling is approximately 3km from the mast.

Agricultural infrastructure proximate to the wind monitoring mast includes dams, access tracks and fences.

4.4 Landscape and Visual Features

The landscape of the area is highly modified and is predominately cleared for pastoral and agricultural uses. The preliminary landscape and visual impact assessment undertaken for the proposed wind farm (Green Bean Design 2011) reports that the landscape within the Site and immediately surrounding the wind monitoring mast represents a landscape that is reasonably typical of landscape character areas that are commonly found in the surrounding local area of the Moyne Shire. A number of existing man-made features including the distribution and transmission lines shown in Figure 2 are also proximate to the site, with the 500kV line being approximately 2km south of the mast.

The wind monitoring mast is a light structure in the landscape. Although parts of the wind monitoring mast will be seen within the immediate local area it will have a limited view catchment and therefore any visual impact will be localised.

Any landscape and visual impact associated with the wind monitoring mast is expected to be less significant than more visible infrastructure developments including the Moorabool-Heywood high voltage transmission line (500kV), a 66kV distribution line along Riordan's Road, the Macarthur Wind Farm switchyard and Macarthur Wind Farm 132kV transmission line, as well as general agricultural infrastructure such as sheds and cattle yards.

Landscape and other environmental values associated with Budj Bim, the closest National Park to the Site, and Tower Hill will not be impacted by the wind monitoring mast. Furthermore, there are no impacts from night time lighting on the wind monitoring mast as aviation lighting is not required.

Depending on weather conditions, the wind monitoring mast is barely visible from a distance of more than a few kilometers. Any landscape and visual impacts from the mast are therefore limited to a small localized area around the wind monitoring mast and it is therefore not expected that the wind monitoring mast has or will have any visual impacts.

There are no Significant Landscape Overlays (SLO's) or Environmental Significance Overlays (ESO's) that occur within the Site or within 15km of the Site except for ESOs associated with the Special Use Zones (SUZ's) related to the Shaw River Power Station, and the Tarrone Power Station developments as shown in Figure 3. The proposed Shaw River Power Station development is located approximately 1km south of the wind monitoring mast, and the proposed Tarrone Power Station development is located approximately 6km east of the monitoring mast. The ESOs associated with these proposed developments relate to accommodation land uses and developments sensitive to potential noise

emissions from the Shaw River Power Station (ESO4) and Tarrone Power Station (ESO5) respectively. The Site is outside the ESO's and would not be impacted by them or have any impact on them.

The Site is not located within National Parks, State Parks, Coastal Reserves and other land subject to the National Parks Act 1975. As such, the mast will have no impact on regional parks or reserves.

