Junction Rivers Wind Farm

Application Number: **01921** Commencement Date: **10/07/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Junction Rivers Wind Farm

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

Wind Farm

1.1.4 Estimated start date *

31/01/2025

1.1.4 Estimated end date *

31/07/2065

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Windlab Developments Pty Ltd (the Proponent) proposes to develop the Junction Rivers Wind Farm (formerly Burrawong Wind Farm) (the Proposed Action), located approximately 10 km from the township of Kyalite and 15 km from Balranald. The Proposed Action is in the Murray River Council Local Government Area (LGA), New South Wales (NSW) and will be located within the South-West Renewable Energy Zone (South-West REZ). The Proposed Action will involve the construction, operation, maintenance and decommissioning of up to 96 Wind Turbine Generators (WTGs), with a capacity of up to 750 Megawatt (MW) and up to two Battery Energy Storage System (BESS) with a capacity of up to 200 MW/ 200 Megawatt hour (MWh) each.

The Proposed Action will involve the following components:

- Up to 96 WTG with a maximum tip height of 300 m and a maximum blade length of 100 m.
- Hardstand areas
- Internal roads and drainage
- Operations and maintenance facility
- Up to two BESS, with a capacity of up to 200 MW/200 MWh each
- Substations/switching stations
- Permanent and temporary meteorological monitoring masts
- Underground or overhead low to medium electrical reticulation
- Overhead high voltage transmission lines (approximately 17.2 km of internal overhead cables of easement width up to 80 m)
- External road upgrades to support Oversize Overmass vehicles transporting wind turbine components to the Subject Land.
- Temporary construction facilities including:
    - Site offices and compounds
    - Rock crushing facilitates

- Concrete batching plants
- Stockpiles
- Material storage compounds
- Field laydown areas
- Minor access roads
- Meteorological masts

While the exact model of the turbine is not currently known, Windlab is seeking development consent for the following turbine dimensions:

- Blade length (maximum length): 100 m
- Blade tip height (maximum upper height): 300 m
- Blade tip height (maximum lower height): 50 m
- Hub height (maximum height): 200 m
- Rotor diameter: 200 m
- Estimated rotor swept area: 31,415.90 m²

For the purposes of this referral the following terms will be used to describe the Proposed Action:

- The Subject Land is approximately 16,367 ha and includes all the parcels of land which were part of the initial investigation.
- The Project Area for the Proposed Action is approximately 2,095.82 ha and includes the parcels of land which are subject to host project infrastructure. Detailed environmental studies have been undertaken in this area.
- The Development Footprint is approximately 768.45 ha, this includes the areas which will be permanently impacted by the Proposed Action. This area includes a 40 m buffer for proposed access tracks, a 10 m buffer for low to medium voltage electrical reticulation, and a 80 m buffer for high voltage transmission lines.

The location of the WTG has allowed for finer refinement of the turbines with a micro-siting allowance with a 100 m from GPS coordinates identified in the Development Footprint. This micro siting allowance area is accommodated within the Project Area and has been assessed as the Study Area, this has been designed to accommodate the maximum turbine dimensions.

Although the Development Footprint is 768.45 ha, the location of the WTG have been placed to utilise land which is classed as Category 1 land as defined in Part 5A of the NSW *Local Land Services Act 2013*. This land is exempt from assessment of the impacts of any clearing of native vegetation and loss of habitat on Category 1 – Exempt Land under the Biodiversity Assessment Method (BAM). The BAM will be applied to the Biodiversity Assessment Development Report (BDAR) which is currently being developed to support the Environmental Impact Statement (EIS) process. The utilisation of the highly degraded parts of land within the Subject Land has significantly reduced impacts and an estimated 99 ha of vegetation clearance will be require to support the development of the Proposed Action.

Typical of other utility scale wind farm projects, it is likely that the Proposed Action will be constructed in two stages. The construction of Proposed Action in stages is required to facilitate connection to the current grid network and the Project Energy Connect transmission line which is currently under construction.

Stage 1

If the Proposed Action is constructed in stages, the first stage would connect to the existing TransGrid 220 KV line which traverses the northern portion of the Subject Land. WTG and ancillary infrastructure would be located in the northern part of the Project Area closest to the transmission line. The final configuration for Stage 1 will depend of the WTG model selected and the outcome of detailed grid studies. However, initial studies indicate that Stage 1 would likely comprise of up to 25 WTG and a BESS with a capacity of up to 75 MW. This stage of the Proposed Action would include a main substation, switching station, O&M facility including car parking, up to two meteorological masts, concrete batching plants, laydown areas and two site access points.

Stage 2

Stage 2 of the Proposed Action would connect to Project Energy Connect and/or the South-West REZ, and this will depend on the access scheme defined in the South-West REZ Access Scheme Order (currently in the consultation phase). The remaining balance of WTGs and ancillary infrastructure would be constructed during Stage 2.

The Proposed Action is anticipated to start construction in Q1 2025, the construction phase of the Proposed Action is anticipated to last 3-4 years. The Proposed Action is estimated to have an operational life of 30-35 years.

The Proposed Action is expected to involve the following activities that may have an impact on the environment:

- Vegetation clearing for the construction works to enable installation, operation, maintenance of project infrastructure and any temporary facilities
- Excavating trenches requires some vegetation clearance and soil disruption
- Blasting for turbine foundations (if required)
- Delivery of project components to site, which may require road network upgrades
- Testing and commissioning of the project

- Decommissioning and removal of project infrastructure

In considering impacts from the Proposed Action there are two types direct and indirect. Direct impact include vegetation clearance, removal of potential habitat for threatened species, fauna mortality and bird and bat collisions with wind turbine blades. Indirect impacts encompass the potential noise, dust, transport of weeds and pathogens and potential visual impacts.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The Proposed Action has been declared as a State Significant Development (SSD) as it is a renewable generation project which has a capital investment value greater than $30 million dollars. As such the Proposed Action will require approval under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). It is considered that the Proposed Action is likely a 'controlled action' due to impacts on Matters of National Environmental Significance (MNES). As such it is requested that the Proposed Action, if determined a 'controlled action' would be assessed under the Bilateral Assessment Agreement between the NSW and Commonwealth governments.

The Proposed Action was issued with Secretary's Environmental Assessment Requirements (SEARs) in December 2021. Windlab and its consultants are currently preparing the Proposed Action's Environmental Impact Statement which will detail the outcomes of various impact assessments and specialist studies.

The assessment and determination of the Proposed Action will be subject to various NSW based legislation, planning frameworks and industry specific guidelines.

The most notable include:

- Assessment in accordance with the NSW Department of Planning and Environment's various best practice guidelines pertaining to electricity generating infrastructure, including but not limited to:
  - Visual Impact Assessment Bulletin (2016);
  - Noise Impact Assessment Bulletin (2016);
  - Undertaking Engagement Guidelines for State Significant Projects (2021);
  - Social Impact Assessment Guidelines for State Significant Projects (2021);
  - State-Significant-Development-Guidelines (2021);
  - Wind Energy Guideline (2016);
- Consideration and assessment of biodiversity values in accordance with the Biodiversity Conservation Act 2016;
- Alignment with the Wakool Local Environmental Plan 2010 and Balranald Local Environmental Plan 2010;
- An Environment Protection Licence under the Protection of the Environment Operations Act 1997;
- Work in or over a public road approval under the Roads Act 1993;
- Approval for works over Crown Land under the Crowns Land Management Act 2016.

Other relevant NSW legislation includes State Environmental Planning Policy (State and Regional Development) 2011 and State Environmental Planning Policy (Infrastructure) 2007.

