Conargo Wind Farm and Battery

Application Number: **02601** Commencement Date: **23/09/2024** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

Conargo Wind Farm and Battery

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 *

01/01/2027

1.1.4 Estimated end date *

01/01/2064

1.2 Proposed Action details

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

The project area comprises approximately 2,295 hectares and includes all involved lots (19 freehold and some crown/council roads). The assessment of impacts associated with the Proposed Action has focused on a Development Corridor (1,364 hectares) (described as the “disturbance footprint” henceforth) associated with the conceptual layout as shown in Figure 1 (see Attachment Att_Fig1_Overview_proposed_development).

During preparation of the Environmental Impact Statement (EIS), the disturbance footprint will be refined as the concept design is developed further. Should the project receive development consent, the design and associated disturbance footprint will undergo final refinements during detailed design prior to construction based on consent conditions and procurement decisions. The disturbance footprint shown on Figure 1 (see Attachment Att_Fig1_Overview_proposed_development) has been developed by adopting a 100 - 150 metre buffer area around the concept design to provide confidence that all land potentially impacted by the Project is assessed early and allow for refinement and avoidance of impacts during the EIS development.

The key components of the project are:

- Up to 53 wind turbine generators, with a blade-tip height of up to 270m and generation capacity of approximately 300 MW
- Approximately 150 MW/1,200 MWh (1-8 hour duration) battery energy storage system (type subject to detailed design due to the constant evolution in battery storage technology and commercial modelling). The large-scale battery energy storage systems allow for the storage and discharge of energy and support stabilising the supply of electricity to the National Electricity Market (NEM). The proposed battery technology and location will be refined during the EIS. A range of technologies are under consideration, including lithium-ion, flow (vanadium, iron chloride, or zinc) and compressed air. The battery energy storage system would be located in a compound and comprised of gravel hardstand or concrete slab, buildings, shipping containers and other infrastructure to contain the chosen technology and to connect the battery storage, wind turbine generators, and substations via underground and/or overhead cables. The battery energy storage system may be constructed as a stand-alone facility or as a combined facility co-located with other compounds.
- Permanent ancillary infrastructure including:
    - Wind turbine generator hardstands
        - Hardstands are required adjacent to each Wind Turbine Generator location for the assembly, erection, maintenance, repowering and/or decommissioning activities. Hardstands will be surfaced with pavement material and maintained throughout the construction and operational life of the Project.
    - Operation and maintenance compounds (O&M)
        - One or more permanent O&M compounds will be established for the day-to-day operation of the Project. Each O&M compound may include lay down areas, site operations facilities and services buildings, workshop, storage, parking and other facilities for operations staff.
    - Substation and switch station
        - Substations include the infrastructure required to collect the internal electrical reticulation to increase the voltage for transmission to connect to the grid, and the infrastructure to physically connect to the grid (switching station).The typical substation arrangement will include step-up transformers, an array of cable marshalling, busbars, switchgear and protection, various voltage and current transformers, operation and facilities building with parking, communication facilities and tower, diesel generator, lighting, a buried earth grid, lightning masts, power conditioning equipment, a reactive power control system, and network support equipment as agreed with Transgrid.
    - Internal roads and drainage
        - Internal roads will be established within the Project area for the construction, operation, repowering and/or decommissioning of the Project, from the public road access locations, Wind Turbine Generators, the battery energy storage system, substations, and other permanent and temporary facilities. Internal roads are planned to follow existing farm tracks where practicable. Internal roads will be surfaced with pavement material and maintained throughout the construction and operational life of the Project.
    - Transmission lines (underground and overhead cabling)
        - A series of underground and overground transmission lines are proposed to conduct electricity generated by the Wind Turbine Generators and would connect to either the

existing Transgrid 132 kV Deniliquin – Coleambally transmission line or proposed Victoria to NSW Interconnector (VNI) West transmission lines

- Wind monitoring masts
  - Meteorological masts, up to hub height of the Wind Turbine Generators, will be installed on-site (final quantity subject to AEMO requirements relative to final to-be-constructed wind farm layout). The purpose of these masts is to aid in performance monitoring of the Wind Turbine Generators. The permanent meteorological masts would be of a guyed, narrow lattice or tubular steel design
- Telecommunication facilities
  - Telecommunications facilities providing for transmission of voice, data, image, graphic and video information are proposed to be installed on site at standalone locations or onto wind farm infrastructure such as permanent masts.
- Utility services
  - The Project would be connected to Transgrid's transmission network and when not generating will draw a small amount of electricity from the grid. Backup and emergency power at the substations may be supplied by a local 11 kV distribution line, on-site batteries and/or a standalone diesel generator. Two separate and independent telephone communications facilities (optic fibre and microwave) will be required to be installed between the substations to enable safe remote monitoring and control of the Project. Operational water requirements will be provided to the proposed facilities and auxiliary services building from a storage tank designed to collect water from roof drainage and augmented by potable water delivered by tankers. An approved septic system or composting system will be installed to treat minor quantities of wastewater, subject to securing the relevant authorisation. Other waste will be classified and removed from the Project area to an approved facility (landfill, recycling etc)
- External road upgrades (subject to blade sizing and transport routes based on EIS traffic assessment)
  - Subject to blade sizing and transport routes based on oversize over mass vehicles, external road upgrades may be required. This would be verified during the EIS

- Temporary facilities and activities for use during the construction phase or for discrete maintenance activities including:
  - Site compounds, laydown and storage areas
  - Stockpiling and rock crushing facilities
  - Concrete batch plants
  - Temporary roads
  - Temporary monitoring masts

The indicative Project area, developmental components and proposed development footprint are shown in Figure 1 (see Attachment Att_Fig1_Overview_proposed_development).

Operation activities include:

- The Project will operate 24 hours per day, seven days per week with the operations and maintenance team attending site during standard working hours, unless responding to an alarm, fault, or undertaking major maintenance works. Ongoing monitoring and maintenance would be required, including maintenance of the Wind Turbine Generators, associated infrastructure, vegetation, and internal access tracks

Decommissioning of the Project would involve:

- Dismantling the Wind Turbine Generators and transporting them offsite for disposal or reuse, with preference given to reusing or recycling Wind Turbine Generator components where possible. Land impacted by the Project would be returned to prior use at the time of decommissioning in

consultation with the affected landholders. If not required for ongoing farming/fire access purposes, internal roads and hardstands would be removed.

Further details regarding the components of the development can be found in the proposals Scoping Report included as Appendix A (see Attachment Att_Appx_A_SQE_ScopingReport).

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 meets the definition of State Significant Development (SSD) with development consent being sought under Part 4, Division 4.7 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). This triggers entry into the NSW Biodiversity Offset Scheme (BOS) and the preparation of a Biodiversity Development Assessment Report (BDAR), as per the Biodiversity Assessment Method (BAM), developed under the NSW *Biodiversity Conservation Act 2016* (BC Act). As per the NSW Assessment Bilateral Agreement with the Commonwealth minister for the Environment, all Matters of National Environmental Significance (MNES) identified as potentially impacted by the project are being assessed through the BAM. There are however instances for EPBC Act listed species which are not listed under the BC Act, where the BAM can not be comprehensively applied to describe, assess and offset impacts. This is the case for:

- Several threatened fish species which have been listed under the EPBC Act and *NSW Fisheries Management Act 1994*. The BAM does not describe survey requirements for these aquatic species, or methods to assess and calculate impacts and offsetting requirements.
- Migratory bird species only listed under the EPBC Act. As these are terrestrial species the BAM method can be applied to surveying for and assessing impacts to these species, however does not provide a consistent methodology to calculate offsets in the form of biodiversity credits.

As a BDAR for this Project is in its early stages and this referral has been informed by preliminary site investigations limited to a week of general site survey, all MNES that have a moderate or higher likelihood of occurrence in the Project area have been assessed against the significant impact criteria in Appendix B, Appendix C and Appendix D (see Attachment Att_Appx_B_SIC_TS; Att_Appx_C_SIC_Migratory; and Att_Appx_D_SIC_TEC).

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. *

Squadron Energy has undertaken community engagement as part of the approval process. The following stakeholders have been engaged to date:

- Host landowner and surrounding neighbours
- First Nations stakeholders
- Council, State and Federal Government MPs

An example of community engagement which has been carried out includes a two-part newsletter containing project details, an invitation to the community open day and links to website (Appendix E and Appendix F)(see Attachment Att_Appx_E_SQE_Com.News_March2024 and Att_Appx_F_SQE_Com.News_July2024).

A community open day was held in Conargo on 21 March 2024. The open day was attended by eleven (11) individuals in seven (7) groups. This comprises approximately 10% of the population of Conargo. Feedback gathered during the open day was used to inform the Scoping report lodged in May 2024. Squadron Energy informed stakeholders of the lodgement of the Scoping Report through the Project website, community newsletter, email, phone and in-person. Squadron Energy will continue to engage and consult with the community and stakeholders during the preparation of this EPBC referral and the EIS. This ongoing consultation will be guided by the Project's Stakeholder Engagement Plan available on the Project website (www.conargowindfarm.com.au) including the relevant legislation and guidelines it has been prepared in accordance with (listed in Section 1.7 of the Stakeholder Engagement Plan). The feedback and participation from engagement and consultation activities will be used to further inform investigations being carried out for the environmental and social impact assessment of the Project.