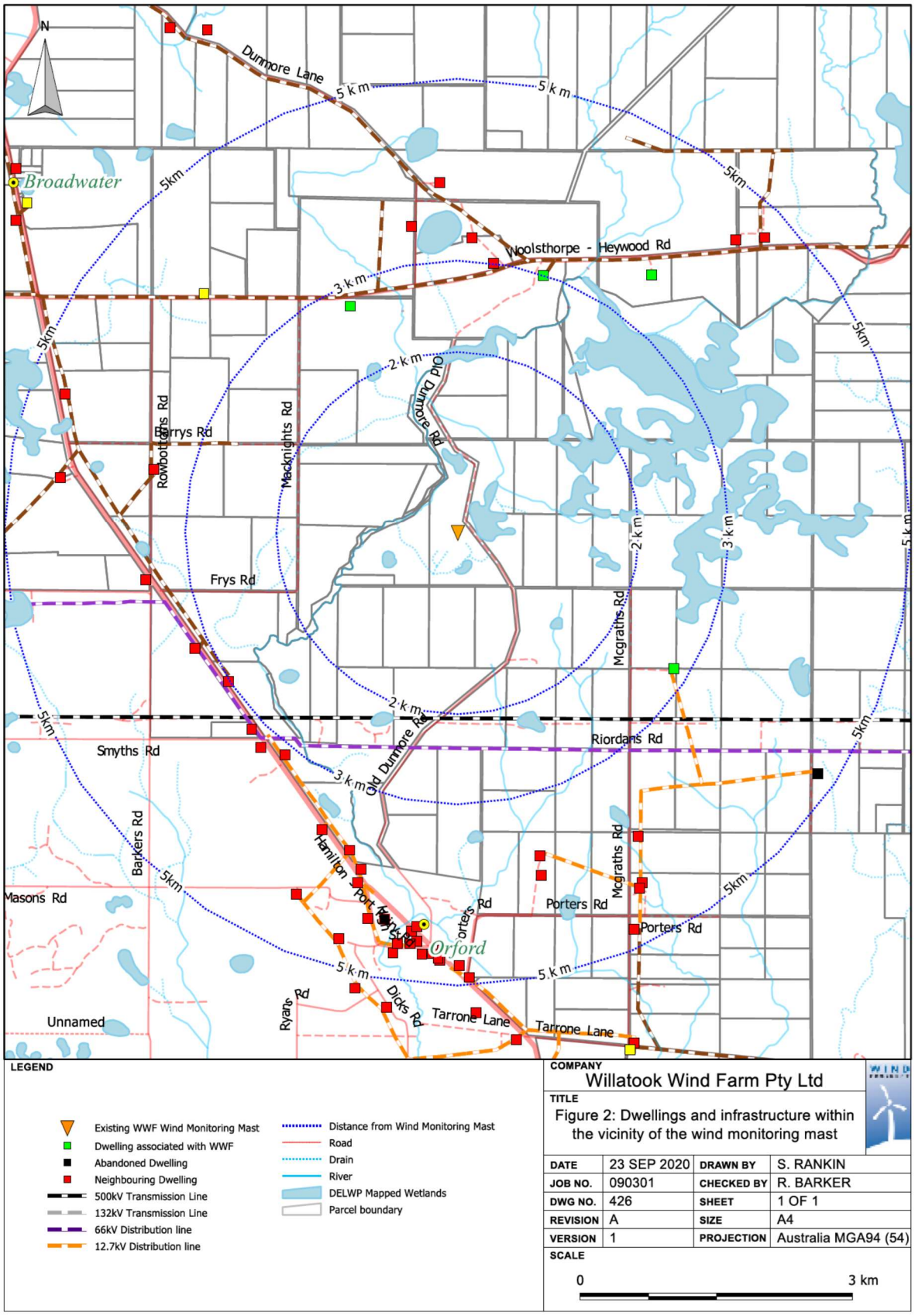
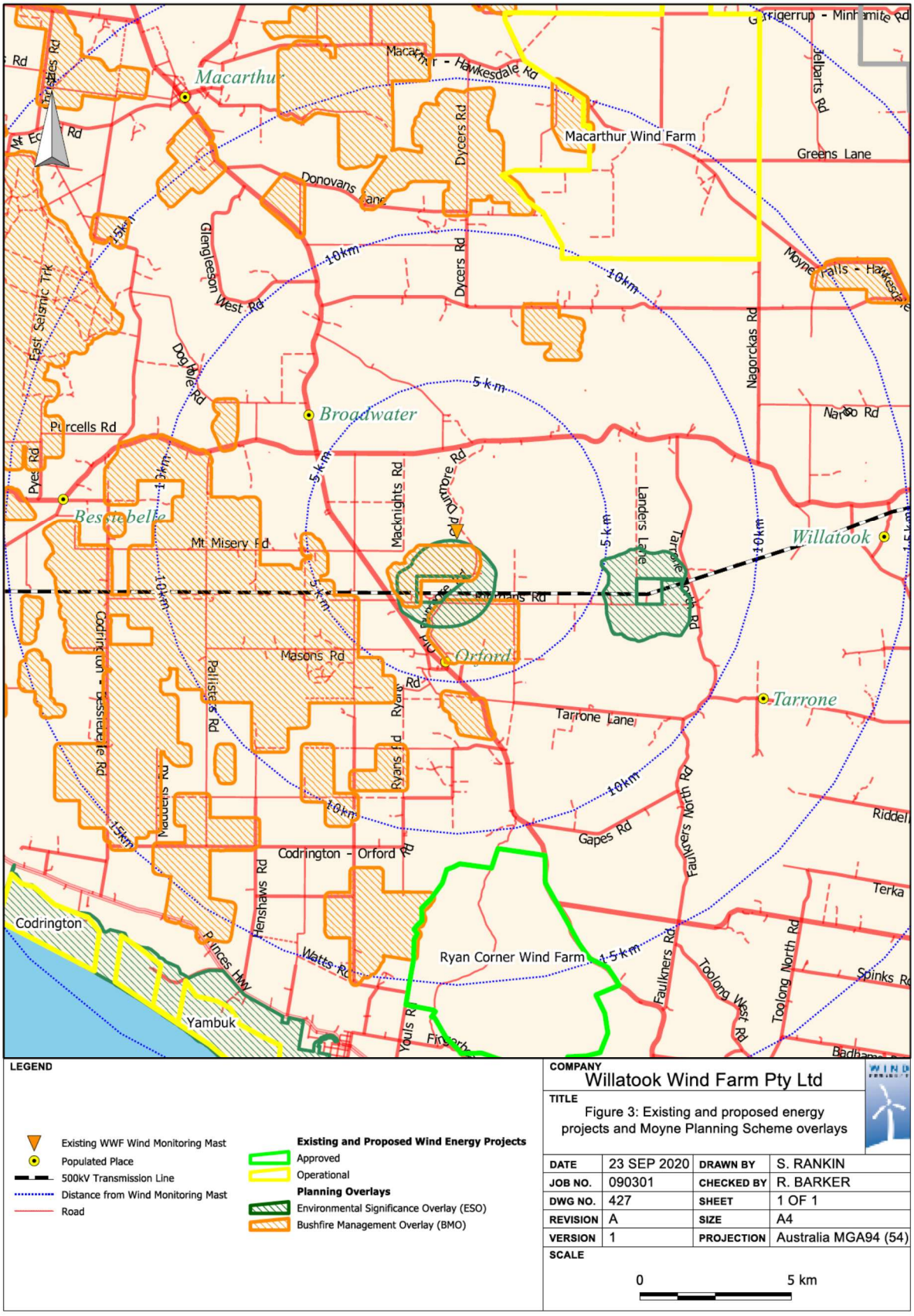