Commonwealth legislation which applies to the Proposed Action includes the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act), the Civil Aviation Regulations 1988, which includes a detailed assessment in accordance with the regulations and consultation with the relevant agencies will be undertaken as part of the preparation of the Environmental Impact Statement. If required, approvals for the transport of wind turbines and associated infrastructure by Oversize Overmass (OSOM) vehicles would be obtained under the Heavy Vehicle National Law

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Extensive consultation has been undertaken with various project stakeholders since May 2021. This consultation has involved host landowners, landowners neighboring the Subject Land, local community, local businesses, special interest and community groups, the Local Aboriginal Land Council, Registered Aboriginal Parties, Balranald Shire Council and Murray River Council and various State Government agencies.

This consultation has been early and open, and has been conducted in various ways, including face-to-face meetings, drop in sessions, attending meetings and public events, phone calls and other media streams. In addition to being inclusive in its consultation approach, Windlab will ensure it is clear about potential impacts and benefits of the Proposed Action.

Windlab's consultation and engagement with community and relevant stakeholders of the Burrawong Wind Farm will continue as the project progresses through the planning assessment process and beyond.

An Aboriginal Cultural Heritage Assessment (ACHA) will be required to investigate the presence of any Aboriginal sites and to assess the impacts and management strategies that may mitigate any potential impact. Once the ACHA has been completed, the document will be available to the Department upon request. The significance of any Aboriginal heritage sites that may be potentially affected by the Proposed Action will be determined in accordance relevant legislation and guidelines. Consultation with Aboriginal stakeholders has been undertaken in accordance with *Section 60 of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2019* and in accordance with the process outlined in the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010. The following four-stage consultation process has been used as follows:

- Stage 1 – Notification of project proposal and registration of interest
- Stage 2 – Presentation of information about the proposed project
- Stage 3 – Gathering information about cultural significance
- Stage 4 – Review of draft cultural heritage assessment report.

The complete Aboriginal stakeholder consultation will be detailed within the ACHA, and provided within the EIS.

1.3.1 Identity: Referring party

Privacy Notice:

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By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

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☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	658060523
Organisation name	BURRAWONG WIND FARM PTY LTD
Organisation address	2601 ACT

Referring party details

Name	Chelsea Sanchez
Job title	Manager, Approvals

Phone	02 6175 4600
Email	chelsea.sanchez@windlab.com
Address	L4, 60 Marcus Clarke Street, Canberra ACT 2601

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

Yes

Person proposing to take the action organisation details

ABN/ACN	658060523
Organisation name	BURRAWONG WIND FARM PTY LTD
Organisation address	2601 ACT

Person proposing to take the action details

Name	Chelsea Sanchez
Job title	Manager, Approvals
Phone	02 6175 4600
Email	chelsea.sanchez@windlab.com
Address	L4, 60 Marcus Clarke Street, Canberra ACT 2601

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

Burrawong Winnd Farm Pty Ltd is a subsidary of Windlab developments Pty Ltd (Windlab). Windlab is an established Australian company with a record of delivering projects in accordance with applicable environmental legislation and regulation. Windlab have not been subject to any environmental legal proceedings that have resulted in fines or prosecution.

Windlab has previously delivered the following projects which were referred under the EPBC Act:

- EPBC 2023/09519 – Wongalee Wind Farm (project under EPBC Act Referral Assessment)
- EPBC 2017/8047 – Lakeland Windfarm (project on hold)
- EPBC 2016/7810 – Kennedy Energy Park (project operational)
- EPBC2015/7583 – Kiata Wind Farm EPBC (project operational)

- EPBC2013/6735 – Coonooer Bridge Wind Farm (project operational)

Windlab adopts the mitigation hierarchy which follows the approach of avoidance, minimisation and in the last resort, offsetting. In the first instance this approach for wind farms involves siting turbines and ancillary infrastructure in areas that avoid important natural values (such as stands of remnant vegetation, critical habitat or waterways). If values cannot be avoided, Windlab will then work to ensure temporary or permanent impact to those values are minimised.

Windlab designs and implements management measures and operating conditions during construction and operational stages to minimise the extent of potential or anticipated impacts. Examples include:

- Management plans covering various environmental topics;
- Restrictions on construction activities (tree removal outside of nesting periods, limiting haulage or machinery use after hours etc);
- Establishment of buffer zones and exclusion areas to protect sensitive areas;
- Ongoing monitoring and surveillance activities (birds/bats and noise);
- Ensuring activities comply with regulatory requirements and best practice standards; and
- Notifying and continuing consultation with key stakeholders and regulators.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Windlab is a signatory to the Clean Energy Council's Best Practice for Renewable Energy Projects (the Charter), refer to the attached Clean Energy Council Best Practice Charter for Renewable Energy Projects, Windlab Signatory Acknowledgement, refer to attachment 1 (dated August, 2021).

Several clauses of the Charter address the physical environment, including:

- Clause 3. We will be sensitive to areas of high biodiversity, cultural and landscape value in the development and operations of projects.
- Clause 9. We will demonstrate responsible land stewardship over the life of the project and welcome opportunities to enhance the ecological, cultural and/ or agriculture value of the land.

The compliance with the Charter has been demonstrated through suitable site selection as well as avoidance and minimisation of impacts. Potential impacts of the Proposed Action will be managed consistently with the management approaches for wind farm project activities, and where relevant implementation of additional mitigation and management measures.

At each location of proposed infrastructure, following detailed design and prior to construction, detailed site-specific pre-clearance surveys will be conducted inform micro-siting and further avoidance of ecological values as part of the final design of the Proposed Action.

Mitigation of impacts will first be addressed through the detailed design process, which allows for avoidance of potential impacts through design and location of wind farm infrastructure. Any micro-siting of turbines will be located within the already assessed Project Area.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	658060523
Organisation name	BURRAWONG WIND FARM PTY LTD
Organisation address	2601 ACT

Proposed designated proponent details

Name	Chelsea Sanchez
Job title	Manager, Approvals

Phone	02 6175 4600
Email	chelsea.sanchez@windlab.com
Address	L4, 60 Marcus Clarke Street, Canberra ACT 2601

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	658060523
Organisation name	BURRAWONG WIND FARM PTY LTD
Organisation address	2601 ACT
Representative's name	Chelsea Sanchez
Representative's job title	Manager, Approvals
Phone	02 6175 4600
Email	chelsea.sanchez@windlab.com
Address	L4, 60 Marcus Clarke Street, Canberra ACT 2601