Key elements of this engagement and consultation include community contact and information channels throughout the planning approval process. An indicative engagement and consultation schedule is included in Section 3.5 of the Project's Stakeholder Engagement Plan.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

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.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

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Alternatively, email us at privacy@awe.gov.au.

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1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	76104485289
Organisation name	ARCADIS AUSTRALIA PACIFIC PTY LTD
Organisation address	Level 16, 580 George Street, Sydney NSW 2000

Referring party details

Name	Nathan Banks
Job title	Senior Ecologist
Phone	0447678816
Email	nathan.banks@arcadis.com
Address	Level 16, 580 George Street, Sydney NSW 2000

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? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	84653587172

Organisation name	SQUADRON RENEWABLE ENERGY DEVELOPMENTS PTY LTD
Organisation address	171-173 Mounts Bay Road, Perth WA 6000

Person proposing to take the action details

Name	Alastair Smith
Job title	Acting Executive General Manager, Development
Phone	0432053864
Email	alastair.smith@squadronenergy.com
Address	171-173 Mounts Bay Road, Perth WA 6000

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. *

The Person proposing the action (Squadron Renewable Energy Developments) has not been subject to any proceedings in any Local, State or Federal Court under Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

Squadron Renewable Energy Developments falls within the broader Squadron Energy group and responsibly follows the health, safety, environment and security policies and framework of Squadron Energy.

Squadron Energy has a Compliance Management Policy to manage compliance in a proactive, efficient and effective manner. This policy assists in the management of risk, enhances existing business practices and is integral to performance and achieving our strategy. This policy has been included as Appendix G (see Attachment Att_Appx_G_SQE_Comp.Mgmt.Policy2024).

Squadron Energy has proven experience and expertise across the lifecycle of energy projects, working with local communities to lead the transition to Australia's clean energy future. Squadron Energy is a signatory to the Clean Energy Council's Community Engagement Best Practice Charter for Renewable Energy Developments. This involves a voluntary set of commitments that the Proponent will uphold when

developing and operating clean energy projects to engage respectfully with the communities in which they plan and operate projects, to be sensitive to environmental and cultural values and to make a positive contribution to the regions in which they operate.

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

Squadron Energy attaches its Environmental Policy as Appendix H (see Attachment Att_Appx_H_SQE_Enviro.Policy2023).

Squadron Energy has a certified Environmental Management System that applies to its activities, including a:

- Planning process that is underpinned by rigorous site selection and engagement processes, identification of legal obligations relevant to jurisdiction and development type and assessment of impacts and controls commensurate with the risk and regulatory guidance.
- Delivery and operational procedures that assures environmental compliance during construction and operational stages in accordance with statutory requirements and internal systems inclusive of a compliance policy and process which enables conditions and commitments to be tracked, reviewed regularly, and audited against at least annually.

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	84653587172
Organisation name	SQUADRON RENEWABLE ENERGY DEVELOPMENTS PTY LTD
Organisation address	171-173 Mounts Bay Road, Perth WA 6000

Proposed designated proponent details

Name	Alastair Smith
Job title	Acting Executive General Manager, Development

Phone	0432053864
Email	alastair.smith@squadronenergy.com
Address	171-173 Mounts Bay Road, Perth WA 6000

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	76104485289
Organisation name	ARCADIS AUSTRALIA PACIFIC PTY LTD
Organisation address	Level 16, 580 George Street, Sydney NSW 2000
Representative's name	Nathan Banks
Representative's job title	Senior Ecologist
Phone	0447678816
Email	nathan.banks@arcadis.com
Address	Level 16, 580 George Street, Sydney NSW 2000

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.

ABN/ACN	84653587172
Organisation name	SQUADRON RENEWABLE ENERGY DEVELOPMENTS PTY LTD
Organisation address	171-173 Mounts Bay Road, Perth WA 6000
Representative's name	Alastair Smith
Representative's job title	Acting Executive General Manager, Development
Phone	0432053864

Email	alastair.smith@squadronenergy.com
Address	171-173 Mounts Bay Road, Perth WA 6000

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 *

PO 4500003446

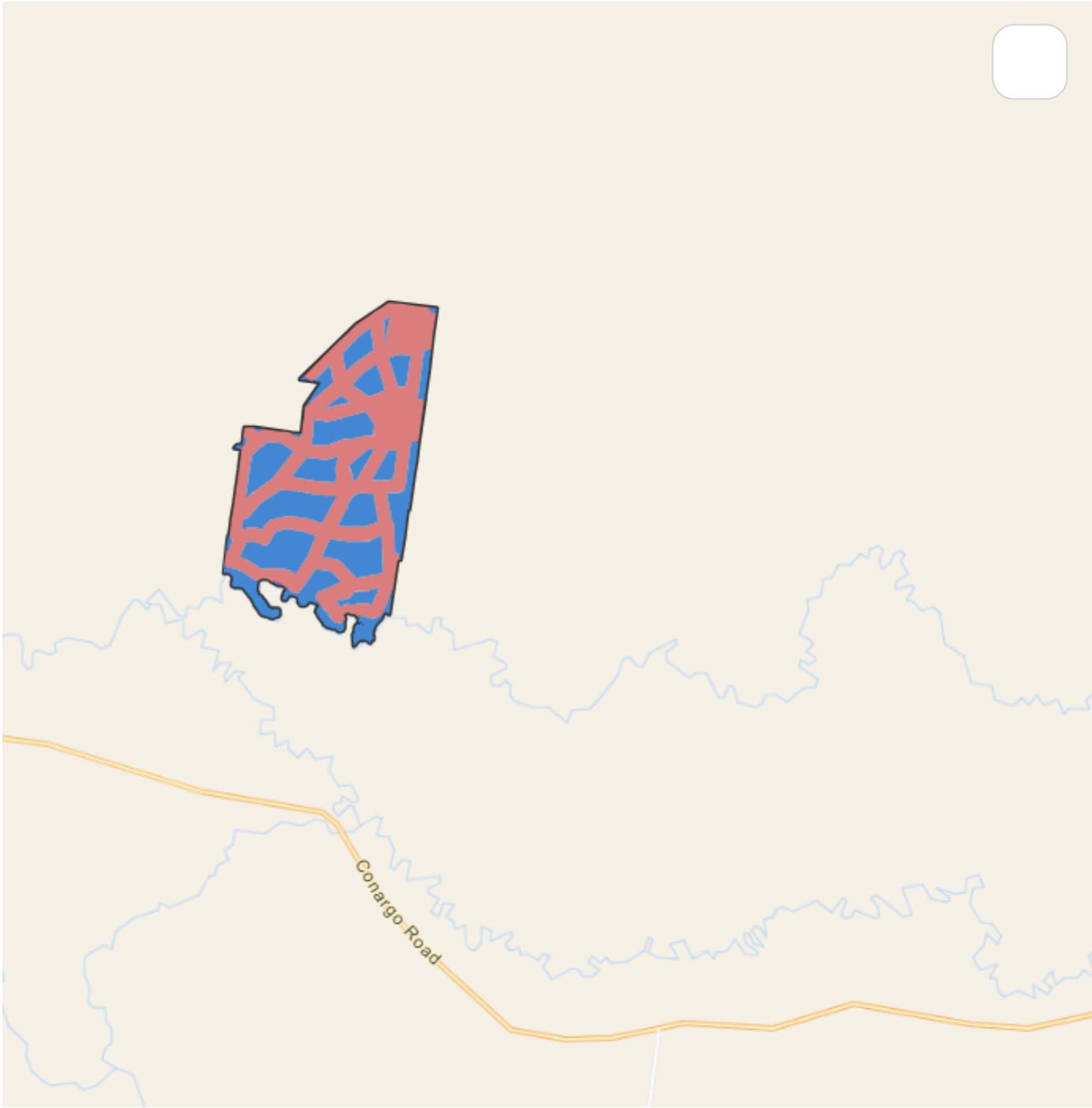
1.4 Payment details: Payment allocation

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



Project area: 2295.3 Ha
Disturbance footprint: 1363.88 Ha
Avoidance area: 931.42 Ha

Maptaskr © 2024 -35.172930, 145.641217

Powered By Esri - Sources: Esri, TomTom, Garmin, F…

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

526 Yanco Road, Conargo NSW 2710 (Lot/DPs: 80/756318, 81/756318, 4/756318, 2/216550, 8

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 Project area is located on majority freehold land consisting of nineteen (19) lots, and non-freehold land including Crown land, Crown and / or Council roads. Road upgrades external to the primary Project area will be primarily located on State, Council or Crown roads with location and tenure to be determined in accordance with blade sizing and transport routes based on EIS traffic assessment.

3. Existing environment

3.1 Physical description

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

The Project area is located on the Hay Plains in the Riverina IBRA bioregion and has a total area of 2295 hectares. The local landscape is predominantly flat supporting a mosaic of woodlands interspersed with grasslands in areas where the soil textures are heavier and less well-drained, as well as ephemeral or seasonal wetlands on depressions and drainage lines. The Project area is mapped as comprising Chromosols, Sodosols and Vertosols. These soils include heavy-textured grey, brown and red clays. These clay soils are characterised by their shrink-swell properties that exhibit strong cracking when dry and at depth have slickensides and/or lenticular peds.