Figure 2: Dwellings and infrastructure within the vicinity of the wind monitoring mast



LEGEND

- Existing WWF Wind Monitoring Mast
- Populated Place
- 500kV Transmission Line
- Distance from Wind Monitoring Mast
- Road

Existing and Proposed Wind Energy Projects
- Approved
- Operational

Planning Overlays
- Environmental Significance Overlay (ESO)
- Bushfire Management Overlay (BMO)

COMPANY	Willatook Wind Farm Pty Ltd
TITLE	Figure 3: Existing and proposed energy projects and Moyne Planning Scheme overlays

DATE	23 SEP 2020	DRAWN BY	S. RANKIN
JOB NO.	090301	CHECKED BY	R. BARKER
DWG NO.	427	SHEET	1 OF 1
REVISION	A	SIZE	A4
VERSION	1	PROJECTION	Australia MGA94 (54)

SCALE 0 5 km

Figure 3: Existing and proposed energy projects and Moyne Planning Scheme overlays

4.5 Vegetation communities, flora and fauna

Ecology and Heritage Partners Pty Ltd, and Nature Advisory have conducted extensive flora and fauna field surveys over the period 2009 to 2020 to inform the feasibility assessment of the proposed wind farm. The area surveyed includes the Site.

The Site where the wind monitoring mast is located and the surrounding area is considered to be of low conservation significance due to the lack of remnant vegetation and fauna habitats (Nature Advisory, 2019). The wind monitoring mast is also not located proximate to any creeks or rivers and is therefore not expected to have any impact on aquatic species.

The wind monitoring mast has been established on the Site for three years and no further construction works or ground disturbance are required in order to keep the mast in place and undertake necessary maintenance works.