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

Yes

1.4.10 Enter purchase order number *

POWLD1033

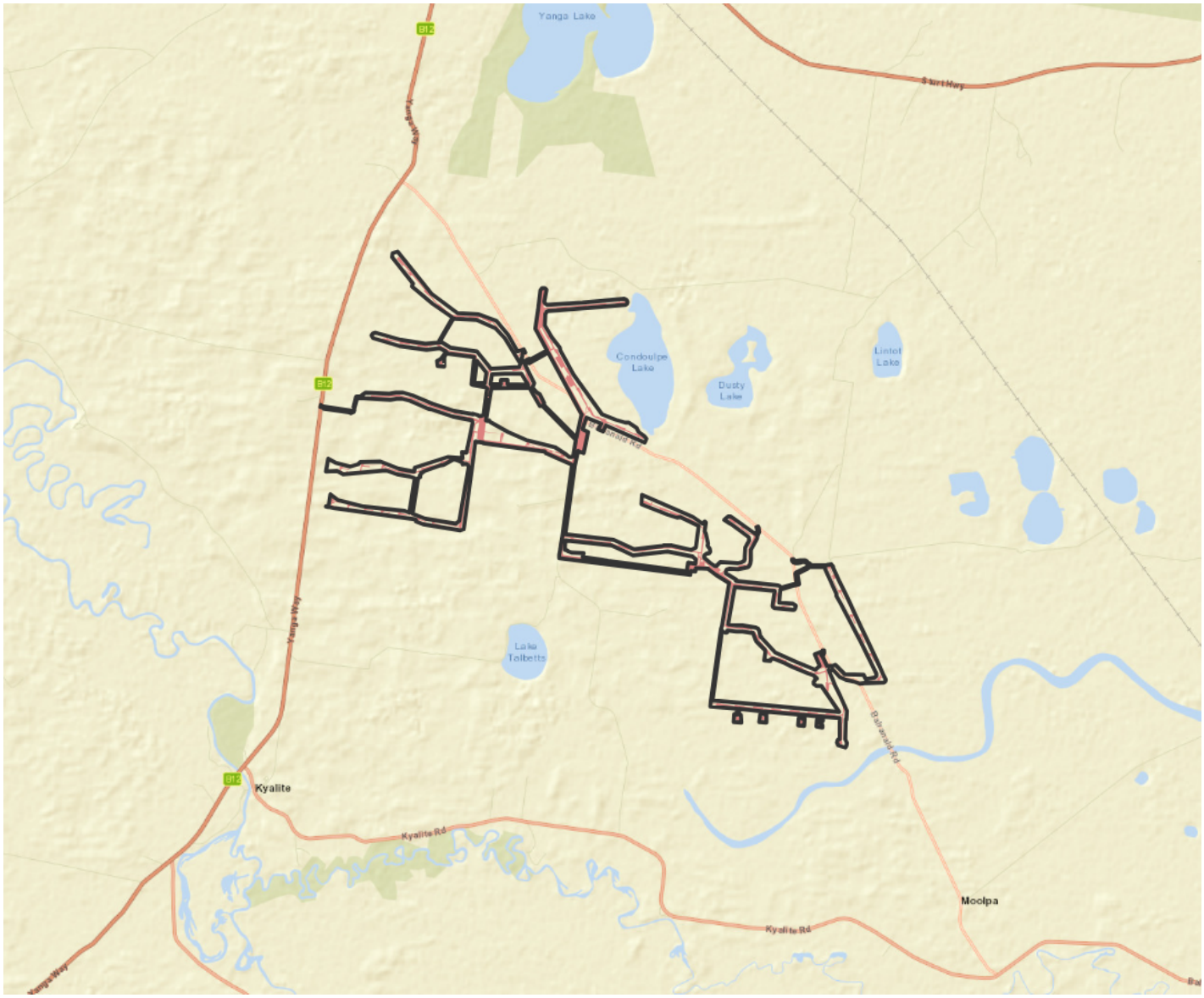
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint



2.2 Footprint details

2.2.1 What is the address of the proposed action? *

The Subject Land comprises various lots between Yanga Way and Balranald-Moulamein Road, Kyalite NSW 2515

2.2.2 Where is the primary jurisdiction of the proposed action? *

New South Wales

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The Proposed Action is located on freehold land, with a small number of Crown Land easements traversing the Project Area as roads and waterways.

Lots involved in the Proposed Actions Subject Land are listed below.

Freehold Land Plan and Lot Number

- 16335 - 10, 14
- 134424 - 1, 2, 3
- 720256 - 47
- 725897 - 84
- 751243 - 7, 10, 11, 13, 44
- 756520 - 2, 16, 19, 20, 21, 22, 23, 24, 26, 27, 35, 36, 38, 39, 42, 43, 48, 49, 50, 53, 54, 55, 57, 58, 59
- 756528 - 20, 21, 22, 23, 24, 28, 29, 30, 51, 58, 60, 62, 63, 64, 65, 67, 68, 69, 71, 72, 75, 80
- 756588 - 2, 4, 5, 6, 7, 10, 13
- 876082 - 482
- 1140351 - 2

Crown Land Plan and Lot Number

- 1158277 - 7308
- 1158277 - 7306
- 1159244 - 7300
- 1159244 - 7301
- 725898 - 86
- 725897 - 83

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The Subject Land is located within the Murray River Council LGA, approximately 15 km south of Balranald and approximately 10 km north of Kyalite. The Proposed Action is located in the South-West REZ. The Subject Land contains a 220 kV transmission line which runs through the northern portion of the Subject Land, the 'Project Energy Connect' transmission line (currently under construction) is to be located directly north of the 220kV line. A small portion of the Subject Land borders with the Yanga National Park, while the remaining surrounding environment is agricultural land.

The Subject Land is zoned as RU1 Primary Production under the Murray Local Environmental Plan 2011. The surrounding properties are also zoned RU1 Primary Production, with Yanga National Park zoned as E1 – National Parks and Nature Reserve.

The Subject Land is characterised by non-native grasslands which historically and continues to be utilised for agriculture (cropping and grazing), although there are still some vegetation patches such as Black Box (*Eucalyptus largiflorens*) woodlands scattered within the Subject Land, there are also small vegetation patches and tree lines that maintain connectivity to the surrounding bushland, Yanga National Park and Yanga State Conservation Area. In addition to woodland and grassland/shrubland communities, there are also fallen timber habitat features, isolated paddock trees, water sources (artificial and natural including wetland inundation areas), hollow bearing and nest trees, transmission line and agricultural crops. Within the Development Footprint there is a total of 99 ha of vegetation which would be impacted by the Proposed Action.

As mentioned above a large majority of the Subject Land is classed as Category 1 Land – Exempt Land. These areas are highly degraded and reflects the degraded condition of the Project Area which has undergone historic and ongoing cropping and grazing.

The majority of the Subject Land is Class 6 under the Land and Soil Capability (LSC) assessment scheme. Class 6 land is considered to have severe to very severe limitations, suitable only for grazing and not suitable for cultivation (NGH, 2021). There are small areas of Class 4 land. Class 4 land is considered to have moderate to severe limitations for some land uses, suitable for grazing with limitations for cultivation (OEH, 2012).

3.1.2 Describe any existing or proposed uses for the project area.

Existing Uses

The Subject Land is currently utilised for broadacre cropping of cereal crops such as wheat, barley and oats. Some sheep grazing also occurs in open paddocks and the smaller wooded pockets across the Subject Land.

Proposed Uses

The Proposed Action would change the land to support a wind farm and ancillary infrastructure. Once operational, existing agricultural activities (cropping and grazing) could continue around the wind farm infrastructure.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The Subject Land is largely cleared and has been highly disturbed/modified through generations of intensive cropping and other farming activities.

Throughout the flat and cleared landscape of the Subject Land, the most notable natural features include a woodland area and Lake Condoulpe. The woodland area comprises Black Box/Black Oak open woodland of approximately 700 ha. Less than 90 ha of this woodland area falls within the Project Area and only a fraction of this 90 ha would be impacted by the final Development Footprint. Although generally dry, Lake Condoulpe is classified as an area of high biodiversity. Only during significant rainfall events can it receive inundation from Yanga Lake. Lake Condoulpe is wholly located outside of the Project Area.

Natural features located outside of the Subject Land but within the region include Yanga National Park, Yanga Conservation Area, Yanga Lake, riparian areas and watercourses associated with the Wakool, Edward, Murray and Murrumbidgee rivers, and the linear stretch of remnant vegetation along the Yanga Way road easement. Yanga National Park is a local tourist spot, located along 170 km of the Murrumbidgee River Frontage, Yanga National Park contains River Red Gum Forest and swampland and other various types of vegetation from grass to saltbush to woodlands. Yanga National Park is also known to host a number of migratory birds in the various wetland systems and other egrets, herons, spoonbills and glossy ibis species. In addition to the natural landscape features Yanga National Park contains important heritage elements including the Yanga Woolshed and various Aboriginal cultural sites, artefacts and values.