The Project area is currently used for agricultural purposes including livestock grazing pastures and some areas closer to Yanco Creek which are irrigated and used for cropping. The total area of native vegetation across the Project area is approximately 2,028 hectares, with an additional 249 hectares of irrigated cropping land which is classified as 'category-1 (exempt) land' under the *NSW Local Land Services Act 2013*. The category-1 land has low biodiversity value due the lack of native vegetation and modified nature of soils.

Native vegetation within the Project area is comprised of natural grassland and remanent woody native vegetation along the Yanco River. Vegetation can be further characterised into six Plant Community Types (PCTs), two of which are equivalent to threatened ecological communities listed under the EPBC Act. Generally, the condition of native vegetation across the Project area is good, however some smaller areas in the southern extent, near to the irrigated cropping land, has a higher occurrence and cover of exotic species.

Habitat to terrestrial fauna is present in natural grasslands, semi-arid woodlands and forested wetlands across the Project area. The forested wetland habitat in the south of the Project area contains dense stands of mature eucalypts with hollows ranging from 5 cm to 50 cm. These areas also contain course woody debris (CWD) in the form of logs, branches and leaf litter.

Aquatic habitat in the Project area is present in Yanco Creek at the southern extent, various man-made water channels and (approximately) nine farm dams dispersed across grasslands north of Yanco Road. Farm dams and drainage channels are situated on clay coils surrounded by natural grassland vegetation. Yanco Creek is mapped as Key Fish Habitat (KFH) under the NSW *Fisheries Management Act 1994* and is considered to offer potential habitat to a suite of fish listed as threatened under the EPBC Act. Two mainly dry lakes have been mapped as occurring in the Project area in the Conargo 7927 – S 1:50,000 Topographic Map (2017 Edition). During field survey these mainly dry lakes were not readily distinguishable from surrounding areas, except for some minor changes in plant species composition. These areas likely hold water during/following large periods of rainfall, for short periods of time. Aquatic habitat features in the Project area have been depicted in Figure 1 (see Attachment Att_Fig1_Overview_proposed_development).

The project is located in Conargo, NSW, approximately 13 kilometres north-west of the township of Conargo. The nearest major towns are Deniliquin located approximately 40 kilometres to the south-east and Hay located 90 kilometres to the north-west.

The Project is located within the Edward River Local Government Area (LGA) and is zoned 'RU1 – Primary Production'. Minimum lot size for this zone is 40 hectares.

Land surrounding the Project area is also zoned 'RU1 – Primary Production' and is subject to similar livestock grazing practices across natural grasslands with patches of remnant semi-arid woodland and forested wetlands, especially in riparian areas along Yanco Creek. Two separate areas of conservation zoned land are located within the vicinity of the Project area, including South West Woodland Nature Reserve approximately thirteen (13) kilometres to the north of the Project area and Murray Valley National Park – Tholobin approximately fifteen (15) kilometres to the south. Figure 2 (see Attachment Att_Fig2_Local_Context).

The Project area will be accessed from Carrathool Road along the western border and Yanco Road along the southern border. The preferred transport route for the large project components, such as turbine blades, has yet to be determined. The remainder of construction vehicles will utilise the existing public road network, with road upgrades expected to accommodate over size over mass (OSOM) vehicles.

Internal roads will be established within the Project area for the construction, operation, repowering and/or decommissioning of the Project. Where possible these roads are planned to follow and upgrade existing farm tracks as can be seen in Figure 1(see Att_Fig1_Overview_proposed_development)

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

The existing use of the Project area is agricultural, with approximately 1500 hectares land that is currently being used as grazing land for sheep and 249 hectares of category-1 Land that is used for cereal cropping. Approximately 500 hectares is remnant woody vegetation following Yanco creek line in the southern boundary of the Project area. The majority of the land is natural grasslands lightly grazed by sheep, with several buildings functioning as shearing sheds and a chicken coop. The buildings are generally surrounded by native grassland adjacent to the irrigated cereal cropping areas.

The Project area is within the South-West Renewable Energy Zone. The following land uses are proposed within the disturbance footprint: energy generation through from wind turbine generators (WTGs), as well as battery storage, transmission, ancillary and temporary infrastructure. Once constructed, the land surrounding the development components will continue to be used for agricultural purposes (i,e. livestock grazing) however at a lower intensity. The broader Project area, not subject to development, will continue to be used for agricultural productivity concurrently with the Project.

Future use of the Project area after the proposed wind farm would be a return to agricultural practices such as grazing.

The Project area has been used for agricultural uses for decades. This has mainly comprised of grazing stock on natural grassland, with minimal pasture improvement activities. In the more recent history (last 30 years) a 250 hectare area south of Yanco Road was modified to facilitate irrigated cropping farming practices.

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

One mapped watercourse occurs at the southern extent of the Project area, named Yanco Creek. This waterway is mapped as Key Fish Habitat (KFH) under the NSW *Fisheries Management Act 1994* and is mapped as habitat for one threatened aquatic species - the *Bidyanus bidyanus* (Silver Perch), listed as Endangered under the EPBC Act. The creek is also considered to offer potential habitat to other threatened fish species listed under the EPBC Act including *Maccullochella macquariensis* (Trout Cod) and *Maccullochella peelii* (Murray Cod). Project infrastructure will avoid Yanco Creek.

The Project area is within the Riverina population stronghold for Plains-wanderer (*Pedionomus torquatus*) in New South Wales as described and mapped in the National Recovery Plan for the species. Plains-wanderer is listed as Critically Endangered under the EPBC Act. Habitat of Plains Wanderer in these areas is considered critical to the survival of this species. The Project area was found to support potential habitat for this species and therefore this species is considered to represent an important value within the Project area.

Of the potential habitat for Plains Wandered within the Project area, 6.89 hectares or 0.3 per cent is mapped as 'important habitat' under the Biodiversity Offset Scheme for the Plains-wanderer (*Pedionomus torquatus*). '*Important habitat maps identify areas that are considered essential to support critical life stages of the species, e.g. breeding areas or locations important for foraging/over-wintering for migratory species. The plains-wanderer important habitat map is based on 2001 plains-wanderer primary habitat mapping completed for NPWS. Primary habitat of the plains-wanderer typically comprises 50% bare ground, 10% fallen litter, and 40% herbs, forbs and grasses.'* (DPIE 2024). Important habitat is mapped extensively in adjoining properties, with some patches minorly extending into the Project area. Important Habitat mapping for Plains Wanderer in the Project area and adjoining properties has been depicted in Figure 3 (see Attachment Att_Fig3_Plains_Wanderer_Important_Habitat).

The Project area does not contain any areas of geological significance, including karst, caves, crevices, cliffs, rocks, and other geological features of significance.

The Project area does not support any significant wetlands, including Nationally Important Wetlands or RAMSAR wetlands listed in the Directory of Important Wetlands in Australia (DIWA). The closest listed wetland is Millewa Forest, approximately 40 kilometres south-west of the project.

The vegetation and biodiversity values of the Project area are similar to those present in the broader locality. The Project area and broader locality primarily support natural grassland and scattered patches of native semi-arid woodland which are often used for grazing practices. Some areas within the Project area are intensively farmed in the form of irrigated cropping and have a low biodiversity value.

'Important habitat' for the Critically Endangered Plains-wanderer (*Pedionomus torquatus*) is mapped in the Project area and the locality. Several small areas in the Project area, along the western and northern boundary, are mapped as important habitat. More extensive areas of 'important habitat' area mapped on the adjoining property to the east and in the broader locality as shown in Figure 3 (see Attachment Att_Fig3_Plains_Wanderer_Important_Habitat).

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 predominantly a flat grassy plain. The southern extent of the Project area borders Yanco Creek, with a slight grading down the creek bank towards the watercourse restricted to the creekside. The remainder of the Project area is completely flat.

The expansive plain landscape across the locality is flat to undulating with elevations ranging from 100 to 180 metres above sea level (asl). Elevation within the Project area is approximately 100 metres asl with the minimum elevation occurring at Yanco Creek dropping approximately 2 meters.

The Project area borders Yanco Creek, which flows from the Murrumbidgee River to the Edward River. Yanco Creek is the most significant water body in the Project area.

The majority of the Project area consists of grassland vegetation interspersed with man-made farm dams and water channels. Some natural drainage depressions/ephemeral channels are evident running from the north-west to the southeast corner of the Proposal area. These depressions/ephemeral channels partly align with the mapping of mainly dry lakes. These depression/channels are likely to experience overland

flow during extended periods of high rainfall. These were not observed to be holding water during surveys. Areas of shallow water are scarce within the Project area and restricted to the man-made drainage lines and dams during survey.

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.

Desktop investigation of biodiversity values within the Project area was undertaken to inform the project Scoping Report. This investigation involved undertaking database searches (BioNet, PMST), reviewing existing vegetation mapping for the Project area and determining a preliminary likelihood for threatened species to occur based on the biodiversity values mapped and historical observations for species. Investigations found that the Project area was predominately mapped as supporting native vegetation and was likely to support habitat for a suit of threatened species known from the locality (Appendix I (see Attachment Att_Appx_I_PMST_Report)).