The wind monitoring mast is accessed for scheduled maintenance (approximately annually) and on an 'as needs' basis, limiting the number of vehicles associated with the wind monitoring mast travelling on the Site. Access to the Site is via existing roads and gateways and no new access tracks have been or will be required during the feasibility stage of the proposed wind farm resulting in no further disturbance to the Site during this period. In addition, WWF employees and engaged contractors are required to adhere to biosecurity procedures to minimise the risk associated with the spread of weeds and diseases when accessing the Site.

Any flora or fauna occurring on the Site is subject to the pressures of grazing and trampling by livestock however the base of the wind monitoring mast and the anchors are fenced off to allow pasture to re-grow reducing the potential for erosion issues and impacts from grazing.

There have been no reports by the proprietor of the Site, WWF employees, contractors, or others of any injured or deceased birds or bats in the vicinity of the wind monitoring mast since its erection.

The local region is subject to a number of approved and operating energy projects as illustrated in Figure 3. Given that the wind monitoring mast is not expected to have any ongoing impact on significant vegetation, flora or fauna, no cumulative impacts resulting from other energy project developments in the local area are expected.

4.6 Cultural heritage within the Site

Aboriginal Cultural Heritage

WWF commissioned Ecology and Heritage Partners Pty Ltd to undertake a Cultural Heritage Management Plan (CHMP) for the proposed wind farm, an area which includes the Site. This involved a process of complex assessment of the proposed wind farm site.

The Site is not located within an Area of Aboriginal Cultural Heritage Sensitivity. No Aboriginal Places were recorded in proximity to the Site prior to the complex assessment being undertaken. Test pits dug in proximity to the Site during the complex assessment also resulted in no new Aboriginal Places being recorded.

Historical Heritage

A historical heritage assessment of the proposed wind farm, including the location of the wind monitoring mast was undertaken by Ecology and Heritage Partners.

No historical archaeological sites suitable for listing on the Victorian Heritage Inventory or other heritage listings of areas of historical archaeological sensitivity (e.g. Heritage Overlay, Heritage Register or National list) were identified during the assessment as occurring on the Site where the wind monitoring mast is located or in the surrounding area. The nearest previously recorded historical archaeological site is Turkish Bath House (H7321-002) which is located over 2 km to the north of the wind monitoring mast.

4.7 Airports and Aerodromes

There are no certified or registered aerodromes in the vicinity of the Site. The closest registered aerodrome to the wind monitoring mast is Warrnambool airport located approximately 31 km to the south-east.

WWF has consulted with landowners and neighbours to determine the location of other airstrips proximate to the wind monitoring mast (and the proposed wind farm), with regard to the use of aerial spraying in the local area. No licensed or unlicensed airstrips are present on the Site where the wind monitoring mast is located. Seven licensed or unlicensed airstrips have been identified within a 10 km radius of the wind monitoring mast with the closest located 2.3 km north of the wind monitoring mast. These airstrips are typically used on an ad hoc basis for aerial agricultural operations.

Neighbouring properties that use aerial spraying have continued to do so since the installation of the wind monitoring mast on the Site over the past three years and no adverse impacts have been reported. The wind monitoring mast is therefore not expected to have any adverse impact on aerial spraying in the local area.

The *Policy and Planning Guidelines for development of wind energy facilities in Victoria* (March 2019) do not address aviation safety in relation to a wind monitoring mast. However, the *National Airports Safeguarding Framework Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers* (the Guideline) addresses the risk to civil aviation from anemometers. The Guideline recognises that temporary and permanent anemometers erected in anticipation of, or in association with, wind farms can be hazardous to aviation, particularly given their low visibility. Paragraph 39 of the Guideline addresses the marking and lighting of anemometers, acknowledging that they are difficult to see from the air due to their slender construction and guy wires, and that this is a particular problem for low flying aircraft including aerial agricultural operations. The Guideline states that wind farm proponents should take appropriate steps to minimise such hazards, particularly in areas where aerial agricultural operations occur. Measures to be considered include:

a) the top 1/3 of anemometers to be painted in alternating contrasting bands of colour. In areas where aerial agriculture operations take place, marker balls or high visibility flags can be used to increase the visibility of the towers;
b) marker balls or high visibility flags or high visibility sleeves placed on the outside guy wires;
c) ensuring the guy wire ground attachment points have contrasting colours to the surrounding ground/vegetation; or

d) a flashing strobe light during daylight hours.