Biodiversity values mapped by DPE indicates land that is identified as containing high biodiversity value. Areas of high biodiversity value are particularly sensitive to clearing and development. Condoulpe Lake, Condoulpe Creek and The Forest Creek watercourses are mapped as having high biodiversity value, which are outside the Project Area and therefore do pose a constraint on the Proposed Action.

There are no BAM Important Areas mapped within the Project Area, however, there are records of 36 threatened and migratory species within a 10 km radius of the Project Area, which includes the Yanga National Park and Yanga Conservation Area.

The Protected Matters Search Report returned no critical habitat within the Project Area and no listed critical habitats are anticipated to be impacted by the proposed action.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The Project Area is mostly flat cleared agricultural paddocks with undulating sand hills and scattered patches of remnant native vegetation. Connectivity of native vegetation is primarily along crown land and roadside easements, with some remnant vegetation within private land, and along ephemeral watercourses. Elevation ranges from 58m to 73m (above sea level).

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

The Subject Land predominately consists of cleared land that has been used for cropping and other agricultural activities. Biodiversity surveys and assessment began in 2021 with bird and bat surveys completed two years since. Windlab has engaged Biosis for development of the BDAR and Umwelt for development of the EIS, once completed, these documents will be available to the Department upon request.

Windlab has also engaged Nature Advisory who has completed 24 months of bird and bat utilisation surveys over 2021 and 2022, and recently completed the associated reporting. Reports completed by Nature Advisory include a Bird and Bat Baseline Report, Bird and Bat Utilisation Survey Report and Bird and Bat Risk Assessment. Considering the proximity to various waterways and floodplains, Windlab also requested that Nature Advisory conduct a review of regional waterbird activity and risks associated with the proposed action. Nature Advisory also completed a Regent Parrot Targeted Assessment Report.

The following surveys and studies have been completed for the Proposed Action:

- Burrawong Wind Farm – Regent Parrot Targeted Assessment Report, refer to attachment 2 (June 2023)
- Burrawong Wind Farm – Bird Utilisation Survey – Year One, refer to attachment 3 (January 2022)
- Burrawong Wind Farm - Bat Utilisation Survey - Year 1, refer to attachment 4 (April 2022)
- Burrawong Wind Farm - Bird and Bat Utilisation Survey - Year Two , refer to attachment 5(June 2023)
- Burrawong Wind Farm – Initial Bird and Bat Risk Assessment, refer to attachment 6 (February 2023)
- Burrawong Wind Farm - Australasian Bittern Riverina Literature Review, refer to attachment 7(March 2023)
- Burrawong Wind Farm - Regional Review of Waterbirds in the Riverina, refer to attachment 8 (April 2023)

Flora

As part of the targeted flora surveys in November 2021, the following EPBC listed flora species were surveyed for:

- *Austrostipa metatoris,* A Speargrass – Vulnerable
- *Lepidium monoplocoides,* Winged Peppercress – Vulnerable
- *Maireana cheelii,* Chariot Wheels – Vulnerable
- *Atriplex infrequens,* A Saltbush – Vulnerable
- *Solanum karsense,* Menindee Nightshade – Vulnerable
- *Calotis moorei,* A Burr-Daisy – Endangered
- *Brachyscome papillosa,* Mossgiel Daisy – Vulnerable
- *Caladenia tensa*, Greencomb Orchid – Endangered

No threatened flora under the EPBC Act or BC Act were identified in the surveys completed in November 2021. Further surveys for the *Caladenia tensa* will be undertaken as part of the BDAR/EIS within the appropriate survey window.

Austrostipa metatoris was identified within a section of the Yanga Way road easement corridor (Yanga corridor), which is located immediately west of the Subject Land. This section of the Yanga corridor was surveyed to facilitate a possible connection into the Balranald substation. However, to avoid impact to this species and other ecological values within this section of the Yanga corridor, Windlab is pursuing alternative connection options.

Santalum murrayanum, which is listed under the Biodiversity Conservation Act 2016 (BC Act), has been recorded within the Subject Land and Project Area. Windlab is working with Biosis to ensure that this species is avoided in the final project layout.

Fauna

The Subject Land contains terrestrial, arboreal and avi-fauna species and associated habitat. Habitat features include hollow-bearing trees and nesting habitat, water sources, paddock trees, fallen timber, woodland/mallee and grasslands. These habitat types and features are possibly utilised for roosting, denning, refuge, breeding and foraging by native fauna. The improved pasture grazing areas contain less habitat features than other areas within the Subject Land.

A total of 81 bird species and nine bat species have been observed on Subject Land the 24 months of utilisation surveys. Two EPBC Act listed species have been recorded within the Project Area, including the Regent Parrot (*Polytelis anthopeplus monarchoides*) listed as Vulnerable under the EPBC Act, and the Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri*) listed as Endangered under the EPBC Act.

While the Migratory listed Fork-tailed Swift *(Apus pacificus*) was considered in initial risk assessments as having potential to occur occasionally within the Subject Land, it was not recorded in 24 months of utilisation surveys.

98.56% of all bird species were recorded flying below Rotor Swept Area (RSA) height. The top five species that have been observed flying at RSA height are the Little Raven, Australian Raven, Galah, Fairy Martin and Wedge-tailed Eagle.

Further flora and fauna assessments are being completed as part of the BDAR/EIS.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

The Subject Land is largely cleared and has been highly disturbed/modified through generations of intensive cropping and other farming activities. The dominant vegetation within the Subject Land is agricultural crop and improved pastures for livestock grazing.

Remnant patches of vegetation and scattered paddock trees occur throughout the Subject Land. Current ecological assessments identify seven plant community types (PCTs) occurring within the Project Area. These PCTs form either grassland/shrublands or Woodland/Mallee formations.

Based on rapid assessments and targeted vegetation surveys completed in 2020, and more recent PCT mapping exercises, PCTs identified in the Subject Land include:

- PCT 16 - Black Box grassy open woodland wetland of rarely flooded depressions in southwestern NSW (mainly Riverina Bioregion and Murray Darling Depression Bioregion);
- PCT 21 - Slender Cypress Pine - Sugarwood - Western. Rosewood open woodland on sandy rises mainly in the Riverina Bioregion and Murray Darling;
- PCT23 - Yarran Tall open shrubland of the sandplains and plains of the semi arid (warm) and arid climate zones;
- PCT 57 - Belah/Black Oak - Western Rosewood - Wilga woodland of central NSW including the Cobar Peneplain Bioregion;
- PCT58 - Black Oak - Western Rosewood open woodland on deep sandy loams mainly in the Murray Darling Depression Bioregion;
- PCT163 - Dillon Bush (Nitre Bush) shrubland of the semi-arid and arid zones; and
- PCT170 - Chenopod sandplain mallee woodland of the arid and semi-arid (warm) zones.

The PCTs in the Subject Land occur in a degraded form due to agricultural practices and historic clearing. The shrub and groundcover components are moderately affected in the overall proposal area. The forested areas in the Subject Land (mostly Black Box open woodland) generally consist of small, isolated patches or corridors associated with roadsides, isolated islands and fence lines.

The largest forested area within the Subject Land is approximately 700 ha comprising Black Box/Black Oak open woodland. Connectivity of native vegetation is primarily along Crown land and roadside easements with some remnant vegetation within private land, and along ephemeral watercourses. The woodland corridor running north-south from Yanga National Park to Wakool River along the Yanga Way road easement is the predominant habitat corridor in the area. This woodland corridor is located outside of the Subject Land and runs along portions of its western boundary.