To further inform this referral, surveys in the Project area were conducted by Arcadis ecologists over 5 days, between the 5 – 9 August 2024. The survey included traversing the Project area in a vehicle and on foot identifying and mapping the vegetation and habitat present. The surveys were preliminary across the entire Project area, focusing on ground-truthing biodiversity values identified during desktop investigation, particularly those associated with Matters of National Environmental Significance (MNES).

Tasks completed during the week included undertaking thirteen 20m x 20m vegetation plots, two nights of spotlighting, and rapid assessment points to support vegetation ground-truthing and mapping. The tasks undertaken during field survey have been displayed in Figure 4 (see Attachment Att_Fig4_Survey_effort).

Flora

A total of nine flora species listed as threatened under the EPBC Act were returned in database searches (BioNet; PMST) within 10 kilometres of the Project area, all of which were determined to have a moderate or higher likelihood of occurrence in the Project area based on observation records and suitable habitat being observed during field survey. The results of investigation into *likelihood of occurrence* has been included in Appendix J (see Attachment Att_Appx_J_Flora_LoO).

No threatened flora species have been identified within the Project area to date; however targeted surveys have not yet been conducted.

Fauna

A total of 29 fauna species listed as threatened under the EPBC Act were returned in database searches (BioNet; PMST) within 10 kilometres of the Project area. Of which, 23 species were determined to have a moderate or higher likelihood of occurrence in the Project area based on previous observation records and suitable habitat being observed during field survey. The results of investigation into *likelihood of occurrence* has been included in Appendix K (see Attachment Att_Appx_K_Fauna_LoO).

There is one historical record on BioNet (28/03/1997) for the threatened fauna speciesPlains-wanderer (*Pedionomus torquatus*), which is listed as Critically Endangered under the EPBC Act, in the Project area. This record has been denatured to exclude the exact location (“Location description withheld”) and therefore may have occurred nearby to Project area, rather than within. No threatened fauna species were recorded during the recent surveys, however a comprehensive targeted survey program to meet relevant survey guidelines has not yet been completed. Two nights of spotlighting were conducted targeting Plains-

wanderer (*Pedionomus torquatus*) in mapped areas of 'important habitat'. No individuals of the Plains-wanderer were observed during spotlighting; however, the survey effort was not sufficient to rule out the species from being present.

Migratory species

A total of nine species listed as Migratory under the EPBC Act were returned in database searches (BioNet; PMST) within 10 kilometres of the Project area. Of which, four species were identified to have a moderate or higher likelihood of occurrence in the Project area based on previous observation records and suitable habitat being observed during field survey. These include *Tringia nebularia* (Common Greenshank), *Calidris ferruginea* (Curlew Sandpiper), *Gallinago hardwickii* (Latham's Snipe) and *Calidris acuminata* (Sharp-tailed Sandpiper).

The results of investigation into likelihood of occurrence has been included in Appendix L (see Attachment Att_Appx_L_Migratory_LoO).

No migratory species have been identified within the Project area to date; however targeted surveys have not yet been conducted.

Threatened ecological communities

A total of five ecological communities listed as threatened under the EPBC Act were predicted to occur within 10 kilometres of the Project area.

Two EPBC Act listed communities were found to be present within the Project area during field surveys:

- Weeping Myall Woodlands – Endangered
- Natural Grasslands of the Murray Valley Plains – Critically Endangered

Weeping Myall Woodlands was found to be associated with PCT 26 and occurs in approximately 6.02 hectares of the Project area. Natural Grasslands of the Murray Valley Plains was found to be associated with PCT 46 and occurs in approximately 1849.40 hectares of the Project area. Vegetation plots completed evidenced that the diagnostic characteristics and condition of vegetation was consistent with the EPBC Act TECs.

The TEC Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia and the CEEC White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland were likely to occur, however were not observed in the Project area due to the lack of the characteristic Box Gum species that define these communities (i.e. *Eucalyptus microcarpa* (Grey Box), *Eucalyptus albens* (White Box), *Eucalyptus melliodora* (Yellow Box) and *Eucalyptus blakelyi* (Blakely's Red Gum). Additionally, the TEC Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions was found to not occur in the Project area due to the absence of *Allocasuarina luehmannii* (Buloke).

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

The Project area is predominately covered by native vegetation with a subset of the area hosting cereal cropping. The native vegetation assemblages include natural grasslands, semi-arid woodlands and forested wetlands and are characterised as the following Plant Community Types (PCTs):

- PCT 10 - River Red Gum - Black Box woodland wetland
- PCT 13 - Black Box - Lignum woodland wetland of the inner floodplains
- PCT 26 - Weeping Myall open woodland
- PCT 44 - Forb-rich Speargrass - Windmill Grass - White Top grassland of the Riverina Bioregion
- PCT 46 - Curly Windmill Grass - speargrass - wallaby grass grassland on alluvial clay and loam
- PCT 160 - Nitre Goosefoot shrubland wetland on clays of the inland floodplains

The majority of the Project area supports natural grassland, consistent with PCT 46 with some small patches of PCT 44 being present along the northern boundary and within the centre. A corridor of native riparian vegetation runs parallel with Yanco Creek at the southern boundary of the Project area. This vegetation comprises mature *Eucalyptus camaldulensis* (River Red Rum) and *E. largiflorens* (Black Box) and is characteristic of PCT 10 and PCT 13. Patches of PCT 26 occur in the southern portion and at the northern extent of the Project area. Small patches of PCT 160 occur throughout the Project area in minor landscape depressions.

The distribution of PCTs across the Project area has been included in Figure 5 (see Attachment Att_Fig5_Vegetation_mapping), and a breakdown of PCTs and their total areas has been included in Appendix M (see Attachments Att_Appx_M_PCT_Association).

Native vegetation across the Project area was generally found to be in a good condition with a high diversity and composition of native species.

A section of the Project area south of Yanco Road has been subject to modification and no longer resembles a native vegetation community. This area has been modified to support irrigation farming practices and grow cereal crops. Patches of native vegetation adjoining the modified areas were observed to have greater intrusion from cereal crops and exotic species and subsequently was observed to have a lower condition.

Exotic species observed across the Project area include common pasture improvement species like *Avena fatua* (Wild Oats), *Bromus hordeaceus* (Soft Brome), *Trifolium repens* (Clover) and *Hordeum* sp. (Barley). Other woody and herbaceous weeds scattered across the Project area and in some instance forming small infestation include *Marrubium vulgare* (White Horehound), *Echium plantagineum* (Patterson's Curse) and *Lycium ferocissimum* (African Boxthorn) which is listed as a priority weed in the *Riverina Regional Strategic Weed Management Plan 2023-2027.*

Please see Appendix N (see Attachment Att_Appx_N_Flora_Observed) for flora and Appendix O (see Attachment Att_Appx_O_Fauna_Observed) for fauna species recorded in the Project area.

The majority (approximately 70%) of the Project area supports natural grassland, consistent with *PCT 46 - Curly Windmill Grass – spear grass – wallaby grass grassland on the alluvial clay and loam on the Hay Plain, Riverina Bioregion* and *PCT 44 - Forb-rich Speargrass – Windmill grass – White Top grassland of the Riverina Bioregion*. These communities are dominated by native tussock grasses *Rytidosperma* spp. (Wallaby Grass), *Enteropogon ramosus* (Curly Windmill Grass) and *Walwhalleya proluta* (Rigid Panic Grass). Inter-tussock spaces comprise a variety of native forbs, pasture grasses and bare ground to varying degrees across the Project area.

Field investigations focused on sampling Plant Community Types (PCT) which have an association with a threatened ecological community listed under the EPBC Act. Subsequently, vegetation plots were completed in the following PCTs: 26, 44, 46 and 160.

PCT 26 is characterised by patches of *Acacia pendula* (Weeping Myall) with an understorey predominately comprising Chenopod shrubs including *Atriplex semibaccata* (Creeping Saltbush), *Einadia nutans* (Climbing saltbush), *Einadia hastata* (Berry saltbush), *Enchylaena tomentosa* (Ruby saltbush) and *Rhagodia spinescens* (Thorny saltbush)) (see Plate 1 in Appendix P (see Attachment Att_Appx_P_Site_Photos). Patches of PCT 26 are generally in good condition with a high composition of natives and a low composition of exotic species. Greater areas of bare ground were generally observed in patches of this community. Some scattered occurrences of the woody weed African Boxthorn was observed.

PCT 44 and 46 was observed to be in a good condition across most of the Project area. Both PCTs support a similar species composition, with the most common species identified being: *Austrodanthonia* spp. (Wallaby Grass)*, Enteropogon ramosus* (Curly Windmill Grass), Creeping Saltbush, *Austrostipa scabra* (Speargrass), *Walwhalleya proluta* (Rigid Panic Grass),*Sclerolaena muricata* (Black Rolypoly), *Maireana aphylla* (Cotton Bush) (see Plate 2 and Plate 3 of Appendix P (see Attachment

Att_Appx_P_Site_Photos)). Across most areas of natural grassland some degree of colonisation of inter-tussock space by annual exotic pasture grasses was recorded in sampling plots. Some patches of these natural grassland communities, positioned in minor landscape depressions, had a lower cover of the characteristics tussock grasses mentioned above and an increased cover of damp species like *Juncus spp.* (rushes) and *Marsilea drummondii* (Common Nardoo) (see Plate 9 in Appendix P (see Attachment Att_Appx_P_Site_Photos)). Two locations supporting PCT 46 at the southern extent of the property were found to have a lower condition due to the increased occurrence of annual grasses and cereals and aggressive weed species like *Arctotheca calendula* (Capeweed), Patterson's Curse and White Horehound (see Plate 4 in Appendix P (See Attachment Att_Appx_P_Site_Photos)). These patches can be identified in Figure 5 (see Attachment Att_Fig5_Vegetation_mapping), as patches of PCT 46 which are not the EPBC community: Natural Grasslands of the Murray Valley Plains.