In response to this, WWF arranged for the mast to have orange obstacle markers fitted to the top of the wind monitoring mast guy wires to improve visibility, as well as alternating red and white paint on the top third of the mast. Figure 4 illustrates the paint and ball markers present on the mast.

Section 4.3.6 requires that Civil Aviation Safety Authority (CASA) is consulted with regard to proposals for a wind energy facility that:

- Are within 30 km of a declared airfield or aerodrome;
- infringe the obstacle limitation surface around a declared aerodrome; or
- include a building or structure the top of which will be 110 metres or more above natural ground level (height of a wind turbine is that reached by the tip of the turbine blade when vertical above ground level).

Although these triggers for consulting with CASA are in relation to a wind energy facility rather than a wind monitoring mast, their relevance to the wind monitoring mast are outlined below.

- The closest declared airfield or aerodrome to the wind monitoring mast is the Warrnambool airport located approximately 31 km to the south-east.
- A draft Aeronautical Impact and Obstacle Marking and Lighting Assessment (Hart Aviation 2010) in relation to the proposed wind farm has determined that the wind farm including the wind monitoring mast does not infringe the obstacle limitation surface around the Warrnambool airport. Albeit, this was based on a maximum height of 152m.
- The wind monitoring mast is approximately 120 metres above natural ground level.

WWF sought to identify all relevant aviation stakeholders prior to construction of the wind monitoring mast and used aerial photography and consultation with local landowners to identify local airstrips and local aviation operators. The stakeholders identified include CASA, the Royal Australian Air Force (RAAF), the Aerial Agricultural Association of Australia (AAAA), various local aerial agricultural contractors and the Moyne Shire Council.

All stakeholders were notified of the wind monitoring mast both prior to its construction and following construction to confirm its precise location. A copy of the notice of the intention to install the wind monitoring mast (to ensure that the proposal is marked on aeronautical charts) is provided in Appendix 1 and a list of the stakeholders advised in relation to the wind monitoring mast is provided in Table 3.

Table 3: Aviation stakeholder consultation

Organisation
AAAA
Air Apply Pty Ltd
Aircraft Owners and Pilots Association of Australia (AOPA Australia)
Airservices Australia
CASA
Geoscience Australia
Moyne Shire Council
RAAF
SPAusNet
Western Aerial Pty Ltd

It should also be noted that consultation with the Warrnambool City Council, the operator of the Warrnambool airport, in relation to the proposed wind farm has commenced and is ongoing.

The CASA Advisory Circular: AC 139-08(0) Reporting of Tall Structures requires the reporting of tall structures to the Royal Australian Air Force Aeronautical Information Service (RAAF AIS) for registration on the Tall Structures Database. Tall structures which are 30 metres or more above ground level and within 30 km of an aerodrome; or 45 metres or more above ground level elsewhere must be reported to the RAAF AIS.

Given the wind monitoring mast is greater than 45 metres above ground level, WWF notified the RAAF AIS on the 5 July 2017 prior to the installation of the wind monitoring mast and a subsequent form detailing final co-ordinates on the 16 November 2017. A copy of the email submitted to the relevant stakeholders is included in Appendix 2.

The main aviation risk presented by a wind monitoring mast is that for aerial agricultural activities and other low-flying aerial operations. Prior to carrying out any aerial agricultural activities or other low-flying aerial operations, pilots are required to undertake a risk assessment process. The process involves identifying aviation obstacles in the operational area and assessing the risks to persons and damage to property. This process enables the pilot to manage the risks associated with conducting the activity. It is therefore important that pilots are aware of the location of the wind monitoring mast so this can be factored into their risk assessment. Also, as noted above, the mast has orange obstacle markers fitted to the top of the wind monitoring mast guy wires to improve visibility, as well as alternating red and white paint on the top third of the mast.