Grasslands in the Subject Land grade into shrubby grasslands around woodland or mallee patches and are small in size. Within the Subject Land, large areas of grasslands occur at varying level of quality. All areas have been subject to varying levels of disturbance, with higher quality grasslands occurring in the larger patches.

Woodlands provide cover, refuge, breeding and foraging resources for many fauna species. Woodland patches varied in quality and condition. The majority of the woodland patches contained mature Black Box (Eucalyptus largiflorens) with a shrubby understory. Mallee Patches consisted of predominantly Eucalyptus gracilis or Eucalyptus socialis stands with minimal understorey. Black Oak (Casuarina pauper) and Rosewood (Geijera parviflora) woodland was predominant across the Subject Land and contained large amounts of fallen timber habitat. Several small-medium stick nests occurred at each woodland patch. A number of threatened species utilise woodland, for breeding, foraging and shelter. Mallee woodland, Black Box and Black Oak woodland may represent threatened species habitat.

Isolated paddock trees and shrubs predominately consisted of mature Black Box (Eucalyptus largiflorens), Black Oak (Casuarina pauper), White Cypress Pine (Callitris glaucophylla) and Kurrajong (Brachychiton populneus) species.

The geology of the Project Area is predominantly Quaternary Woorinen Formation, which includes poorly consolidated red-brown sand dunes usually east-west oriented (MinView, 2022). Quaternary lacustrine deposits, Cainozoic sand dunes and poorly consolidated clay, silt, sand and gravel of the Cainozoic Shepparton Formation are present in pockets within the Project Area.

The majority of the Project Area is located on the Condoulpe Land System. Soils in this system are predominantly solonized brown soils and areas of red earths on plains and flats, dunes of deep brownish sands and drainage basins of grey cracking clays (Walker, 1991). Erosion risk is considered to be minor to moderate, with sheet and scaling erosion dominant.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

There are no heritage places or items within the Project Area that are listed on the Commonwealth or National Heritage Register.

A Historic Heritage Assessment will be completed as a part of the EIS process, once completed, this document will be available to the Department upon request.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

An ACHA, in conjunction with the EIS preparation, is currently being undertaken on the Project Area. To date, a comprehensive pedestrian field survey and consultation with Aboriginal stakeholders has been conducted and this has identified several Aboriginal items within the Project Area.

Based on the site types and archaeological features recorded during this assessment, it is likely that the area as a whole was used intermittently over long periods of time for camping while water remained in the landscape, as indicated by the presence of hearths, mounds, modified trees and stone artefacts. Sites that consist of both hearths/mounds and stone artefacts indicate that camping, cooking and tool manufacturing activities were undertaken in these areas. Additionally, some sites which have a number of hearth features with associated artefacts and/or mounds suggest that they were repeatedly revisited and reused over time or were the focus of occupation for a relatively large group of people.

Further consultation with Aboriginal stakeholders is required to determine cultural significance of items identified across the Project Area.

Measures to avoid and minimise harm to Aboriginal items will be established in consultation with Aboriginal stakeholders during the development of the ACHA and Heritage Management Plan, and through conditions of the development consent, and would be implemented prior to the commencement of construction, during construction, operation and decommissioning of the project.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

The Subject Land is located on the Lowbidgee Floodplain and lies between the Edward River in the south (approximately 3.5 km south) and the Murrumbidgee River in the north (approximately 13.5 km north). Surface water sources within the Subject Land include:

- Condoulpe Creek
- Forest Creek
- Undefined ephemeral watercourses
- Condoulpe Lake

There are also several farm dams which occur across the Subject Land. All the natural surface water sources in the area are ephemeral, it is likely that some area are subject to flood events and seasonal inundation. Surface water, ground water, flooding, erosion and sediment control and other hydrological aspects of the Proposed Action will be considered further in the EIS process. Where required, specialist input from a hydrologist will be sought for works that may affect local hydrology.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Wilandra Lakes Region is a World Heritage Area and is located 100 km north of the Project Area. The Wilandra Lakes Region World Heritage Area consists of pastoral lands leased from the state as well as a section of Mungo Nation Park (UNESCO, 2023). The Wilandra Lakes Region was inscribed on the World Heritage List in 1981 (UNESCO, 2023) and was listed under the natural values as:

- *An outstanding example representing major stages of the earth's evolutionary history;*
- *An outstanding example representing ongoing geological processes, biological evolution and human society's interaction with the natural environment, especially its communities of plants and animals, landforms and marine and freshwater bodies;*

It was listed under the cultural values as outstanding in its exceptional archaeology that was:

- *Unique, extremely rare, or of great antiquity.*

There are several key landscape features which have been identified within the World Heritage Area including:

- Red Top Lookout
- Rosewood Picnic Area
- Walls of China Viewing Platform
- Mallee Stop Track
- Belah Campground
- Round Tank Picnic Area Zanci Homestead Site
- Lake Mungo Foreshore Walk
- Mungo Lookout
- Mungo Shearers Quarters
- Mungo Woolshed
- Grasslands Nature Trail
- Main Campground

From these locations turbines are located over 100 km away from the viewpoints. The NSW Draft National Wind Farm Guidelines provide guidance based on previous studies that have reviewed wind farms and the potential visual prominence based on the distance from the nearest wind turbine. Within these guidelines it has been determined that more than 12 km away turbines will form "a very small element in the landscape which is difficult to discern and is likely to be indiscernible under poor weather conditions" Due to the distances of the Proposed Action and the Wilandra Lakes Region it is unlikely that the Proposed Action will be viewed from these locations.

The Developments adjacent to National Parks and Wildlife Service lands, Guidelines for consent and planning authorities (NPWS, 2020), states within the aim: There is no reduction of amenity on NPWS land due to adjacent development. Negligible visual impacts are anticipated from the World Heritage Area, therefore, visual amenity is likely to be retained (refer to Att 10, pages 1-2).

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage places or items within or nearby the Project Area.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Ramsar wetland
No	No	Banrock Station Wetland Complex
No	No	Hattah-Kulkyne Lakes
No	No	Riverland
No	No	The Coorong, and Lakes Alexandrina and Albert Wetland

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar Wetlands in or nearby the Subject Land. The Hattah-Kulkyne Lakes and the Banrock Station Wetland Complex are located within 150 km of the Subject Land (approximately 110 km west of the site). The Riverland Ramsar Site is located over 250 km west of the Subject Land and The Coorong, and Lakes Alexandria and Albert Wetland is located over 430 km west of the Subject Land.

The Proposed Action is not anticipated to have any direct or indirect impacts on the above-mentioned Ramsar Wetland values.

Construction activities are largely contained on-site, of which is a significant distance from any registered Ramsar Wetlands. During construction, Windlab would undertake activities in accordance with the applicable guidelines including Office of Environment and Heritage's *Managing Urban Stormwater: Soils and Construction Volumes 1 and 2C*, and DPI's *Water Guidelines for Controlled Activities on Waterfront Land*. Measures would include minimising erosion and controlling sediment generation, as well as establishing and maintaining appropriate setbacks from any waterways within the Subject Land. The movement of any material, water and/or waste would be strictly managed and undertaken in accordance with the relevant guidelines, best practice methods and applicable permits.

During operations, wind turbines, ancillary and transmission infrastructure would remain in-situ, maintaining the appropriate drainage and erosion and sediment controls and would not interact with any surrounding waterways. Concrete batching plants and substations would be suitably bunded, and a project specific Operational Environmental Management Plan would be in place.