PCT 160 is present in the Project area and has a good condition, primarily comprising the native species *Chenopodium nitrariaceum* (Nitre Goosefoot), *Sclerolaena stelligera* (Star Copperburr), *Eragrostis australasica* (Cane Grass) and *Duma florulenta* (Lignum). Similarly to natural grassland, bare areas were observed to support exotic pasture grasses and herbaceous weeds to varying extents. These areas are distinguished from natural grasslands by the occurrence and dominance of the shrub Nitre Goosefoot, grey clays, and the low cover of native tussock grasses) (Plate 5 in Appendix P (see Attachment Att_Appx_P_Site_Photos)).

Sampling of PCTs 10 and 13 using vegetation plots was not completed, however during general investigation these communities were found to have a similar condition across the Project area. These communities had an established canopy of mature River Red Gum and Black Box Trees with a mid-storey layer including *Acacia stenophylla* (River cooba) (Plate 6 and Plate 8 in Appendix P (see Attachment Att_Appx_P_Site_Photos)). The understorey comprised both native and exotic species, in most instance with native species accounting for the greatest covers. Exotic species present included pasture grasses, cereal crops and the occasional weeds *Marrubium vulgare* (White Horehound) and *Echium plantagineum* (Patterson's Curse).

The soils in the Project area are comprised of Red and Brown Sub-plastic Chromosols and Sodosols (Red-brown Earths/transitional Red-brown Earths), with Reddish Brown Chromosol/Vertosols (transitional Red-brown Earths/Brown Podzolic Soils) and Grey and Brown Self-mulching and Epipedal Vertosols (Cracking Grey and Brown Clays). These soils are closely related to the prior stream network, palaeochannels and drainage. However, the lower rainfall means that woodland and forest have given way to grasslands and open plains. Consequently, topsoils have less organic matter and depth. Wind erosion potential increases and cracking clay soils increase in percentage. Less leaching of the soil profile occurs, and lime is more common and occurs shallower in the subsoil, often locally associated with gypsum (NSW eSpade, 2023).

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.

Not applicable. The project does not impact on Commonwealth heritage places overseas places of Indigenous, historic and natural heritage places owned or controlled by the Australian Government.

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

Desktop assessments of available resources were undertaken during scoping to ascertain Aboriginal, historic and natural heritage values which may be relevant to the Project area. The following databases were searched:

- Aboriginal Heritage Information Management System (AHIMS), managed by NSW DCCEEW
- NSW State Heritage Inventory, managed by NSW DCCEEW
- Conargo LEP 2013 heritage listings, managed by Edward River Council
- Protected Matters Search Tool, managed by the Commonwealth DCCEEW,

A search of AHIMS undertaken on 12 March 2024, found no identified sites present on the Project area. A broader map search of the AHIMS database found 20 recorded Aboriginal sites within 5km of the Project. The presence of Aboriginal sites in the surrounding area indicates occupation and cultural use in a regional context and that previous Aboriginal cultural heritage assessments may have been undertaken in the area. Of particular landscape significance are the Yanco and Billabong Creeks, where eight Aboriginal sites were found.

Given the identification of Aboriginal sites in the area surrounding the Project area, a detailed Aboriginal Cultural Heritage Assessment in accordance with the *National Parks and Wildlife Act 1974* will be undertaken during the EIS phase. This will incorporate a review of findings from presumed previous Aboriginal cultural heritage investigations in the surrounding areas as well as consultation and engagement with the Deniliquin and Cummeragunja Local Aboriginal Land Council.

A report from the Commonwealth DCCEEW Protected Matters Search Tool (created 6 March 2024) does not list any World Heritage, National Heritage Places or Commonwealth Heritage Places present within the Project area or surrounding areas. Further, the NSW State Heritage Inventory identifies no heritage items or places in the Project area or surrounding areas likely to be impacted by the Project.

Schedule 5 of the Conargo LEP 2013 designates four sites in the township of Conargo as having local heritage significance. None of these items are within the Project area.

The location of Aboriginal and local heritage sites in the locality of the Project area is depicted in Figure 6 (see Attachment Att_Fig6_Cultural_Heritage)

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 only mapped watercourse in the Project area is Yanco Creek that runs along the southern boundary. This waterway is mapped as Key Fish Habitat (KFH) under the *Fisheries Management Act 2015*. According to the Strahler method for stream classification, Yanco Creek is classified as a fourth-order stream.

Two additional locations within the Project area are mapped as mainly dry lakes on the Conargo 7927 – S 1:50,000 Topographic Map (2017 Edition). These mainly dry lakes extend beyond the Project area into adjoining properties and are disconnected from permanent/semi-permanent watercourses (i.e. Yanco Creek). These mainly dry lakes are likely to experience inundation during/following periods of extended rainfall. During field investigation these areas were not observed to be holding water or supporting vegetation that indicates regular inundation (i.e. aquatic or emergent vegetation). There was some evidence of a higher soil moisture profile in these moist depressions locations with the occurrence of plants like Juncus and *Marsilea drummondii* (Common Nardoo).

The location of Yanco Creek and mapped waterbodies (mainly dry lakes) within the Project area have been depicted in Figure 1(see Attachment Att_Fig1_Overview_proposed_development).

The Project area contains approximately nine man-made farm dams and a network of water channels, that are typical of those used for livestock grazing. These dams and channels lack instream structures or emergent vegetation, and riparian vegetation is limited to fringing natural grasslands, often showing signs of disturbance from stock. Minor evidence of erosion is apparent surrounding dams and water channels. These aquatic habitats may provide potential habitat for common terrestrial and aquatic species like macropods, amphibians, bird and bat species. These aquatic habitats are unlikely to support threatened species due to the lack of aquatic and emergent vegetation, and lack of structured riparian vegetation.

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

EPBC Act section	Controlling provision	Impacted	Reviewed
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. *

No listed World Heritage items occur in or near the Project area.

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. *

No listed National Heritage values (Aboriginal, historic and other natural heritage values) were identified as occurring in the Project area during pre-liminary desktop investigations undertaken to inform to the scoping report. Therefore, at this preliminary stage, the proposal is considered unlikely to impact National Heritage values.

However, given the identification of Aboriginal sites nearby to the Project area, a detailed Aboriginal Cultural Heritage Assessment in accordance with the *National Parks and Wildlife Act 1974* will be undertaken during the EIS phase. If any places or items of significance are identified during detailed surveys these will be appropriately described and assessed in the EIS and if required updates to the referral would be made.

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. *

No listed Ramsar Wetlands occur in the Project area.

The closest listed wetland is Millewa Forest which is located approximately 40 kilometres south-west of the Project area.

Millewa Forest is downstream of the Project area. Surface water from the Project area enters Yanco Creek towards the southern boundary. Yanco Creek flows into Billabong Creek which travels in a westerly direction to Moulamein (120 kilometres from Project area) before meeting the Edward River. The Edward River then flows in a easterly direction back to Deniliquin where it then enters the Millewa Forest wetland to the south.

As the proposal will not directly impact Yanco Creek and the Project area is a long way upstream of Millewa Wetland, impacts are considered unlikely.

Key management plans will form part of the EIS submission, including a Conceptual Erosion Sediment Control Plan. Further, a Construction Environmental Management Plan (CEMP) will be prepared as part of post approval documentation which will include effective erosion and sedimentation controls to minimise the risk of impacts from construction activities on Yanco Creek and downstream sensitive areas like Millewa Forest.