Figure 4: Mast aviation paint and markers

The AAAA has also advised that the key actions that proponents of wind monitoring masts can undertake to reduce the safety risk to agricultural aviators is to:

- Notify aviators of the location of the mast;
- Provide visible markings on the mast to assist in the visibility and avoidance of the mast.

The Site and surrounding areas contain a number of electrical transmission and distribution lines which may be potential low-altitude aviation obstacles in the local area including the Moorabool-Heywood high voltage transmission line (500kV), a 132kV transmission line, a 66kV distribution line and a 12.7kV distribution line. As the Site and surrounds already contain a range of existing potential obstacles, it is unlikely that the ongoing operation of the wind monitoring mast would cause significant cumulative impact on aviation safety in the area. With notification, mast marking and proper planning by aviators operating in the vicinity of the mast, safety risk can continue to be managed appropriately.

4.8 Community consultation

WWF has been active in the local area both pre, and post installation of the temporary wind monitoring mast, including undertaking public information days, door knocking of neighbours to the wind farm proposal, the operation of a shop front in Koroit, as well as numerous meetings with individuals and community groups. WWF has also distributed newsletters in relation to the proposed

wind farm to residences within 10 km of the proposed wind farm boundary which have included relevant contact details and avenues to provide feedback.

In September 2019, DELWP contacted Wind Prospect about correspondence from a community member concerned with the visibility of the two anemometers associated with the proposed Willatook wind farm (the two anemometers being the 120m high anemometer that is the subject of this planning application and a second 80m high anemometer approximately 6km to the east-south-east). The community member was flying a light plane and said the anemometers were difficult to see.

Regarding the 120m mast that is the subject of this planning application, as per the *National Airports Safeguarding Framework Guideline D* and as noted above, there are orange marker balls on the guy wires and aviation paint is used on the top third of the mast. In addition, during the next mast maintenance work due to take place within the next six months, Wind Prospect will instruct ART to further assess whether any additional measures could be taken to increase the visibility of the mast to aircraft. Any additional measures would be discussed with DELWP and Moyne Shire Council.

4.9 Wind characteristics

A key criterion when selecting a suitable wind farm site is wind speed. Site suitability for wind power generation is related to wind speed and air-flow characteristics over the proposed wind farm site. In relation to the subject Site, the wind monitoring mast has been recording wind speeds since its installation in September 2017. This information has been correlated with historic data from existing meteorological stations in the area. While the wind measurements to date indicate that the wind resource is suitable for a wind farm development, the continuation of the wind monitoring on the site is critical in demonstrating the viability of the proposed wind farm.

5. Design response

In 2017 WWF commenced a site selection process to determine the most appropriate location for the wind monitoring mast. The location of the existing mast was selected based on a number of criteria including those listed below.

- Slope/Contours: the difference in elevation between guy wires and the base is preferably not more than 2 metres to 3 metres;
- Vegetation: minimal vegetation in the surrounding area is preferred;
- Obstacles: avoid obstacles such as significant trees and ensure there is sufficient space for guy wires;
- Access: ensure that all vehicles and machinery can access the site year round;
- Ground Conditions: avoid surface sheet rock or large solid rock.
- Proximity to public areas and existing infrastructure: the mast will need to be at least fall distance clear of any public access roads and nearby infrastructure such as powerlines;
- Representativeness: The mast should be located in an area that is representative of the proposed wind farm site;
- Agreement of the landowner;
- Compatible land uses; and
- No dwellings in close proximity to wind monitoring mast.

6. Site rehabilitation

WWF will undertake remediation of the Site in consultation with the landowner upon decommissioning of the wind monitoring mast. Decommissioning will include removal of all above ground infrastructure from the Site and leaving the buried anchors and the small concrete pad at the base of the turbine. The anchor rods to which the guy wires are attached would be cut back at least 30 cm below ground level and covered. The Site will be left in a tidy condition, with any spoil heaps to be re-contoured to the original lie of the land.