In addition, if approved its likely that the Proposed Action would be issued an Environmental Protection Licence, which would require compliance with Section 120 of the Protection of the Environment Operations Act 1997 which makes it an offence to pollute any waterways.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
No	No	Amytornis striatus howei
No	No	Aphelocephala leucopsis

Direct impact	Indirect impact	Species
No	No	Botaurus poiciloptilus
No	No	Brachyscome papillosa
No	No	Calidris ferruginea
No	No	Climacteris picumnus victoriae
No	No	Falco hypoleucos
No	No	Galaxias rostratus
No	No	Grantiella picta
No	No	Hemiaspis damelii
No	No	Leipoa ocellata
No	No	Lepidium monoplocoides
No	No	Litoria raniformis
Yes	Yes	Lophochroa leadbeateri leadbeateri
No	No	Maccullochella peelii
No	No	Macquaria australasica
No	No	Maireana cheelii
No	No	Melanodryas cucullata cucullata
No	No	Neophema chrysostoma
No	No	Numenius madagascariensis
No	No	Nyctophilus corbeni
No	No	Pedionomus torquatus
No	No	Pezoporus occidentalis
Yes	Yes	Polytelis anthopeplus monarchoides
No	No	Rostratula australis
No	No	Stagonopleura guttata
No	No	Swainsona murrayana
No	No	Swainsona pyrophila

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions
No	No	Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
No	No	Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions
No	No	Weeping Myall Woodlands

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

Studies and assessment have commenced for the preparation of the EIS phase after receiving NSW Government Secretary's Environmental Assessment Requirements (SEARs) for the Proposed Action in December 2021. The Project Area was selected due to limited environmental impacts and the design process has sought to minimise impacts where possible. Bird and bat utilisation survey have been completed for the Proposed Action. The complete extent of potential impacts to threatened species and ecological communities will be identified in the BDAR.

Threatened Species

Regent Parrot (*Polytelis anthopeplus*)

The Regent Parrot (*Polytelis anthopeplus*) was recorded within the Subject Area (or immediately adjacent to the Project Area) 117 times over the 24-month survey period. A further 216 individuals were observed during the targeted survey in 2023. The species was observed foraging in and around the Yanga Way woodland corridor. This woodland corridor is a linear stretch of Mallee and low growing vegetation extending north-south along the Yanga Way road easement, from Yanga National Park (north) to Wakool River (south). This woodland corridor is located outside of the Subject Land and is the predominant habitat corridor in the area (refer to Att 2, Section 6, pages 13-14).

Nature Advisory have advised that it is unlikely that this species will fly at collision height of the wind turbines. It is expected that some project infrastructure and operations may generate indirect impacts, which could include disturbance and displacement from light, noise, and vibration impacts. Light, noise and vibration impacts from construction and permanent infrastructure have the potential to disrupt foraging patterns. It is also possible that vehicle movements associated with the project along Yanga Way and Balranald-Moulamein Road could result in a small number of vehicle strike mortalities (refer to Att 2, Section 6, pages 13-14).

Approximately 97% of observations of Regent Parrot were within 100m of the Yanga Way woodland corridor Mallee habitat. The 3% of occurrences beyond 100m involved movement between areas of suitable habitat patches across open cropping paddocks (refer to Att 2, Section 6, pages 13-14).

With this in mind, Windlab has designed the project layout to ensure that a 100m buffer exists between all turbines (from blade tip) and all areas of suitable foraging and roosting habitat (Mallee woodland) present within the Project Area and along the western boundary of the Subject Land (Yanga Way woodland corridor). This has involved modifying the Project's preliminary layout and relocating a number of turbines as well as transmission infrastructure to other areas of the project site (refer to Att 2, Section 6, pages 13-14).

In addition, Nature Advisory has reported that Regent Parrot was not observed at the proposed wind turbine height (>50m above ground). All 333 recorded flight heights were below the proposed RSA of 50 m. Most observations were below 20 m (64%), with a smaller proportion flying below 30 m (29%). It should be noted that the 1% of birds that flew at 30 m (observed at 30m) were actively avoiding raptor predation (Nature Advisory, 2023) (refer to Att 2, Section 5, pages 12-13).

This species forages primarily in Mallee, in low growing vegetation (maximum canopy height in the study area is approximately 8 m). When commuting, it flies at or just above the canopy. It is therefore highly unlikely that this species will fly at collision height with the wind turbines.

Therefore, Windlab does not consider the Proposed Action would have Significant Impact on Regent Parrot (*Polytelis anthopeplus*).

Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)*

Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)* was listed as endangered under the EPBC Act in March 2023. Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)* has been recorded regularly over the two years of survey at the proposed wind farm. Nature Advisory considers the species potentially breeds within the Subject Land. The species was not recorded at RSA height throughout the surveys in 2021 and 2022. The numerous records of the species are examined in more detail in the baseline bird and bat for the Proposed Action (refer to Att 5, Section 3.2, pages 25-30). Despite the large number of individuals recorded Nature Advisory consider the collision risk to be unlikely and the consequence to the overall population is low. Given the species is considered resident and potentially breeds on the Subject Land impacts on the local population from potential clearing of hollow bearing trees and foraging habitat is likely to adversely affect the species (refer to, Att 11, pages 1-4) .

The species is known to inhabit a wide range of treed and treeless inland habitat, within proximity to a water source. Nesting in tree hollows (predominately in eucalyptus, and sometimes old cypress) throughout the second half of the year, nests are known to be at least 1 km apart with no more than one pair every 30 square km. Preferring to feed in or close to wooded areas and using these wooded for travel between feeding and nesting or roosting sites. The Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)* has a diet consisting of seeds from native shrubs and trees, and sometimes roots, bulbs, insect larvae and seeds of crops and weeds.

The majority of the native vegetation which occurs within the Development Footprint is considered potential habitat for the species, with the higher condition areas of PCT 170 Chenopod Mallee, PCT 16 Blackbox Woodland and PCT 58 Black Oak Woodland supporting the most suitable habitat for the species. It has been noted previously that the species are able to utilise small patches of this habitat, including isolated paddock trees (NSW Bionet, 2023).

The Proposed Action is expected to directly impact species potential foraging and potential breeding habitat. The Project Area contains up to approximately 32.78 ha of moderate to high condition native vegetation the species can utilise.

Hollow-bearing trees, suitable for the species' breeding, were sampled during targeted surveys across seven large survey locations within the Subject Land, comprising approximately 415 hectares of potential habitat. A total of 252 hollow-bearing trees were recorded, 86 of which were considered suitable to support the species' breeding. Of these 86 trees, 24 occur with 200m of the Development Footprint and would be considered impacted either directly or indirectly by the Proposed Action. Nature Advisory have also noted that individuals were observed investigating and excavating suitable sized nesting hollows on the eastern side of the Project Area during their November 2022 bird utilisation surveys. Based on the species' sparse nesting behaviour's (nests at least 1km apart with no more than one pair every 30 square km) the Subject Land could be expected to support 5-6 breeding pairs.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

Yes

4.1.4.5 Describe why you consider this to be a Significant Impact. *

Major Mitchell's Cockatoo

Department of Climate Change, Energy and Environment and Water (DCCEEW) *Conservation Advice for Lopochroa leadbeateri leadbeateri* (eastern Major Mitchell's Cockatoo) (2023) outlines critical habitat to the survival of the species include arid and semi-arid woodland dominated by mulga (Acacia aneura), mallee and box eucalyptus, slender cypress pine (Callitris gracilis) or belah (Casuarina cristata). Known habitat containing suitable attributes, including potential habitat for the subspecies, especially where there are large mature trees with suitable hollows; and surrounding matrix of these areas for the role of providing movement corridors for the dispersal across the landscape (refer to Att 11, pages 1-4).