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	Common name
Yes	Yes	Amphibromus fluitans	River Swamp Wallaby-grass, Floating Swamp Wallaby-grass
Yes	Yes	Aphelocephala leucopsis	Southern Whiteface
No	No	Aprasia parapulchella	Pink-tailed Worm-lizard, Pink-tailed Legless Lizard
Yes	Yes	Austrostipa wakoolica	
No	Yes	Bidyanus bidyanus	Silver Perch, Bidyan
Yes	Yes	Botaurus poiciloptilus	Australasian Bittern
Yes	Yes	Brachyscome muelleroides	Mueller Daisy
Yes	Yes	Brachyscome papillosa	Mossgiel Daisy

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
No	No	Climacteris picumnus victoriae	Brown Treecreeper (south-eastern)
No	No	Crinia sloanei	Sloane's Froglet
Yes	Yes	Falco hypoleucos	Grey Falcon
No	No	Galaxias rostratus	Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
Yes	Yes	Grantiella picta	Painted Honeyeater
Yes	Yes	Hemiaspis damelii	Grey Snake
Yes	Yes	Lathamus discolor	Swift Parrot
Yes	Yes	Lepidium monoplocoides	Winged Pepper-cress
Yes	Yes	Litoria raniformis	Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog
Yes	Yes	Lophochroa leadbeateri leadbeateri	Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo
No	Yes	Maccullochella macquariensis	Trout Cod
No	Yes	Maccullochella peelii	Murray Cod
No	No	Macquaria australasica	Macquarie Perch
Yes	Yes	Maireana cheelii	Chariot Wheels
Yes	Yes	Melanodryas cucullata cucullata	South-eastern Hooded Robin, Hooded Robin (south-eastern)
Yes	Yes	Neophema chrysostoma	Blue-winged Parrot
Yes	Yes	Nyctophilus corbeni	Corben's Long-eared Bat, South-eastern Long-eared Bat
Yes	Yes	Pedionomus torquatus	Plains-wanderer

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)	Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)
Yes	Yes	Polytelis swainsonii	Superb Parrot
Yes	Yes	Rostratula australis	Australian Painted Snipe
Yes	Yes	Sclerolaena napiformis	Turnip Copperburr
Yes	Yes	Stagonopleura guttata	Diamond Firetail
Yes	Yes	Swainsona murrayana	Slender Darling-pea, Slender Swainson, Murray Swainson-pea
Yes	Yes	Swainsona plagiotropis	Red Darling-pea, Red Swainson-pea

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
Yes	Yes	Natural Grasslands of the Murray Valley Plains
Yes	Yes	Weeping Myall Woodlands
No	No	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

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. *

Flora

Targeted surveys have not yet been undertaken to meet the threatened species survey guidelines requirements in the Project area to determine presence or absence of the nine threatened flora species determined to have a moderate or higher likelihood of occurrence. Subsequently, these entities have been assumed present in the Project area for the purpose of assessing impacts for this referral.

Direct impacts could occur to nine threatened flora species through the removal of potential habitat (which may support individuals). The area of impact has been calculated for all areas of associated habitat within the disturbance footprint. The current disturbance footprint is based on the current concept that will be refined during EIS assessments to reduce impacts. The area of impact to habitat for each species assumed present, in lieu of detailed surveys, is included below:

- *Amphibromus fluitans* (River Swamp Wallaby-grass)- **39.16 hectares**
- *Austrostipa wakoolica* - **6.30 hectares**
- *Brachyscome muelleroides* (Mueller Daisy) - **1169.55 hectares**
- *Brachyscome papillosa* (Mossgiel Daisy) - **1178.01 hectares**
- *Lepidium monoplocoides* (Winged Pepper-cress) - **1184.31 hectares**
- *Maireana cheelii* (Chariot Wheels) - **1175.85 hectares**
- *Sclerolaena napiformis* (Turnip Copperburr) - **1175.85 hectares**
- *Swainsona murrayana* (Slender Darling-pea) - **1175.85 hectares**
- Swainsona plagiotropis (Red Darling-pea) - **1175.85 hectares**

Significant Impact Criteria (SIC) assessments have been completed for all the above species in Appendix B (see Attachment Att_Appx_B_SIC_TS). Based on the scale of impacts to potential habitat (which may support individuals) to these threatened flora species a significant impact cannot be ruled out.

Fauna

Targeted threatened fauna surveys have not yet been undertaken to meet the threatened species survey guidelines requirements for the Project area. Subsequently, the 23 species determined to have a moderate or higher likelihood to occur have been assumed present in the Project area for the purpose of assessing impacts for this referral.

Of the 23 threatened fauna species determined to have a moderate or higher likelihood to occur in the Project area, 20 have habitat within the disturbance footprint that may be directly impacted by the project and three may be indirectly impacted. The threatened fauna species that may be directly impacted by the project and the area of habitat for which they are associated (based on the current layout but which will be refined during the EIS assessment), is listed below:

- *Rostratula australis* (Australian Painted Snipe) – **50.44 hectares**
- *Botaurus poiciloptilus* (Australasian Bittern) – **50.44 hectares**
- *Neophema chrysostoma* (Blue-winged Parrot) – **1278.92 hectares**
- *Tringa nebularia* (Common Greenshank) – **39.16 hectares**
- *Nyctophilus corbeni* (Corben’s Long-eared Bat) – **2.82 hectares**
- *Calidris ferruginea* (Curlew Sandpiper) – **39.16 hectares**
- *Stagonopleura guttata* (Diamond Firetail) – **1187.13 hectares**
- *Falco hypoleucos* (Grey Falcon) – **1226.29 hectares**
- *Hemiaspis damelii* (Grey Snake) – **39.16 hectares**
- Phascolarctos cinereus (Koala) – **50.44 hectares**
- *Gallinago hardwickii* (Latham's Snipe) – **39.16 hectares**
- *Lophochroa leadbeateri leadbeateri* (Major Mitchell's Cockatoo) – **17.58 hectares**
- *Grantiella picta* (Painted Honeyeater) – **17.58 hectares**
- *Pedionomus torquatus* (Plains-wanderer) – **1169.55 hectares**
- *Calidris acuminata* (Sharp-tailed Sandpiper) – **39.16 hectares**
- *Melanodryas cucullata cucullata* (South-eastern Hooded Robin) – **17.58 hectares**
- *Litoria raniformis* (Southern Bell Frog) – **11.28 hectares**
- *Aphelocephala leucopsis* (Southern Whiteface) – **1278.92 hectares**
- *Polytelis swainsonii* (Superb Parrot) – **1187.13 hectares**
- *Lathamus discolor* (Swift Parrot) – **17.58 hectares**

Potential indirect impacts to threatened fauna species include increased light, noise and vibration during construction and operational phases of the Project, blade strike to threatened birds and bats, vehicle collisions, and increased pest fauna predation. Indirect impacts can be appropriately managed through mitigations measures such as Construction Environmental Management Plans (CEMP) and Flora and Fauna Operational Management Plans (FFOMP) that outline mitigation measures to control for potential indirect impacts to any MNES.

Three threatened fish species (Silver Perch, Trout Cod and Murray Cod) which have habitat in Yanco Creek have potential to be indirectly impacted by the project. It is possible that during construction Yanco Creek could experience increased sedimentation from surface runoff and overland flows. Risks of indirect impacts to these fish species will be considered and addressed in management plans that will form part of the EIS submission, including a Conceptual Erosion Sediment Control Plan. Further, a Construction Environmental Management Plan (CEMP) will be prepared as part of post approval documentation which will include effective erosion and sedimentation controls to minimise the risk of impacts from construction activities on Yanco Creek.

Significant Impact Criteria (SIC) assessments have been completed for all the above species and are attached in Appendix B (see Attachment Att_Appx_B_SIC_TS). Based on the scale of impacts to potential habitat (which may support individuals) a significant impact cannot be ruled out to the following threatened fauna species: Plains Wanderer and Grey Snake.

Threatened ecological communities

The Project area comprises a total of 2028 hectares of native vegetation. Of this, approximately 1855 hectares (or 90%) is an EPBC Act listed TEC based on preliminary surveys to date.

Of the total area of TEC, approximately 1207 hectares occurs with the disturbance footprint and may be impacted by the proposal. It should be noted that the disturbance footprint is based on the current layout which will be refined during the EIS to reduce impacts to a justifiable extent. The current impacts on the EPBC listed TECs are listed below and displayed in Figure 7 (see Attachment Att_Fig7_Vegetation_to_be_impacted).

- Weeping Myall Woodlands (Endangered) – 5.94 hectares
- Natural Grasslands of the Murray Valley Plains (Critically Endangered) – 1201.23 hectares

The commonwealth listing advice (2009) for Weeping Myall Woodland estimates a national extent of between 220,000 and 361,000 hectares distributed across New South Wales and Queensland (Accad et al.2006; Benson 2006). Using the lower estimate, removal of 5.94 hectares equates to approximately 0.003 per cent of the total extent of the nationally listed community. It should be noted that the current impact estimates to this TEC are likely to be overstated and will be substantially reduced as the project design is developed, the disturbance footprint is refined, and the EIS is prepared.

The commonwealth listing advice (2012) for Natural Grasslands of the Murray Valley Plains estimated a national extent of between 153,000 and 168,000 hectares distributed across New South Wales and Victoria. Using the lower estimate, removal of 1201.23 hectares equates to approximately 0.79 per cent of the total extent of the nationally listed community It should be noted that the current impact estimates to this TEC are likely to be overstated and will be substantially reduced as the project design is developed, the disturbance footprint is refined, and the EIS is prepared.

SIC assessments have been completed for the above EPBC listed TECs, attached in Appendix D (see Attachment Att_Appx_D_SIC_TEC). The removal of approximately 0.79 per cent of the total national occurrence of Natural Grasslands of the Murray Valley Plains CEEC by the proposal is likely to result in a significant impact to the CEEC. Given the proportion of removal of Weeping Myall Woodlands EEC (0.003 per cent of the total national occurrence), a significant impact cannot be ruled out.

Impacts associated with the construction of the turbine foundations and ancillary infrastructure, BESS and external road upgrades will be full clearing within the disturbance footprint to allow for construction works to safely take place. During the operation of the facility, the ground cover not required for operations will have opportunities to re-establish. This will increase the level of potential habitat for threatened fauna species relative to the construction phase. Direct and indirect impacts will be identified in the BDAR subject to full survey design and the iterative design process

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. *

The proposed actions from the Project are likely to have a direct impact on the species identified, if they occur in the Project area. As previously mentioned no targeted flora or fauna surveys have yet been conducted in the Project area. As a precautionary approach, all species with a moderate or higher likelihood of occurring have been assumed present, and a 'worst-case' scenario of clearing has been applied based on the concept layout used for scoping.