7. Conclusion

WWF submits that it has assessed the proposal and its impacts in accordance with the relevant provisions of the Victoria Planning Provisions, and the *Policy and Planning Guidelines for development of wind energy facilities in Victoria* (DELWP, March 2019). WWF considers that a five year extension to the period that the temporary monitoring mast is present on Site will not significantly impact the Site and its surrounds or have a detrimental impact on the surrounding amenities.

8. Appendices

Appendix 1 Notice of intent to install wind monitoring mast

From: Windebank, Matthew
To: Stuart Horner; vod@airservicesaustralia.com
Cc: Tiede, Andrew
Subject: RE: Meteorology Mast applications for two windfarm developments, Western Australia and Victoria [SEC=UNCLASSIFIED]
Date: Wednesday, 5 July 2017 11:32:17 AM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png

UNCLASSIFIED

Hi Stuart,
Andrew has asked me to respond on his behalf.
Any development which exceeds 110 m AGL must be reported to Airservices so that they can ensure that the proposal is marked on aeronautical charts. The best email address to use in future for reporting the finished location and height of tall structures is:
vod@airservicesaustralia.com
Let me know if you need further advice in regards to this issue.
Matt

Matthew Windebank
Aerodrome Engineer
Air Navigation, Airspace & Aerodromes Branch
CASA \ Aviation Group
GPO BOX 2005 CANBERRA ACT 2601
T - 02 6217 1183
F - 02 6217 1500

Australian Government
Civil Aviation Safety Authority

From: Stuart Horner [mailto:Stuart.Horner@windprospect.com.au]
Sent: Wednesday, 5 July 2017 9:56 AM
To: Tiede, Andrew
Cc: Patrick Wallace; Mairead Lynch; Richard Barker
Subject: Meteorology Mast applications for two windfarm developments, Western Australia and Victoria

Hi Andrew,
Following our phone conversation today, I wish to formally advise CASA that as part of two windfarm developments located in Victoria and Western Australia, Wind prospect proposes to erect two meteorology mast as specified below:

Windfarm	Easting	Northing	Height	Additional information
Yandin	376818E	6599730S	110m	(MGA Zone 50) (GDA94) Nearest settlement is Dandaragan
Willatook	596918 E	5775547S	120m	(MGA Zone 54) (GDA94) Nearest settlements are Orford and Hawkesdale

Please contact me at this email address for further information
regards

Stuart Horner
Development Officer
Wind Prospect Pty Ltd
Suite 10 | 19-35 Gertrude St | Fitzroy | Victoria 3065
PO Box 110 | Fitzroy | Victoria 3065
Ph: +61 3 9005 9075
Email: stuart.horner@windprospect.com.au
www.windprospect.com.au

Appendix 2 Notice of installation of wind monitoring mast

From: Stuart Horner
To: Barry.Allan@ga.gov.au; VOD@AirservicesAustralia.com; debbie.fisher1@defence.gov.au; DSRGIDEP.Executivesupport@defence.gov.au; phill.reiss@aopa.com.au; raaf.ais@defence.gov.au; Matthew.Windebank@casa.gov.au
Cc: Patrick Wallace
Subject: Meteorology Mast Construction Update - Willatook Windfarm
Date: Thursday, 16 November 2017 1:45:14 PM

Following our advice in June of the proposed construction of a meteorology mast for the proposed Willatook Wind Farm, please be advised of the as-built co-ordinates, dimensions and construction details of the mast:
Installation date: 5/10/2017
Height: 120m
Construction: Lattice
Location: lat: -38.16243, long: 142.10630
Marking: alternating orange/white painting on top 1/3rd of mast, marker balls on outer guy wires
This email has been sent to all parties in addition to Airservices Australia on the advice of our consultants.
regards

Stuart Horner
Development Officer
Wind Prospect Pty Ltd
Suite 10 | 19-35 Gertrude St | Fitzroy | Victoria 3065
PO Box 110 | Fitzroy | Victoria 3065
Ph: +61 3 9005 9075
Email: stuart.horner@windprospect.com.au
www.windprospect.com.au