The potential breeding habitat within the Development Footprint is considered to support areas that conform to the attributes listed in the Conservation Advice (DCCEEW, 2023) as habitat critical to the survival of a species. Although there have been extensive efforts made to reduce and minimise impacts to biodiversity, the Proposed Action would likely have a residual impact to Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)* critical habitat. The Proposed Action would impact 32.78 ha of critical habitat for the Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)*, in applying a conservative approach and the Precautionary Principal it is considered this is habitat critical to the survival and may be adversely affected (refer to Att 11, pages 1-4) .

The Subject Land supports potential breeding habitat for the Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)*, surveys could not exclude breeding activity in the Subject Land, and it is expected that the Subject Land could support 5-6 breeding pairs. The Proposed Action is expected to lead to impacts to at least 24 hollow bearing trees suitable for breeding within and 32.78 ha of potential breeding habitat. Furthermore it is expected that 45 scattered paddock trees supporting one or more hollow, providing (lower quality) potential breeding habitat, will also be directly impacted. This is considered to have potential impacts to the breeding cycle of breeding pairs utilising habitat in the Subject Land, and the local population more broadly(refer to Att 11, pages 1-4).

Currently there is no recovery plan for the species, however the Conservation Advice outlines conservation and recovery actions for the species, which include:

- Arrest the current decline and achieve a stable or increasing population trend.
- Increase nesting habitat availability within the subspecies' range, and improve connectivity of woodland habitat.

The Proposed Action would lead to the loss of 32.78 ha of potential foraging and breeding habitat for the species, including at least 24 suitable breeding trees, and direct impacts to a further 45 scattered paddock trees supporting one or more hollow, providing further potential (lower quality) breeding habitat, this is consider to have the potential to interfere with the recovery of local population of the species, and therefore species as a whole.

The Proposed Action has made significant efforts to reduce impacts to species habitat and native vegetation where possible, including minimising clearing footprints and micro-siting infrastructure away from hollow bearing trees throughout the Project design. However, with these avoidance and reduction of impacts considered and in applying the precautionary principle, at this stage of the Proposed Action the residual impacts are considered to be a significant impact to the Major Mitchell's Cockatoo (*Lophochroa leadbeateri leadbeateri)* in accordance with the *Significant Impact Guidelines 1.1 Matters of National Environmental Significance*. An Assessment of Significance has been completed for the Major Mitchell's Cockatoo (eastern) (Lophochora leadbeateri leadbeateri), refer to Attachment 11 (page 1- 4) for the full assessment.

Further detailed assessment of potential impacts to the species will be undertaken in the preparation of the BDAR, and if concluded that a significant impact is likely, offsetting in accordance with EPBC Act Offsets Policy will be provided.

Assessment of biodiversity values and the likely biodiversity impacts of the Proposed Action will be conducted in accordance the BC Act, NSW Biodiversity Offsets Scheme, BAM and EPBC Act. This will also include the assessment of impacts as a result of the Proposed Action on birds and bats, including blade strike, low air pressure zones at the blade tips (barotrauma), alteration to movement patterns, and cumulative impacts of other wind farms in the vicinity.

4.1.4.7 Do you think your proposed action is a controlled action? *

Yes

4.1.4.8 Please elaborate why you think your proposed action is a controlled action. *

The Proposed Action will impact upon 32.78 ha of Major Mitchell's Cockatoo foraging and potential breeding habitat considered to confirm to the DCCEEW (2023) requirements for habitat critical to the survival of the species. This also includes the loss of at least 24 suitable breeding trees within intact patches of vegetation, and a further 45 scattered paddock trees supporting one or more hollow, providing further potential (lower quality) breeding habitat for the species. As a result of these impacts, the Proposed Action is also considered to have the potential to disrupt the breeding cycle of the local population. The removal of potential breeding resources is considered to have the potential to interfere with the recovery of the local population, and possibly the species more broadly. Ongoing operational impacts associated with collision with turbine blades are not considered likely as the species is not commonly recorded at RSH, however habitat sterilisaiton and more broad-scale avoidance of operational wind farms is possible. The above impacts will be assessed further in the Proposed Action's BDAR, however based on the current level of understanding of impacts to Major Mitchell's Cockatoo, the Proposed Actions is considered to have the potential for significant impacts to Major Mitchell's Cockatoo.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

In lieu of the project's BDAR and EIS (and associated mitigation/management measures) being finalised, Windlab proposes the following measures to avoid impacts to the Regent Parrot and Major Mitchell's Cockatoo:

- Establish and maintain the 100m buffer between all turbines (from blade tip) and all areas of suitable foraging and roosting habitat (Mallee woodland) present within the Project Area and along the western boundary of the study area (Yanga Way woodland corridor);
- Undertake habitat surveys to identify all possible areas of important roosting and foraging habitat (not already identified) to ensure these areas are not impacted during construction or subject to ongoing disturbance;
- Site turbines and other project infrastructure wherever practical to avoid impact to suitable foraging and roosting habitat for the Regent Parrot and Major Mitchell's Cockatoo during detailed project design stage;
- Minimise the amount of native vegetation clearing within the approved development footprint;
- Minimise the loss of key fauna habitat, including tree hollows;
- Minimise the impacts on fauna on site, including undertaking pre-clearance surveys;
- Minimise unnecessary disturbance of vegetation that is associated with the construction and operation of the development;
- Avoid the removal of hollow-bearing trees during spring to avoid the main breeding period for hollow-dependent fauna;
- Minimise the impacts to fauna on site and implementing fauna management protocols; and
- Develop and implement a Bird and Bat Adaptive Management Plan, of which includes a monitoring program designed to monitor impacts on the Regent Parrot and Major Mitchell's Cockatoo, and an Injured Bird and Bat Protocol.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Any impacts to threatened species or areas of threatened species habitat that cannot be avoided by the project design will be offset under the NSW Biodiversity Offset Scheme and/or EPBC Act Offsets Policy. If required, these liabilities will be detailed in the project's BDAR. A Biodiversity Offsets Strategy (BOS) which adheres to the requirements under the NSW Biodiversity Offset Scheme and the BC Act. The BOS will be prepared in accordance with the relevant NSW and Commonwealth EPBC Act offsetting requirements.

Windlab has engaged Biosis to investigate land surrounding the Project Area to determine whether it could act as a suitable biodiversity stewardship site if required

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
No	No	Actitis hypoleucos
Yes	Yes	Apus pacificus
No	No	Calidris acuminata
No	No	Calidris ferruginea
No	No	Calidris melanotos
No	No	Gallinago hardwickii
No	No	Motacilla flava
No	No	Myiagra cyanoleuca
No	No	Numenius madagascariensis
No	No	Tringa nebularia

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Fork-tailed Swift (*Apus pacificus*) was identified as a species with potential to occur in the Project Area, in addition to this there was one (1) sighting of Fork-tailed Swift across the Project Area. This species is listed as Migratory under the EPBC Act, it utilises a broad range of habitat types while in Australia, and is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground to forage. This species is vulnerable to turbine blade strikes. Land clearing associated with the Proposed Action could cause a minor reduction of invertebrate prey.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

There is potential that there may be direct or indirect impacts to the Fork-tailed Swift due to the potential for the species to fly into the air space being occupied by the turbine's rotor swept area. However, collision is likely to be infrequent, and large-scale disruption to movement pathways is not expected, due to the irregularity of the species' occurrence, and the small numbers possibly affected do not represent a significant proportion of the total population of this species (refer to, Att 11, pages 5-7).

The Proposed Action is unlikely to impact areas of important habitat. Within Australia the species is considered to be predominately aerial, the nature of the Proposed Action as a wind farm development may alter the airspace above the Project Area, therefore this species may be at risk of blade strike if in the area, or avoidance of potential habitats currently present once the wind farm becomes operational (refer to, Att 11, pages 5-7).