Flora

The true extent of impacts to individuals and suitable habitat would be refined with detailed survey effort completed as part of the BDAR. Given the preliminary nature of this referral, a significant impact to threatened flora species cannot be ruled out at this stage.

Fauna

Similarly to flora, an extensive targeted survey campaign has not commenced for fauna, and associated potential habitat has been assumed precautionarily. The true extent of impacts would be refined with detailed survey effort completed as part of the BDAR, particularly impacts to potential breeding habitat (should they be present), and throughout the iterative design process that is based on a avoid-mitigate-offset disturbance hierarchy for environmental values and sustainability opportunities. Given the preliminary nature of this referral, a significant impact to EPBC listed threatened fauna species is assumed at this stage of assessment.

Impacts to habitat critical to survival of Plains Wandered including mapped areas important habitat (under the BOS) will result from the Project. The current disturbance footprint intersects the mapped important habitat areas at three locations within the Project area, as can be seen in Figure 3 (see Attachment Att_Fig3_Plains_Wanderer_Important_Habitat). The proponent Of the 6.89 hectares of Important Habitat mapped for Plains Wanderer (*Pedionomus torquatus*) within the Project area, 1.85 hectares is located within the disturbance footprint and may be impacted. Impacts to 1.85 hectares at this preliminary stage the proposal, equates to approximately 0.004% of the total mapped extent (52,440 hectares) of Important Habitat. A large extent of potential habitat, byond the important habitat, that may be considered critical to the survival of this species, could be impacted by the proposal, however there is an extensive amount of similar habitat outside the Proposal area in the locality. A significant impact to the species is possible but should be carefully considered with the refinement of potential foraging habitat during detailed surveys, due to the specific nature of their habitat constraints.

Due to the low mobility of Grey Snake and the proposed impact to 39.16 hectares of potential habitat, that is suitable to support the life cycle of the species, a significant impact cannot be ruled out. A detailed targeted survey campaign will be undertaken to investigate areas of potential habit to determine whether there is a population present. At which point the scale of impacts to this species will be better known and can be considered in design of the Project.

Threatened Ecological Communities

Two EPBC listed TECs have proposed impacts. Based on the scale of impacts to the Natural Grasslands of the Murray Valley Plains CEEC, the proposal is likely to result in a significant residual impact to the CEEC. Given the proportion of removal of Weeping Myall Woodlands EEC, a significant impact cannot be ruled out.

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 Project is likely to result in a significant impact to one or more EPBC listed TEC in its current design. Furthermore, numerous EPBC listed flora and fauna species are considered moderately or highly likely to occur within the Project area, with true extent of impacts currently uncertain given the preliminary nature of this referral. Detailed threatened species surveys and an iterative design process will be undertaken to refine the potential impact to the lowest acceptable level, suitably justified based on best practice processes and considering the triple bottom line to development.

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. *

The proponent has been investigating the potential to develop a renewable energy project in the area since 2021. The Scoping Report prepared for the proposed project identified the following key principles that will be adopted to avoid and minimise impacts to biodiversity from the Project:

- Minimise vegetation clearing (areas of higher conservation value will be strategically avoided, where reasonable)
- Preferentially use previously disturbed land subject to negotiations with the landowner (i.e. land previously modified by agricultural operations, including cleared areas, established access tracks and local roads)
- Minimise disturbance (footprints for project infrastructure will be limited to the minimum area required)

As detailed biodiversity surveys are undertaken for preparation of the BDAR for the proposed project, biodiversity values will be identified, rated and mapped. This information will be considered in refinement of the project design to demonstrate adoption of the “Avoid and Minimise” principle of the State Biodiversity Offset Scheme.

A suite of mitigation measures will be developed as part of preparing the BDAR for the proposal. These measures will be tailored to protect biodiversity values outside of the disturbance footprint as well as managing activities within the footprint to minimise unnecessary impacts.

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

Offsets for the Project are being assessed as part of the BDAR under the BAM 2020. Offset obligations will be met either by the establishment of a biodiversity stewardship site nearby, or the purchase and retirement of the appropriate number and class of like-for-like biodiversity credits, as required under the Biodiversity Offsets Scheme (BOS).

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	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Apus pacificus	Fork-tailed Swift
Yes	Yes	Calidris acuminata	Sharp-tailed Sandpiper
Yes	Yes	Calidris ferruginea	Curlew Sandpiper
No	No	Calidris melanotos	Pectoral Sandpiper
Yes	Yes	Gallinago hardwickii	Latham's Snipe, Japanese Snipe
No	No	Motacilla flava	Yellow Wagtail
No	No	Myiagra cyanoleuca	Satin Flycatcher
Yes	Yes	Tringa nebularia	Common Greenshank, Greenshank

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. *

Targeted threatened fauna surveys have not yet been undertaken to meet survey guidelines requirements in the Project area to determine presence or absence of the four migratory species determined to have a moderate or higher likelihood of occurrence. Subsequently these entities have been assumed present in the Project area for the purpose of assessing impacts for this referral.

The four migratory species which have potential to occur (Common Greenshank, Curlew Sandpiper, Latham's Snipe and Sharp-tailed Sandpiper) in the Proposal area are non-breeding visitors to Australia and inhabit a broad distribution across New South Wales. The Project area is not mapped as supporting internationally or nationally important habitat and it is unlikely that potential habitat in Yanco Creek would constitute important habitat for these migratory species.

Freshwater habitat within Yanco Creek and mapped mainly dry lakes (when inundated) within the Proposal area and in the locality is unlikely to constitute core habitat to these migratory species. Rather, this habitat is likely to be infrequently visited (if ever) by a small number of individuals. Suitable habitat with Yanco Creek is located outside of the disturbance footprint and will not be directly impacted by the proposal. Mapped mainly dry lakes which extend into the disturbance footprint will be directly impacted by the project. These areas may constitute temporary habitat for these species during periods of inundation. However, the habitat value of these mainly dry lakes is considered to be low, as inundation is likely to be short-lived and the vegetation present is unlikely to comprise aquatic and emergent vegetation which is preferred habitat for these species.

These species all preference larger permanent freshwater wetland environments and coastal estuarine systems as habitat whilst in Australia, which is not present with or near to the Project area. Rather, the Proposal area may provide intermittent foraging habitat as individuals move across the landscape. Therefore, these species are not anticipated to flock in large numbers when moving across Project area or surrounding region, rather they are likely to move as individuals or in smaller flocks.

During operation of the proposal, there is a potential (albeit low) for individuals to be killed by blade strike. With no important habitats mapped nearby to the Proposal area and their preference of habitats closer to the coast it is unlikely that large numbers would be killed by blade strike or other trauma from wind turbine (i.e. barotrauma).

Potential impacts to these migratory bird species during construction and operation of the project has been considered in Significant Impact Criteria assessments included in Appendix C (see Attachment Att_Appx_C_SIC_Migratory).

Based on habitat within the Project area not considered to be important to these species and the low likelihood of impacts these migratory bird species are not considered to be at risk of a significant impact.

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 are no internationally or nationally recognised important habitat areas for migratory bird species within the Project area or broader locality, nor are the habitat values likely to meet the definition of important habitat supporting large flocks of these migratory species during their non-breeding visits.

No impacts to potential habitat of migratory species within Yanco Creek will occur. Direct impacts to potential habitat of these migratory species is restricted to areas mapped as mainly dry lakes. These locations, at the time of survey were not observed to be holding any water or supporting vegetation species that would comprise high condition habitat of these migratory species. As such, the removal of potential habitat in mapped areas is considered of low importance to these species and is likely to constitute a low (negligible) impact to any visiting populations/individuals.

During operation there is the potential for blade strike and other trauma from wind turbine (i.e. barotrauma), however it is unlikely that large numbers of these migratory bird species are using the locality and are at risk of being killed.

For these reasons, construction and operation of the proposal is considered unlikely to have a significant impact upon any of these migratory bird species (Appendix C (see Attachment Att_Appx_C_SIC_Migratory)).

Comprehensive surveys will be undertaken in preparation of the BDAR for the proposed project which will provide more robust assessment for the likelihood of occurrence for these migratory species and identify the final extent of impacts, following any efforts to avoid and minimise adopted through preparation of the EIS.

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. *

The Project is not likely to result in a significant impact to species listed as Migratory under the EPBC Act and therefore would not trigger a controlled action for this MNES for the following reasons:

- Habitat within the proposal area is unlikely to be preferential to any of these species
- There are no nationally or internationally important habitat areas within the Proposal area or nearby and habitat within the Proposal area is unlikely to constitute important habitat. High concentrations of these important habitat areas are nearer to the coast.
- Visting populations of these species will likely comprise small flocks and individuals rather than large flocks. Therefore, blade strike is likely to impact small numbers of individuals (if any)
- These species have a broad distribution across NSW and Australia when visiting. Therefore, populations are highly dispersed and have a low likelihood of passing through the Proposal area.

Comprehensive surveys will be undertaken in preparation of the BDAR for the proposed project which will provide more robust assessment for the likelihood of occurrence for these Migratory species and identify the final extent of impacts, following any efforts to avoid and minimise adopted through preparation of the EIS.

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. *

As detailed biodiversity surveys are undertaken for preparation of the BDAR for the proposed project, biodiversity values associated with migratory species will be identified, rated and mapped. This information will be considered in refinement of the project design to demonstrate adoption of the “Avoid and Minimise” principle of the state Biodiversity Offset Scheme.

A suite of mitigation measures will be developed as part of preparing the BDAR for the proposal. These measures will be tailored to protect biodiversity values outside of the disturbance footprint as well as managing activities within the footprint to minimise unnecessary impacts.

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

Although these offsets are not specific to these migratory species, impacts to potential habitat for these species within the Project area will be offset as part of the BDAR under the BAM 2020. Offset obligations will be met either by the establishment of a biodiversity stewardship site nearby, or the purchase and retirement of the appropriate number and class of like-for-like biodiversity credits, as required under the Biodiversity Offsets Scheme (BOS).

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. *

Nuclear is not associated with this project.

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.

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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. *

No Commonwealth Marine Areas are located in or near the Project area.

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 Great Barrier Reef is not in the Project area.

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 Project is not a large coal mining development or for 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. *

No Commonwealth land occurs in the Project area.

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.

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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. *

No Commonwealth Heritage Places Overseas occur in the Project area.

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 Conargo Project forms part of the South West Renewable Energy Zone (REZ) and as part of the access process must meet stringent deadlines for energisation. There is no alternative timeline.

Alternatives to the Project area were considered as part of the site identification process, including other potential sites in NSW. One primary constraint in considering locations in NSW, including outside of the REZs, is distance from the transmission network – both existing and planned. The proposed Project area is located proximal to transmission lines and the VNI West corridor (preferred route) as per Figure 2 (see Attachment Att_Fig2_Local_Context).

Additionally, based on broad-scale wind modelling, the Project area is expected to have viable estimated wind speed of approximately 7.9 m/s (Global Wind Atlas, 2024). As such, the selected Project area is considered optimal for development of the Project.

The Project area and surrounds are highly suitable for renewable energy developments, aligning with the Project objectives in Section 2.1. The underpinning selection factors for the Project area included:

- Positioning within the South West REZ, which has been identified by the NSW Government as a priority area for the delivery of new renewable energy generation and storage, supported by transmission infrastructure
- Is suitably located in a region with ideal climatic and physical conditions for large-scale wind energy generation
- Reliable wind resource
- Generally flat topography and land area available to microsite infrastructure and avoid constraints (subject to further assessment)
- Landowner appetite for hosting project infrastructure
- Would generally be compatible with existing agricultural land uses
- Proximity to existing and proposed transmission infrastructure
- Distance from sensitive receivers.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_A_SQE_ScopingReport.pdf Scoping report for the proposal, submitted to the NSW Minister for Planning to obtain SEARs for the EIS.	08/05/2024	No	High
#2.	Document	Att_Fig1_Overview_proposed_development.jpg A figure showing the Project area, Disturbance footprint and components of the development	23/09/2024	No	High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Att_Appx_B_SIC_TS_v2.pdf Significant Impact Criteria assessments for threatened species (flora and fauna) that have potential to be impacted by the proposal.	09/11/2024	No	High
#2.	Document	Att_Appx_C_SIC_Migratory.pdf Significant Impact Criteria assessments for migratory species that have potential to be impacted by the proposal.	23/09/2024	No	High
#3.	Document	Att_Appx_D_SIC_TEC.pdf Significant Impact Criteria assessments for Threatened Ecological Communities that have potential to be impacted by the proposal.	23/09/2024	No	High

1.2.7 Public consultation regarding the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_E_SQE_Com.News_March2024.pdf Community newsletter to notify of Squadron Energy proposal to develop Conargo Wind Farm	29/02/2024	No	High
#2.	Document	Att_Appx_F_SQE_Com.News_July2024.pdf Community newsletter to notify of Squadron Energy proposal to develop Conargo Wind Farm	01/07/2024	No	High

1.3.2.17 (Person proposing to take the action) Proposer's history of responsible environmental management

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_G_SQE_Comp.Mgmt.Policy2024.pdf Squadron Energy Compliance Management Policy	23/05/2024	No	High

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_Appx_H_SQE_Enviro.Policy2023.pdf Squadron Energy Environmental Policy	29/06/2023	No	High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Fig1_Overview_proposed_development.jpg A figure showing the Project area, Disturbance footprint and components of the development	22/09/2024	No	High
#2.	Document	Att_Fig2_Local_Context.jpg Figure showing the local context of the Project area	23/09/2024	No	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Fig3_Plains_Wanderer_Important_Habitat.jpg Figure showing areas within and adjoining the Project area, mapped as Important habitat for Plains Wanderer under the NSW Biodiversity Offset Scheme	23/09/2024	No	High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_I_PMST_Report.pdf Protected Matter Search results for the Project area	23/09/2024	No	High
#2.	Document	Att_Appx_J_Flora_LoO.pdf Likelihood of occurrence assessment for threatened flora species listed under the EPBC Act.	23/09/2024	No	High
#3.	Document	Att_Appx_K_Fauna_LoO.pdf Likelihood of occurrence assessment for threatened fauna species listed under the EPBC Act.	23/09/2024	No	High
#4.	Document	Att_Appx_L_Migratory_LoO.pdf Likelihood of occurrence assessment for species listed as migratory under the EPBC Act.	23/09/2024	No	High
#5.	Document	Att_Fig4_Survey_effort.jpg Figure showing the field surveys undertaken by Arcadis ecologists to investigate biodiversity values within the Project area to inform this referral	23/09/2024	No	High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_M_PCT_Association.pdf A summary of areas of Plant Community Types across the Project area and within the proposed Disturbance footprint	23/09/2024	No	High
#2.	Document	Att_Appx_N_Flora_Observed.pdf A list of flora observed within the Project area during field surveys completed by Arcadis ecologists	23/09/2024	No	High
#3.	Document	Att_Appx_O_Fauna_Observed.pdf A list of fauna observed within the Project area during field surveys completed by Arcadis ecologists	23/09/2024	No	High
#4.	Document	Att_Appx_P_Site_Photos.pdf Photos of the Project area captured by Arcadis ecologist during field surveys in August 2024	23/09/2024	No	High
#5.	Document	Att_Fig5_Vegetation_mapping.jpg Figure showing ground-truthed vegetation mapping for the Project area	23/09/2024	No	Medium

3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Fig6_Cultural_Heritage.jpg A figure showing the location of Aboriginal and local heritage sites in the locality of the Project area.	23/09/2024	No	High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Fig1_Overview_proposed_development.jpg A figure showing the Project area, Disturbance footprint and components of the development	22/09/2024	No	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.	Document	Att_Appx_B_SIC_TS_v2.pdf Significant Impact Criteria assessments for threatened species (flora and fauna) that have potential to be impacted by the proposal.	09/11/2024	No	High
#2.	Document	Att_Appx_D_SIC_TEC.pdf Significant Impact Criteria assessments for Threatened Ecological Communities that have potential to be impacted by the proposal.	22/09/2024	No	High
#3.	Document	Att_Fig7_Vegetation_to_be_impacted.jpg Figure showing the disturbance footprint and the maximum extent of vegetation to be impacted by the proposal	23/09/2024	No	Medium

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_Fig3_Plains_Wanderer_Important_Habitat.jpg Figure showing areas within and adjoining the Project area, mapped as Important habitat for Plains Wanderer under the NSW Biodiversity Offset Scheme	22/09/2024	No	High

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_C_SIC_Migratory.pdf Significant Impact Criteria assessments for migratory species that have potential to be impacted by the proposal.	22/09/2024	No	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Appx_C_SIC_Migratory.pdf Significant Impact Criteria assessments for migratory species that have potential to be impacted by the proposal.	22/09/2024	No	High

4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att_Fig2_Local_Context.jpg Figure showing the local context of the Project area	22/09/2024	No	High

5.2 Declarations

Completed Referring party's declaration

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

ABN/ACN	76104485289
Organisation name	ARCADIS AUSTRALIA PACIFIC PTY LTD
Organisation address	Level 16, 580 George Street, Sydney NSW 2000
Representative's name	Nathan Banks
Representative's job title	Senior Ecologist
Phone	0447678816
Email	nathan.banks@arcadis.com
Address	Level 16, 580 George Street, Sydney NSW 2000

☑ 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, **Nathan Banks of ARCADIS AUSTRALIA PACIFIC 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.

ABN/ACN	84653587172
Organisation name	SQUADRON RENEWABLE ENERGY DEVELOPMENTS PTY LTD
Organisation address	171-173 Mounts Bay Road, Perth WA 6000
Representative's name	Alastair Smith
Representative's job title	Acting Executive General Manager, Development
Phone	0432053864
Email	alastair.smith@squadronenergy.com
Address	171-173 Mounts Bay Road, Perth WA 6000

☑ 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, **Alastair Smith of SQUADRON RENEWABLE ENERGY DEVELOPMENTS 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, **Alastair Smith of SQUADRON RENEWABLE ENERGY DEVELOPMENTS 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. *