Bird Utilisation Surveys for the Proposed Action resulted in one (1) sighting of the species within the Project Area. In addition to this the species does not breed in Australia (breeds in eastern Asia). Due to it flying to height of up to 300m, the species is considered to be at risk of blade strike, or avoidance of the area and operation wind turbines, therefore it is possible the species migration activity could be disrupted. However Windlab's ecological consultant Nature Advisory have advised collision is likely to be infrequent due to the irregularity of its occurrence, and the small numbers possibly affected do not represent a significant proportion of the total population of this species (refer to, Att 11, pages 5-7).

Whilst there is potential for impact to this listed migratory species, the impacts are not considered likely to be significant in accordance with *Significant Impact Guidelines 1.1, refer to* Att 11 (pages 5-7) for the full assessment.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. *

There is potential that there may be direct or indirect impacts to the Fork-tailed Swift due to the potential for the species to fly into the air space being occupied by the turbine's rotor swept area. However, collision is likely to be infrequent, and large-scale disruption to movement pathways is not expected, due to the irregularity of the species' occurrence, and the small numbers possibly affected do not represent a significant proportion of the total population of this species.

Whilst there is potential for impact to this listed migratory species, the impacts are not considered likely to be significant in accordance with *Significant Impact Guidelines 1.1.*

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

A Bird and Bat Management Plan will be implemented to address impacts to aerial species. The plan will provide a thorough monitoring program and an adaptive management framework, which allows the proponent to address increased instances of turbine blade collisions. The plan will contain impact triggers which will allow identification of increased instances of turbine blade collisions. The plan will also contain mitigation measures to reduce the risk of blade strikes.

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

Any areas of threatened species habitat that cannot be avoided by the project design will be offset under the NSW biodiversity offset scheme as part of the BDAR. See the section above for further details.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

No nuclear action would be undertaken as apart of the Proposed Action.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project Area is located over 600 km from the nearest coastline. As such there will be no impacts to any Commonwealth Marine Areas from the Proposed Action.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project Area is not located near the Great Barrier Reef, as such the Proposed Action will not result in any impacts to the Great Barrier Reef.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action will not impact on a water resource related to a large coal mining development or coal seam gas.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Proposed Action will not impact on any Commonwealth heritage places overseas.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Project Area does not contain any Commonwealth heritage places overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The do-nothing option was considered, but given NSW needs 9,000 MW of generation capacity over the next 15 years, the importance of identifying and developing high-quality wind farms, such as the Burrawong Wind Farm, is paramount.

Due to its high-quality wind resource and advantageous site characteristics, the Burrawong Wind Farm has the potential to be one of the lowest cost generation options to replace coal generation in NSW. Benefits over alternative sites considered include:

- Low capital costs as the site is flat and mainly cleared, and has good access to established infrastructure and workforce in nearby Balranald, which is expected to reduce the complexity of construction
- More efficient use of grid infrastructure due to diurnal wind profile which is geographically diverse from wind in other regions and complements solar
- Low population density, site selected to minimise the number of close residential receivers (3 non-involved residential receivers within 4 km)
- Land not considered to be highly productive under the Land and Soil Capability Assessment Scheme (majority Class 6 with small areas of Class 4, which is classified as only suitable for grazing and not cultivation).
- Compatible with existing land use. The land is currently used for agricultural activities, predominantly cropping and grazing. It is expected that there will be minimal impact to these activities once the Proposal is in operations
- Located in the proposed South-West REZ, identified as a priority area for renewable energy development by the NSW Government
- Consultation with the community has been very positive.

5. Lodgement

5.1 Attachments

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 1-CEC Windlab Signatory Acknowledgement.pdf Acknowledgement from Windlab for best practice charter for renewable energy projects	26/08/2021	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Burrawong Wind Farm https://majorprojects.planningportal.nsw.gov.au/..			High
#2.	Link	The land and soil capability assessment scheme: second approximation https://www.environment.nsw.gov.au/soils/2012039..			High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 2-Regent Parrot Targeted Assessment Report_2023.pdf Targeted assessment of Regent Parrot at the Proposed Burrawong Wind Farm	01/06/2023	No	High

#2.	Document	Att 3-Bird Utilisation Survey Report Year1_2022.pdf Bird utilisation surveys to provide baseline data on the pre-construction utilisation by birds of the proposed Burrawong Wind Farm	01/01/2023	No	High
#3.	Document	Att 4-Bat Utilisation Survey Report Year 1_2022.pdf Bat utilisation surveys to collect information on bat species, including any threatened species using the site and their activity levels	01/04/2023	No	High
#4.	Document	Att 5-Bird and Bat Utilisation Survey Year 2_2023.pdf Bird and bat utilisation surveys to provide baseline data on the pre-construction utilisation by birds and bats of the proposed Burrawong Wind Farm	01/06/2023	No	High
#5.	Document	Att 6-Initial Bird and Bat Risk Assessement_2023.pdf Initial risk assessment to inform the impact assessment of the proposed Burrawong Wind Farm by identifying those species or groups of birds and bats considered at potential risk of collision with turbines	01/02/2023	No	High
#6.	Document	Att 7-Preliminary Literature Review on Habitat Use of Australasian Bittern in the Riverina_2023.pdf A literature review of the habitat use of the Australasian Bittern (Botaurus policiloptilus), with particular reference to the Riverina region of New South Wales	01/03/2023	No	High
#7.	Document	Att 8-Regional Review of Waterbirds in the Riverina_2023.pdf A literature review of the ecology of Riverina waterbirds, with reference to the proposed Burrawong Wind Farm	01/04/2023	No	High
#8.	Document	Att 9-Protected Matters Search Tool Report July 14th_2023.pdf EPBC Act Protected Matters Report	14/07/2023	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Condoulpe Land System https://www.environment.nsw.gov.au/Salis5app/res..			High
#2.	Link	MinView https://minview.geoscience.nsw.gov.au/#/?lon=148..			High

4.1.1.3 (World Heritage) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att10-World Heritage Assessment.pdf Overview of Visual Impacts on Willandra Lakes and Mungo National Park of Australia World Heritage Area	05/06/2023	No	High
#2.	Link	Willandra Lakes Region https://whc.unesco.org/en/list/167/			High

4.1.3.3 (Ramsar Wetland) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Managing Urban Stormwater: Soils and construction - Volume 1 https://www.environment.nsw.gov.au/research-and-..			High
#2.	Link	Managing Urban Stormwater: Soils and construction - Volume 2C https://www.environment.nsw.gov.au/research-and-..			High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Link				

NSW BioNet https://www.environment.nsw.gov.au/topics/animal..		High

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att 11 - Assessment of Significance for Major Mitchell's Cockatoo and Fork-tailed Swift_2023.pdf Assessment of Significance for Major Mitchell's Cockatoo (eastern) (Lophochora leadbeateri lead beateri) and Fork-tailed Swift (Apus pacificus)	14/09/2023	No	Medium
#2.	Link	Conservation Advice for Lophochroa leadbeateri leadbeateri (eastern Major Mitchell's cockatoo) http://www.environment.gov.au/biodiversity/threa..			High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	658060523
Organisation name	BURRAWONG WIND FARM PTY LTD
Organisation address	2601 ACT
Representative's name	Chelsea Sanchez
Representative's job title	Manager, Approvals
Phone	02 6175 4600
Email	chelsea.sanchez@windlab.com
Address	L4, 60 Marcus Clarke Street, Canberra ACT 2601

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Chelsea Sanchez of BURRAWONG WIND FARM PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Chelsea Sanchez of BURRAWONG WIND FARM PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✔ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Chelsea Sanchez of BURRAWONG WIND FARM PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *