Section 38 Referral Supporting Document

Tathra Wind Farm Development

Synergy Renewable Energy Developments Pty Ltd

152-158 St Georges Terrace, Perth WA 6000

Prepared by:

SLR Consulting Australia

SLR Project No.: 675.072927.00001

25 November 2025

Revision: 2.0

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
0.1	14 November 2025	K. Fox E. Hay E. Aliotti	F. Hill Faskel A. Tieu C. Cigulev	A. Standing
1.0	21 November 2025	K. Fox E. Hay	F. Hill Faskel A. Tieu C. Cigulev	A. Standing
2.0	25 November 2025	K. Fox E. Hay	F. Hill Faskel A. Tieu C. Cigulev	A. Standing

Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Synergy Renewable Energy Developments Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Executive Summary

Synergy Renewable Energy Developments Pty Ltd (SynergyRED) (the Proponent) is proposing to develop a renewable energy facility referred to as the Tathra Wind Farm (the Proposal), approximately 15 km east of the town of Eneabba located within the Shire of Carnamah, in the Mid West region of Western Australia (Figure ES1). The Proposal comprises up to 140 wind turbine generators (WTGs) (total wind capacity of up to 1,000 MW across the Development Envelope (DE)), solar facilities (up to 500 MW), battery energy storage system (BESS) (up to 500 MW), and associated supporting infrastructure.

The Proposal is part of an initiative by the Proponent to explore, scope and develop a range of renewable energy assets across Western Australia, to meet the State Government's 2030 decarbonisation targets.

A general description of the Proposal and the physical elements is provided in Figure ES 1 Table ES 1 and Table ES 2.

Table ES 1: General Proposal Content Description

Proposal Title	Tathra Wind Farm
Proponent Name	Synergy Renewable Energy Developments Pty Ltd (SynergyRED)
Short Description	Development and operation of a renewable energy facility located approximately 15 km east of the town of Eneabba, Western Australia. The Proposal includes construction and operation of up to 140 wind turbine generators (total wind capacity of up to 1,000 MW), solar (up to 500 MW), battery energy storage system (up to 500 MW), and associated supporting infrastructure. The Proposal will connect into the South-West Interconnected System via the existing 330 kV transmission line that intersects the Development Envelope.

Table ES 2: Proposal Content Elements

Proposal Element	Location / Description	Maximum Extent, Capacity or Range
Physical Elements		
Renewable energy infrastructure including: • Wind Turbine Generators (WTG) including associated hardstands • Solar arrays • Battery Energy Storage Systems (BESS) • Electrical and grid connections • Substation and transmission infrastructure • Transport and site access and internal access roads • Operational and maintenance facilities • Monitoring and communication towers	Figure 1	1,595 ha Indicative Disturbance Footprint including clearing of up to 3.44 ha of remnant native vegetation within a 15,847 ha Development Envelope

Proposal Element	Location / Description	Maximum Extent, Capacity or Range
• Fencing and gates • Water tanks Temporary infrastructure for construction will also be required and will include, laydown and stockpile areas, construction compounds, gravel borrow pits, water abstraction bores, dams/turkey's nests, concrete batching plant and storage facilities.		
Construction Elements		
Construction water supply	Within the Development Envelope	Groundwater abstraction of approximately 500,000 kL/annum.
Operational elements		
Wind energy generation	Within the Development Envelope	Up to 140 WTGs with a total wind capacity of up to 1,000 MW
Solar energy generation	Within the Development Envelope	Up to 500 MW
Battery energy storage system	Within the Development Envelope	Up to 500 MW
Proposal elements with greenhouse gas emissions		
Construction elements		
Scope 1	1,741 t CO_2-e/annum	
Scope 2	Not applicable	
Scope 3	Scope 3 greenhouse gas emissions during construction are combined with operations emissions below.	
Operational elements		
Scope 1	1,514 t CO_2-e/annum	
Scope 2	1,612 t CO_2-e/annum	
Scope 3	29,600 t CO_2-e/annum	
Rehabilitation		
Disturbed land will be rehabilitated to a post closure land use agreed with the landowners during the decommissioning phase. The rehabilitation will align with a proposed post closure land use of broad-acre agriculture, unless agreed otherwise with key stakeholders. Progressive rehabilitation may occur prior to closure of the renewable energy facility and will be generally undertaken on areas no longer required during operation or identified as requiring rehabilitation ahead of broader site rehabilitation.		
Commissioning		
The Proposal has no environmental impacts specific to commissioning.		

Proposal Element	Location / Description	Maximum Extent, Capacity or Range
Decommissioning		
Once the operational life of the Proposal comes to an end, it will either be repowered or decommissioned. Decommissioning will be completed within 24-months of operations ceasing and will include: • Dismantling and removal of all above-ground infrastructure. • Removal of concrete footing and buried services to a minimum depth of 500 mm below surface (i.e. to deep ripping depth), or as otherwise agreed with landowners. • Backfilling voids with appropriate fill. • Rehabilitation of disturbed land, which may include regrading, gravel removal, topsoil replacement, establishment of appropriate vegetation and ripping. • It is likely that the landowner(s) may wish to retain some infrastructure (access roads, offices) and this will be agreed at the time of decommissioning, as appropriate.		
Other elements which effect extent or effects on the environment		
Proposal time	Maximum project life	Approximately 40 years At the end of life, the project will be repowered or decommissioned.
	Construction phase	Approximately 18 – 24 months
	Operations phase	Approximately 35 years
	Decommissioning phase	Approximately 24 months

TATHRA WINDFARM EP ACT REFERRAL

SITE LOCATION, DEVELOPMENT ENVELOPE AND DISTURBANCE FOOTPRINT

FIGURE ES1

LEGEND

- Development Envelope
- Indicative Disturbance Footprint (IDF)
- Townsite
- Existing Western Power Transmission Line
- IDF - Overhead Transmission Line
- Major Roads

Service Layer Credits:
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0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:75,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

SLR

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_L_Tathra s38_F01_Site Location

The purpose of this Referral Supporting Document (RSD) is to provide additional supporting information to that provided in the associated referral application form to provide sufficient information for the Environmental Protection Authority (EPA) to determine the validity of the referral and decide whether to assess the Proposal. The RSD describes the existing environmental values present within and immediately surrounding the Proposal and assesses the environmental impacts that have the potential to occur from implementation of the Proposal.

In preparing this document, the following guidance has been considered:

- Instructions on how to prepare an Environmental Review Document (EPA 2024)
- Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual (EPA 2024)
- Instructions and template: How to identify the content of a proposal (EPA 2024)
- Instructions: Referral of a proposal under section 38 of the *Environmental Protection Act 1986* (EPA 2024).

Comprehensive and ongoing stakeholder engagement has formed an important part of the Proposal planning process. The Proponent commenced engagement with key stakeholders in 2023, and engagement is ongoing. Key stakeholder groups include Federal and State government agencies, local government, Traditional Owners, landowners and neighbours, local community and non-government organisations.

Based on an assessment of potential impacts associated with the Proposal, the key environmental factors considered relevant to the Proposal are:

- Flora and Vegetation
- Terrestrial Fauna
- Social Surroundings

A summary of potential impacts, key proposed mitigation strategies and proposed environmental outcomes for each of the relevant environmental factors in provided in Table ES 3.

No residual impacts to individual factors are considered significant and the Proponent considers that the Proposal meets the EPA's environmental factor objectives.

Table ES 3: Summary of Potential Impacts, Proposed Mitigation and Proposal Environmental Outcomes

Environmental Factors	
Environmental Factor 1: Flora and Vegetation	
Potential impacts	• Direct loss and fragmentation of native vegetation due to clearing. • Direct loss and fragmentation of conservation significant flora populations and/or vegetation communities due to clearing. • Degradation of vegetation from changes to surface hydrology or groundwater availability, introduction or ingress of weeds or plant disease, increased dust generation during construction and altered fire regimes.
Mitigation hierarchy	Potential impacts to flora and vegetation have been avoided or minimised through an iterative design process for the Proposal during the planning phase, including **avoidance** of the following:

Environmental Factors	
	• Direct disturbance to recorded Threatened flora, including the *Hakea megalosperma.* • Disturbance to native vegetation associated with waterways by siting WTGs to be at least 100 m from wetlands and major waterways and 30 m of minor drainage lines. • Clearing of the understorey of vegetation type WM analogous with the 'Assemblages of organic mound springs of the Three Springs' TEC along the route of the overhead transmission line and areas required for infrastructure associated with the overhead transmission line. • Clearing of the understorey of vegetation type CAM analogous with the 'Assemblages of organic mound springs of the 'Three Springs' TEC (CAM VTs) by utilising an existing agricultural track through the buffer area of the TEC. • Significant vegetation values through delineation and implementation of 'Exclusion Areas'. • Clearing of mapped native vegetation to facilitate implementation of any of the bushfire mitigation measures. The following measures and management plans will be implemented to **minimise** the impacts to flora and vegetation: • Final layout utilises existing cleared areas as far as practicable with no clearing of native vegetation within the Clearing Exclusion Area. • Selection of site and transport access points and associated swept paths with least number of priority species and native vegetation clearance. • Minimising the size and number of site and transport access points and associated swept paths through the appropriate selection and design. • Minimising disturbance to waterways by utilising existing waterway crossings. • Installing culverts to maintain surface water flows where existing access tracks are upgraded to allow creekline crossings. • Limiting movements within the IDF, utilising tracks where available. • Environmental Management Plans (EMPs) will be implemented to manage the potential environmental impacts associated with construction and operation of the Proposal e.g. weed management and hygiene protocols. A Framework is provided in Appendix E and EMPs will be finalised prior to construction. • A Bushfire Management Plan will be implemented during construction and operation of the Proposal (Appendix F). Once the operational life of the Proposal comes to an end, it will either be repowered or decommissioned. Areas that are cleared for construction or operation will be rehabilitated during decommissioning in accordance with Decommissioning Management Plan (Appendix A). This Plan will be conditioned via the Development Approval and the final version will be developed five years prior to decommissioning.
Residual impacts, and proposed environmental outcomes	The identified residual impacts are not expected to cause a loss of biological diversity or to reduce ecological integrity at the local or regional scale from the implementation of the Proposal for the following reasons.

Environmental Factors	
	The mitigation hierarchy, including avoidance and minimisation, has been applied to the design of the Proposal such that direct impacts to significant flora and vegetation will largely be avoided and where impacts cannot be avoided, measures are proposed to minimise impacts. With implementation of the proposed avoidance and mitigation measures, the predicted outcomes for identified flora and vegetation values are: • Clearing of up to 3.44 ha of native vegetation. • Avoidance of all recorded Threatened flora within the DE and vegetation types associated with GDEs along the route of the overhead transmission line. • Disturbance of recorded Priority flora species limited to 501 recorded individuals. • The IDF intersects a total of 0.33 ha of vegetation types (VTs) WM and CAM that potentially include 'Assemblages of organic mound springs of the Three Springs' TEC: o 0.08 ha that intersects buffer vegetation along an existing well-used track o 0.25 ha under the transmission line corridor where any disturbance will only be undertaken to maintain vegetation clearance from the overhead power lines and therefore understorey vegetation will remain intact. Through careful Proposal design, clearing of the understorey has been avoided and disturbance within these areas will be limited to pruning adjacent to the existing track and within the transmission line corridor. Potential impacts to vegetation due to changes to surface hydrology or groundwater availability, introduction or ingress of weeds or plant disease, increased dust generation during construction and altered fire regimes will be minimal and able to be managed through implementation of the Proposal's Environmental Management Framework and Bushfire Management Plan. The modified nature of the current extent of native vegetation has resulted in the existing landscape being highly fragmented. Therefore, the Proposal is not anticipated to result in a significant increase in the fragmentation of significant flora populations and vegetation with the minimal clearing ensuring linkages to larger patches of native vegetation will remain. The proposed loss of vegetation and flora is not expected to cause a loss of biological diversity or to reduce ecological integrity at the local or regional scale and can be regulated through a native vegetation clearing permit (NVCP) granted under Part V of the *Environmental Protection Act 1986* (EP Act). The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for Flora and Vegetation.
Environmental Factor 2: Terrestrial Fauna	
Potential impacts	• Direct loss and fragmentation of fauna habitat due to clearing. • Direct loss or injury to fauna individuals due to entrapment in open trenches or other excavations during construction, vehicle strike or WTG collision.

Environmental Factors	
	• Degradation of fauna habitat and habitat modification due to introduction or increase in feral animals, altered fire regime, introduction or ingress of weeds and/or disease, increased dust generation during construction and altered hydrological regime. • Altered fauna behaviour due to the presence of WTG, noise, lighting and human presence.
Mitigation hierarchy	Potential impacts to terrestrial fauna have been avoided or minimised through an iterative design process for the Proposal during the planning phase, in particular **avoidance** of the following: • Clearing of suitable and potential (Category 1 to 3) nest trees for Carnaby's Black Cockatoo. • Potential impacts to bat species from WTGs by implementing a 100 m setback from major waterways for siting of wind turbines. • Significant fauna habitat through delineation and implementation of 'Exclusion Areas' including around the confirmed breeding tree. The following measures and management plans will be implemented to **minimise** the impacts to terrestrial fauna: • Siting of WTGs and major infrastructure occurring within the IDF utilises areas of existing disturbance where possible therefore minimising clearing of fauna habitat. • Minimising the size and number of transport and site access points and associated swept paths through the appropriate selection and design. Selection of swept paths with the least clearing of black cockatoo high quality foraging habitat. • Continue the quarterly bird and bat utilisation surveys to complete 2 years' worth of data collection. • A collision monitoring program will be undertaken at commencement of operations over a minimum of two years to monitor the impact of WTG operation to Carnaby's Black Cockatoo and other avifauna species. • Survey of the confirmed breeding tree to determine nesting activity or signs of abandonment will also be conducted during the breeding season prior to construction, during construction and for a minimum of two years from commencement of operations. • An Environmental Management Framework will be implemented to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal e.g. waste management, feral animal control. • A Bushfire Management Plan will be implemented during construction and operation of the Proposal. • The Preliminary Bird and Bat Adaptive Management Plan (PBBAMP) will be updated and finalised with all relevant data prior to operations and set as a Condition of Development Approval. The PBBAMP provides adaptive management measures for the management and monitoring program to document bird and bat mortalities to allow assessment of the effectiveness and implementation of controls. Once the operational life of the Proposal comes to an end, it will either be repowered or decommissioned. Areas that are cleared for

Environmental Factors	
	construction or operation will be rehabilitated during decommissioning in accordance with Decommissioning Management Plan.
Residual impacts, and proposed environmental outcomes	The identified residual impacts are not expected to cause a loss of biological diversity or to reduce ecological integrity at the local or regional scale from the implementation of the Proposal. The Proposal will clear no more than 8.50 ha of fauna habitat represented by vegetation (native and non-native) including the following species-specific habitat values: • Clearing less than 1 ha of high to moderate quality foraging habitat for Carnaby's Black Cockatoo (score 4 to 6). • No clearing Category 1 to 3 Carnaby Black Cockatoo breeding trees. • Clearing less than 1.9 ha of low to moderate foraging habitat (comprised of native and non-native vegetation) (score 3) for Carnaby's Black Cockatoo. • Clearing less than 4.3 ha of low-quality foraging habitat (comprised of native and non-native vegetation) (score 2) for Carnaby's Black Cockatoo. The mitigation hierarchy, including avoidance and minimisation, has been applied to the design of the Proposal such that direct impacts to terrestrial fauna will largely be avoided and where impacts cannot be avoided, measures are proposed to minimise impacts: • The potential for fauna habitat fragmentation is minimal given the already highly modified project site. • The risk of loss or injury to fauna individuals and degradation of fauna habitat as a result of construction is considered temporary and minor in nature given the limited extent of clearing and limited period over which construction will occur. • Residual impact from WTG collision will be managed through the implementation of adaptive management measures outlined in the PBBAMP, and as per the finalised version of the BBAMP (following completion of the Bird and Bat Utilisation Surveys) in consultation with relevant State and Commonwealth agencies when triggers and thresholds have been reached. These measures may include: o Increased survey effort to provide additional data to support the trigger and threshold level investigation. o Investigation of influencing factors (e.g. bushfire, floods, drought), that provide contextual data relevant to the trigger levels. o Investigation of deterrents. o Onsite habitat modification. o Carrion management. o Temporary turbine slowdown. The proposed loss of terrestrial fauna and potential direct and indirect impacts to fauna habitat are not expected to cause a loss of biological diversity or to reduce ecological integrity at the local or regional scale and can be regulated through an NVCP under Part V of the EP Act and requirements under the Development Approval for a Construction Environmental Management Plan (CEMP) and a Bird and Bat Adaptive Management Plan (BBAMP).

Environmental Factors	
	The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for Terrestrial Fauna.
Environmental Factor 3: Social Surroundings	
Potential impacts	• Disturbance to cultural heritage values due to ground disturbance. • Reduced amenity as a result of: o Visual impacts resulting from alteration of landscape character due to the presence of WTGs. o Noise emissions due to operation of WTGs. o Noise and vibration emissions due to construction activities. o Disruption to electromagnetic services due to EMI as a result of operation of WTGs. o Blade shadow or flicker effects due to operation of WTGs. • Changes to socio-economic outcomes for the local community including: o Impacts on tourism and livelihood. o Changes in land use and disruption to agricultural practices. o Increase in traffic volumes due to light, heavy and oversized vehicles using the transport route during construction of the Proposal. o Disruption to recreational aircraft flight paths and potential risks to aviation activities due to the presence of WTGs.
Mitigation hierarchy	Potential impacts to social surroundings have been avoided or minimised through an iterative design process for the Proposal during the planning phase, in particular **avoidance** of the following cultural heritage values, amenity and socio-economic values: • Impacts to the built form of the Original Eneabba Springs site through design of the Proposal Site WTGs to: • Be at least 100 m from wetlands and major waterways, reducing risk to potentially culturally sensitive areas. • Be within cleared and altered landscapes. • Ensure compliance with the WA Noise Regulations. • Avoid visibility related hazards at access locations by ensuring minimum sight distances are achieved in both directions. Ongoing consultation and stakeholder engagement including: • Affected point-to-point links, critical communication corridors and radar interference zones. • Seeking formal agreements with neighbouring landowners prior to construction to provide certainty of noise compliance. The following measures and management plans will be implemented to minimise the impacts to Social Surroundings: • Site layout has been designed to minimise impact on existing agricultural practices. • Retention of existing vegetation, as far as possible, to minimise visual impact from public roads and neighbouring properties. • An Environmental Management Framework (EMF) will be implemented to provide a framework to manage the potential

Environmental Factors	
	environmental impacts associated with construction and operation of the Proposal. • An adaptive management approach will be adopted if EMI is experienced, technical remedies such as signal boosters, antenna adjustments, or alternative service provision may be implemented. • Siting of WTGs and/or selection of WTG parameters to minimise shadow flicker impacts to affected dwellings. • Turbines will be painted in a low-reflective off-white colour to prevent blade glint, in line with Draft National Guidelines (EPHC, 2010). • Notification of the details of the WTGs to relevant authorities, landowners and local and regional aircraft operators prior to construction to enable hazard information to be recorded and implementation of aviation emergency operations protocols. • Noise mitigation modes will currently be applied to selected wind turbines in the south-western corner of the project site to ensure compliance with the L_{A10} 35 dB night-time limit for non-involved receptors under the WA Noise Regulations. Consideration will be given to siting these WTGs in final design to minimise this impact. • Construction of the assets will be delivered over multiple stages. Each stage expected to take approximately 18-24 months to minimise impacts on traffic. • Implementation of a Bushfire Management Plan.
Residual impacts, and proposed environmental outcomes	The identified residual impacts are not expected to cause significant harm at the local or regional scale and can be mitigated through the final selection and siting of WTGs. With implementation of the proposed avoidance and minimisation measures applied to the design, the predicted outcomes for identified social surrounding values are: • No impact to known Aboriginal cultural heritage values. • No impact to European heritage values. • WTGs will be visible from multiple vantage points, particularly near the site. Three viewpoints are expected to experience moderate levels of visual change - these impacts are considered acceptable within the context of a highly disturbed landscape that has capacity to absorb such infrastructure (Urbis Ltd, 2025b). • No significant impact to electromagnetic services. • One dwelling potentially exposed to shadow flicker above a moderate level of intensity within 50 m of a dwelling. • Compliance with the noise limits specified by the WA Noise Regulations and SA Noise Guidelines at all existing non-involved sensitive receptors. • Minor and temporary impact to increased traffic, as there is adequate capacity along the proposed roads to accommodate the projected vehicle movements without significant disruption or increased crash risk. • Minor adjustment to LSALT to maintain safe flight level, with no impact to aviation navigational facilities, ATC (air traffic control) surveillance radars or certified airports. The potential impact to electromagnetic services and potential impacts to existing involved dwellings from shadow flicker can be mitigated through the final selection and siting of WTGs and ongoing

Environmental Factors	
	consultation with stakeholders. The required change to the air route is also considered to be readily manageable. The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for Social Surroundings.

Environmental impacts from the Proposal have also been considered cumulatively and holistically and where appropriate synergies between management and mitigation measures are considered from a holistic perspective. When considered from a holistic perspective, the combined effects on the terrestrial environment as a whole are no greater than the effects on individual factors, and residual impacts of the overall Proposal are not considered significant.

The Proponent considers the avoidance and mitigation proposed for this Proposal as well as the ability of other statutory decision-making processes to mitigate potential impacts to the environment are sufficient to meet both the principles contained in the *Environmental Protection Act 1986* (EP Act) and the EPA's environmental objectives.

Table of Contents

Tables

Figures

Plates

Appendices

Appendix I: Bird and Bat Utilisation Surveys Year 1 Summary Report

Appendix J: Black Cockatoo Assessment for Potential Solar Farm Areas

Appendix K: Black Cockatoo Assessment for Solar Farm Area and Additional Trees within Disturbance Footprint

Appendix L: Carnaby's Cockatoo in Warradarge Region Western Australia

Appendix M: Acoustic Analysis and Bat Call Identification from Tathra, Western Australia

Appendix N: Bird and Bat Adaptive Management Plan

Appendix O: Heritage Due Diligence Analysis

Appendix P: Visual Impact Assessment

Appendix Q: Noise & Vibration Impact Assessment

Appendix R: EMI Assessment

Appendix S: Shadow Flicker and Blade Glint Assessment

Appendix T: Traffic Impact Statement

Appendix U: Aviation Impact Assessment

Appendix V: Yamatji Southern Regional Council Letter

Acronyms and Abbreviations

ACH	Aboriginal Cultural Heritage
ACHIS	Aboriginal Cultural Heritage Inquiry System
AH Act	*Aboriginal Heritage Act 1972*
AHD	Australian Height Datum
AIA	Aviation Impact Assessment
ASS	Acid Sulfate Soils
ATC	Air Traffic Control
ATR	Agreement to Reserve
BAL	Bushfire Attack Level
BAM Act	*Biosecurity and Agriculture Management Act 2007*
BBAMP	Bird and Bat Adaptive Management Plan
BC Act	*Biodiversity Conservation Act 2016*
BESS	Battery Energy Storage System
bgl	Below ground level
BoM	Bureau of Meteorology
BPP	Bushfire Prone Planning
CASA	Civil Aviation Safety Authority
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CEO	Chief Executive Officer
CIA	Cumulative impact assessment
DA	Development Application
DBCA	Department of Biodiversity, Conservation and Attractions
DBNGP	Dampier to Bunbury Natural Gas Pipeline
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DDA	Due Diligence Assessment
DE	Development Envelope
DFES	Department of Fire and Emergency Services
DPIRD	Department of Primary Industries and Regional Development
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
EIA	Environmental impact assessment
EMF	Environmental Management Framework
EMI	Electromagnetic Interference
EMP	Environmental Management Plan

EN	Endangered
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986*
EPAS	Environmental Protection Authority Services
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ERM	Exposure Risk Models
ESA	Environmentally Sensitive Area
FSA	Fauna Survey Area
FVSA	Flora and Vegetation Survey Area
GDE	Groundwater Dependent Ecosystem
GHG	Greenhouse Gases
IBRA	Interim Biogeographic Regionalisation of Australia
IDF	Indicative Disturbance Footprint
ILUA	Indigenous Land Use Agreement
LCU	Landscape Character Unit
LGA	Local Government Authority
MNES	Matters of National Environmental Significance
NVCP	Native Vegetation Clearing Permit
OLS	Obstacle Limitation Surface
O & M	Operations and Maintenance
OSOM	Oversize and/or Over Mass
PBBAMP	Preliminary Bird and Bat Adaptive Management Plan
PD Act	*Planning and Development Act 2005*
PDWSA	Public Drinking Water Source Area
PEC	Priority Ecological Community
PMST	Protected Matters Search Tool
PU	Potentially undescribed
PPV	Peak Particle Velocity
PV	Photovoltaics
RIWI Act	*Rights in Water and Irrigation Act 1914*
RSA	Rotor Swept Area
SCADA	Supervisory control and data acquisition
SIA	Social Impact Assessment
SPRAT	Species Profile and Threats
SRE	Short Range Endemic
STATCOMS	Static Synchronous Compensators

SWIS	South-West Interconnected System
TEC	Threatened Ecological Community
TIS	Transport Impact Statement
VIA	Visual impact assessment
VP	Vantage Point
VSA	Vegetation System Association
VT	Vegetation Type
WAPC	Western Australian Planning Commission
WMO	World Meteorological Organisation
WoNS	Weeds of National Significance
WTG	Wind Turbine Generator
YNSRA	Yamatji Nation Southern Regional Agreement
YSRC	Yamatji Southern Regional Corporation

Definitions

Name	Definition
Development Envelope	Operational boundary for the proposed Tathra Wind Farm, including the transport and site access corridors. Area: 15,847 ha
Indicative Disturbance Footprint	The indicative area in which all Proposal infrastructure will be located, including Wind Turbine Generators (WTGs) with associated foundations and hard stand areas, solar, BESS, access tracks, transmission lines, electrical substations and switchyards, operations and maintenance buildings, construction laydown areas, gravel borrow pits, concrete batching plant, water abstraction bores and associated turkey's nests, water tanks, meteorological masts and communication towers. Area: 1,595 ha
Proposal	Tathra Wind Farm
Proponent	Synergy Renewable Energy Developments Pty Ltd
Survey Area	Spatial extent in which a technical study has been undertaken. Area varies depending on the study.
Clearing Exclusion Area	The area within the Development Envelope that contains significant environmental values designated for retention within the RSD. No clearing will occur within this area. The implementation of the Clearing Exclusion Area applies to all phases of the Proposal. As shown in Figure 11.
WTG Exclusion Zone	No WTGs will be located within this zone. The implementation of the WTG Exclusion Zone applies to all phases of the Proposal. As shown in Figure 11.

1.0 Proposal

1.1 Proposal Overview

Synergy Renewable Energy Developments Pty Ltd (SynergyRED) (the Proponent) is proposing to develop a renewable energy facility referred to as the Tathra Wind Farm (the Proposal), approximately 15 km east of the town of Eneabba located within the Shire of Carnamah, in the Mid West region of Western Australia (Figure 1). The Proposal comprises up to 140 wind turbine generators (WTGs) (total wind capacity of up to 1,000 MW across the Development Envelope (DE)), solar facilities (up to 500 MW), battery energy storage system (BESS) (up to 500 MW), and associated supporting infrastructure.

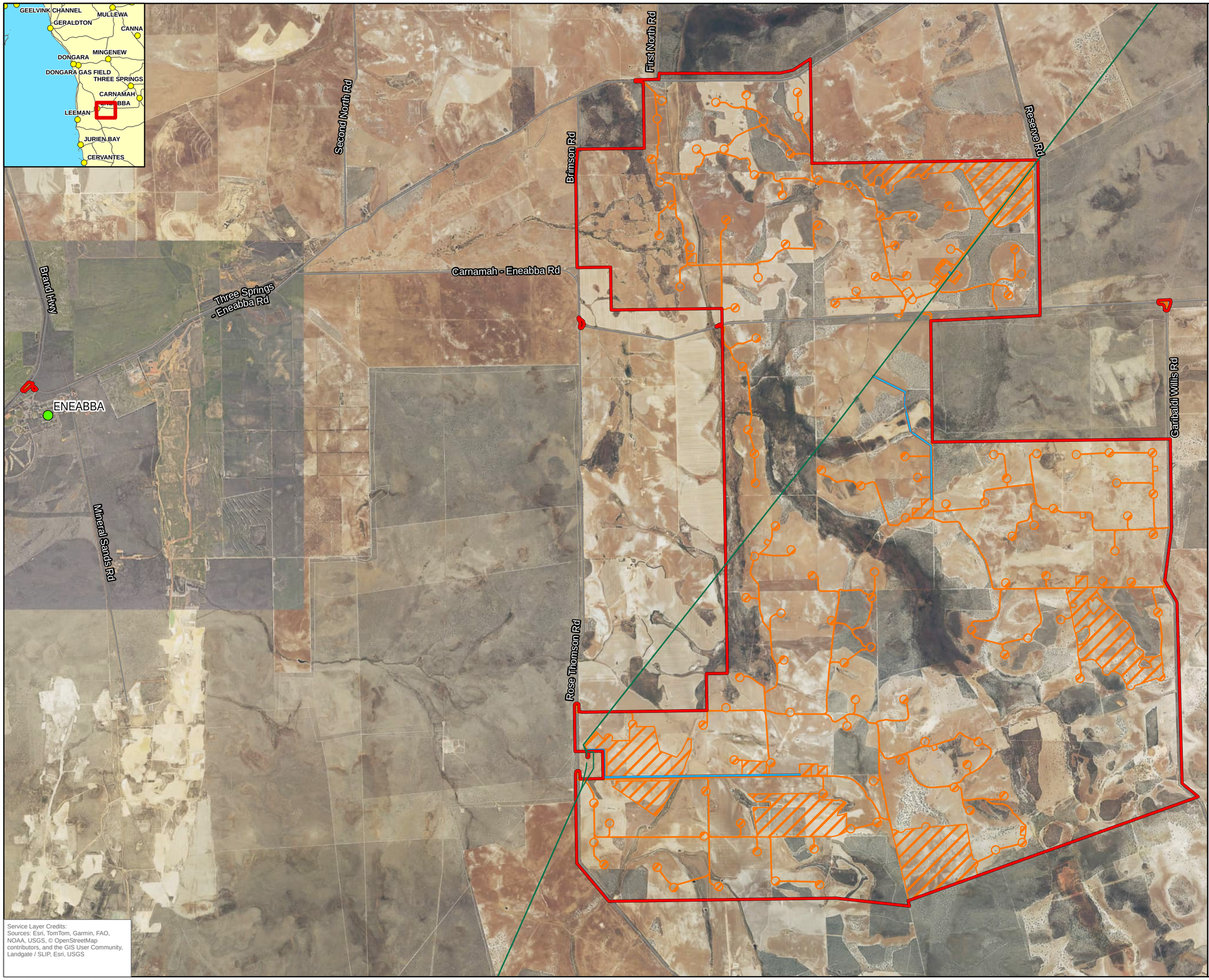
The Proposal is part of an initiative by the Proponent to explore, scope and develop a range of renewable energy assets across WA, to meet the State Government's 2030 decarbonisation targets.

1.2 Proponent Details

SynergyRED is the Proponent for this Proposal. The Proponent's details are presented in Table 1.

Table 1 Proponent Details

Proponent	Synergy Renewable Energy Developments Pty Ltd (SynergyRED)
ABN	58 673 830 106
Address	Level 23 152-158 St Georges Terrace Perth, WA 6000
Primary Contact	[redacted]
Secondary Contact	[redacted]



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TATHRA WINDFARM EP ACT REFERRAL

SITE LOCATION, DEVELOPMENT ENVELOPE AND DISTURBANCE FOOTPRINT

FIGURE 1

LEGEND

- Development Envelope
- Indicative Disturbance Footprint (IDF)
- Townsite
- Existing Western Power Transmission Line
- IDF - Overhead Transmission Line
- Major Roads

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:75,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

SLR

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_L_Tathra s38_F01_Site Location

1.3 Proposal Content

The Proposal encompasses 14 freehold lots and adjacent road reserves to support transport access within a Development Envelope (DE) of 15,847 hectares (ha). The DE is located in the Shire of Carnamah and comprises land zoned 'Rural' under the Shire of Carnamah Local Planning Scheme No. 2. The DE and surrounding area are primarily utilised for low intensity broad-acre agricultural purposes and consist of predominantly cleared land, with pockets of remnant native vegetation that are proposed to be largely retained.

The WTGs will be installed on towers up to 160 m in height with blades up to 90 m long, delivering a total maximum tip-height of up to 250 m.

The Proposal will connect into the South-West Interconnected System (SWIS) via the existing 330 kV transmission line that intersects the DE running from the northeast corner to the southwest corner.

It should be noted that the exact specifications of the WTGs, solar facilities and BESS, including make, model and size, as well as the specific location of the infrastructure, will be determined through a detailed procurement process and therefore parameters which present a conservative assessment have been considered. The final layout will utilise existing cleared areas as far as practicable with no clearing of native vegetation within the Clearing Exclusion Area and the commitments described in Section 1.5.3.

The total Indicative Disturbance Footprint (IDF) is approximately 1,595 ha, comprising:

- Approximately 570 ha for WTGs, pads and associated infrastructure.
- Approximately 973 ha for solar facilities.
- Approximately 10 ha for BESS and associated infrastructure.
- Approximately 35 ha for power transmission lines.
- Approximately 7 ha for transport infrastructure.

It should be noted that area has been calculated using planar measurement system in GDA2020 MGA50 throughout.

1.3.1 Wind Turbine Description

The Proposal will have a maximum of 140 WTGs, capable of generating up to 1,000 MW at peak. The general WTG parameters are depicted in Plate 1 and comprise:

- Maximum blade length of 90 m.
- Tower height of 110 m - 160 m.
- Maximum overall turbine height (tip height) of 250 m.
- Minimum blade ground clearance of 30 m.

The WTGs will be uniformly coloured light grey or white with a semi-matte finish to reduce their contrast with background sky and minimise reflection.

Each WTG will have a transformer located internally or externally near the tower. Power and communications cables will be installed primarily underground between the turbines and connect to the proposed substations. The WTGs are proposed to be interconnected via an underground daisychain power cable arrangement, with approximately 6 turbines per group.

As an indication, a typical modern foundation requires approximately 800 m^3 of buried (approx. 5 mbgl) reinforced concrete foundation with a diameter of approximately 25 x 25 m.

However, exact specifications of the foundations will be confirmed following detailed geotechnical investigation and final selection of the WTG to ensure the manufacturer requirements of the specific WTG model are adhered to.

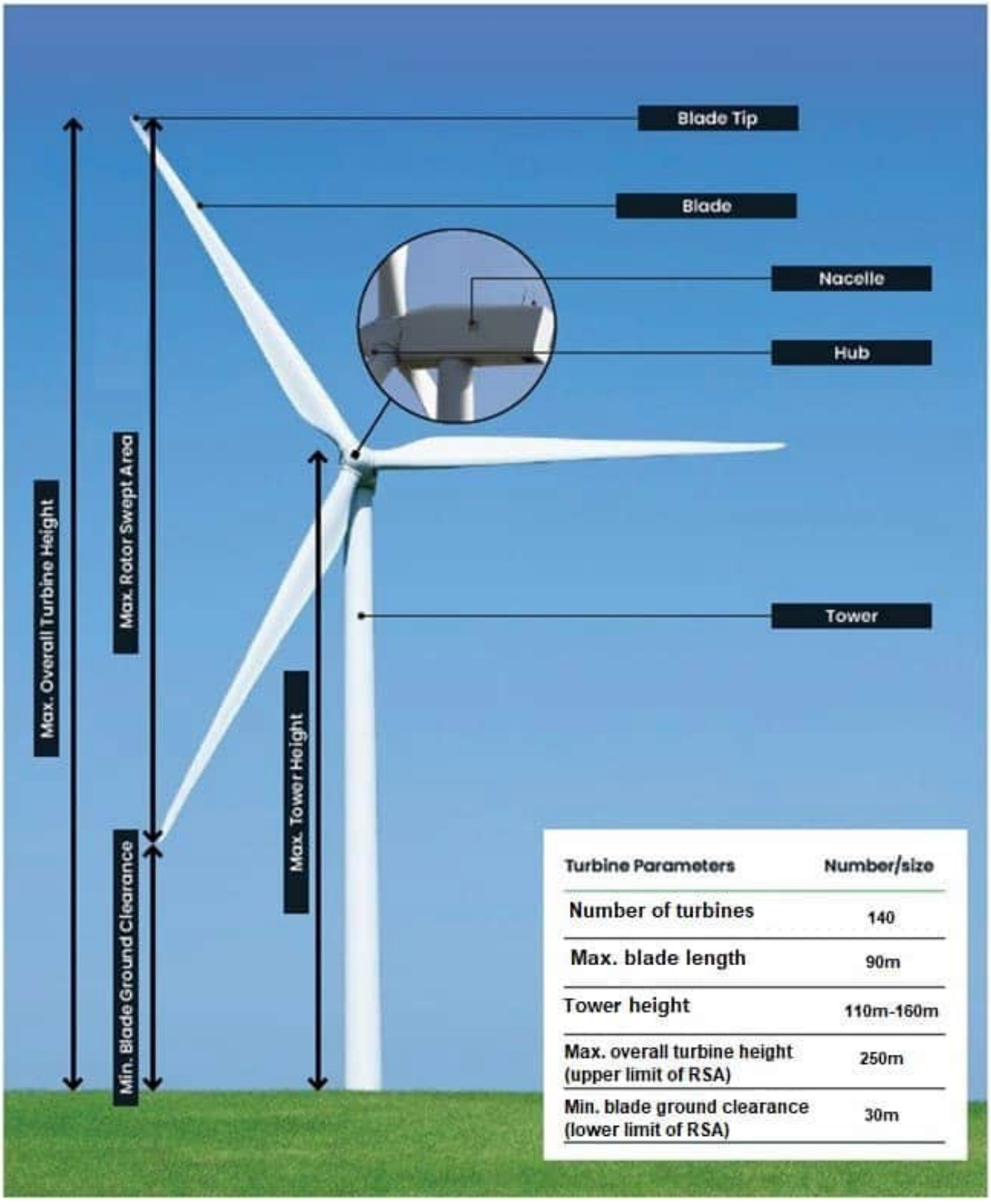


Plate 1 Wind Turbine Specifications

1.3.2 Solar

The Proposal will include solar facilities of up to 500 MW, comprising the installation of up to 1,000,000 photovoltaic (PV) panels in multiple arrays across the DE. Panels will be

mounted on posts with tracking systems to optimise energy generation, with the potential use of bi-facial technology to capture reflected light. Supporting infrastructure will include inverters, weather stations, access roads, fencing, and drainage.

Foundations generally comprise shallow buried concrete footings or piles but will be confirmed during detailed design of the facilities.

The proposed areas of solar have been selected in consultation with the Proposal's landowners to coincide with areas of lower agricultural value. To further reduce impacts to agricultural activities, consideration will be given in the design process to enable grazing activities to occur within the solar facilities (i.e. Agrivoltaics).

An example of a solar layout depicting approximately 100 MW of solar, panel PV tracker and PV tracking rig, is shown in Plate 2.

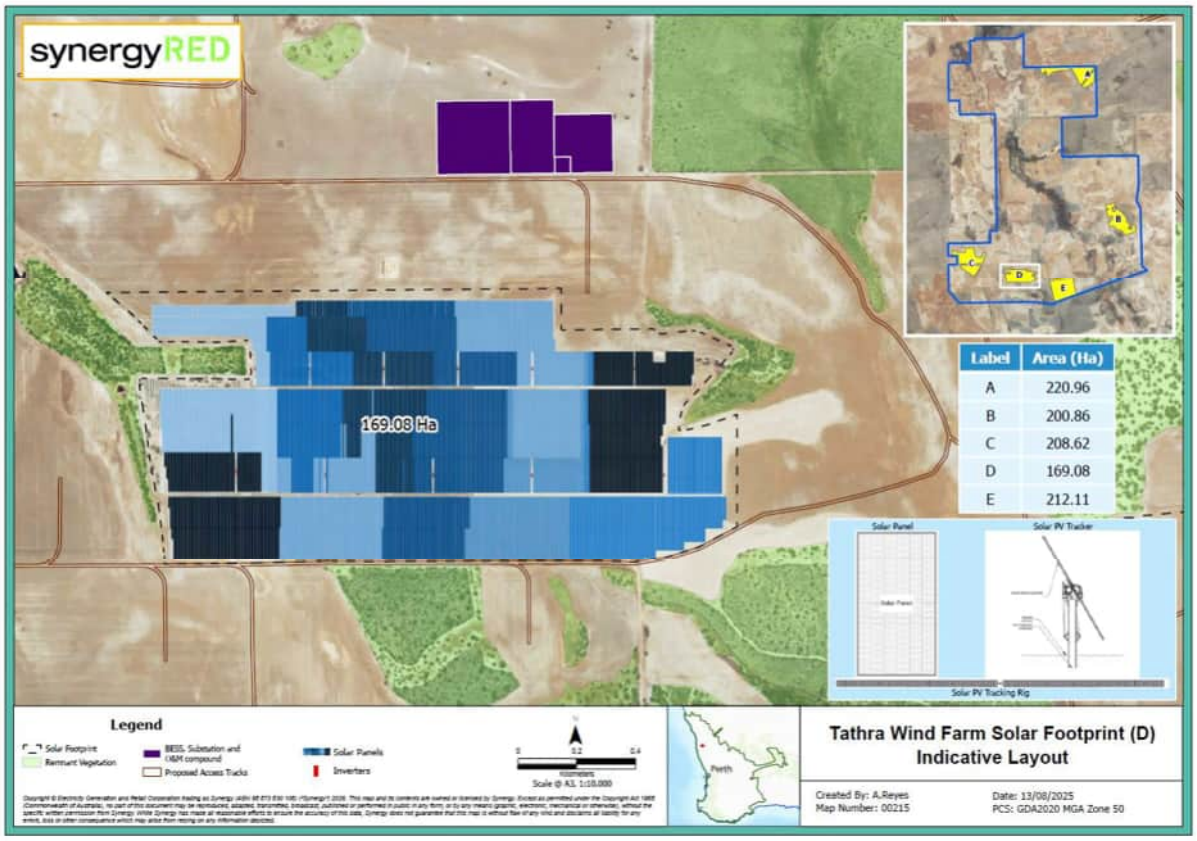


Plate 2 Indicative solar layout

1.3.3 BESS

The Proposal will include up to three BESS facilities with a combined capacity of up to 500 MW across the DE. Each facility will comprise battery enclosures housing lithium-ion cells within large storage containers, associated inverters, underground cabling to connect to substations, gravel access roads, and up to two drainage basins per facility. The BESS facilities are likely to be located adjacent to substations. The systems will be capable of charging and discharging using energy generated by the wind turbines, solar PV arrays, or the grid, thereby supporting grid stability and optimising renewable energy use. Together with the solar PV facilities, the BESS will export energy via an inverter system, which, along with associated electrical infrastructure, will ensure that electricity supplied to the grid meets the required voltage, frequency, and power factor standards.

1.3.4 Connectivity

Up to three 330 kV substations are required to enable connection of the Proposal to the SWIS via the existing 330 kV line between Western Power's Eneabba and Three Springs terminals. The Eneabba Terminal is located immediately adjacent to the DE on the southwest corner. These transmission connections will enable energy to be exported north to Geraldton and south to Perth as demand requires.

The Proposal substation infrastructure will include the following:

- Cabling between the wind turbines and the substation.
- Electrical protection infrastructure.
- Connecting transmission line.
- Supervisory control and data acquisition (SCADA).
- Metering.
- Transformers.
- Static Synchronous Compensators (STATCOMS).

1.3.5 Transport of Components to site

The Oversize and/or Over Mass (OSOM) components are anticipated to be transported to site from the Henderson Port, Fremantle which is well connected to a road network that has spare capacity and can accommodate over-dimensional vehicles. There are up to seven indicative site access points proposed for the development entering from:

- Carnamah-Eneabba Road.
- Eneabba-Three Springs Road.
- Rose Thompson Road.
- Garibaldi Willis Road.

Additionally, there are three transport access points on public roads that will require additional hardstand to allow turning movements for turbine blade delivery:

- Heading east from Brand Highway onto Eneabba-Three Springs Road.
- Heading south from Carnamah-Eneabba Road onto Rose Thomson Road.
- Heading south from Carnamah-Eneabba Road onto Garibaldi Willis Road.

Construction of internal unsealed roads will also be required for construction and operation of the Proposal.

1.3.6 Associated Infrastructure

Supporting infrastructure required as part of the Proposal includes internal access roads, monitoring and communication towers, fencing and gates, water tanks and operations and maintenance buildings including offices, workshops, amenities and carparking. Temporary infrastructure for construction will also be required and will include, laydown and stockpile areas, construction compounds, gravel borrow pits, water abstraction bores, dams/turkey's nests, concrete batching plant and storage facilities. The Operations and Maintenance (O&M) area is expected to utilise an onsite septic system which will be installed in compliance with the Shire of Carnamah and the Department of Health. Potable water supply

is expected to be either via a combination of on-site rainwater treatment or through a suitable supplier.

1.3.7 Workforce and Accommodation

Given the size and scale of the Proposal, construction of the assets will be delivered over multiple stages. Each stage is expected to require a construction period of approximately 18-24 months with a workforce peaking at up to 200 personnel. Accommodation for construction personnel will be sourced from existing suppliers in the local area, where possible, including as far as Jurien Bay and Dongara, as well as local suppliers in surrounding areas. Once operational, it is anticipated that up to 30 full time operations staff will be required throughout the life of the Proposal, working typical hours Monday to Saturday.

1.3.8 Decommissioning

The intended operational life is 30-35 years. Once the operational life of the initial infrastructure comes to an end, the wind and solar assets can be repowered by replacing the assets to extend the life of the Proposal. This would require lease agreement extensions with landowners which have been anticipated in the Option to Lease agreements. If repowering the wind and solar assets is not viable, the Proponent will decommission the Proposal to enable resumption of agricultural land uses as per the finalised Tathra Wind Farm Decommissioning Management Plan. A Decommissioning Management Plan is provided in Appendix A and will be updated closer to decommissioning milestones, as regulated via the Development Approval.

Decommissioning would involve the dismantling and removal of all turbines, solar arrays, BESS and above ground infrastructure from the DE. WTG foundations and buried services will be removed to a suitable depth below surface (minimum depth of 500 mm) unless environmentally unacceptable or otherwise agreed upon with landowners.

A summary of the Proposal description is provided in Table 2 and the Proposal content elements are outlined in Table 3.

Table 2 General Proposal Content Description

Proposal Title	Tathra Wind Farm
Proponent Name	Synergy Renewable Energy Developments Pty Ltd (SynergyRED)
Short Description	Development and operation of a renewable energy facility located approximately 15 km east of the town of Eneabba, Western Australia. The Proposal includes construction and operation of up to 140 wind turbine generators (total wind capacity of up to 1,000 MW), solar (up to 500 MW), battery energy storage system (up to 500 MW), and associated supporting infrastructure. The Proposal will connect into the South-West Interconnected System via the existing 330 kV transmission line that intersects the Development Envelope.

Table 3 Proposal Content Elements

Proposal Element	Location /Description	Maximum Extent, Capacity or Range
Physical Elements		
Renewable energy infrastructure including • Wind Turbine Generators (WTG) including associated hardstands • Solar arrays • Battery Energy Storage System (BESS) • Electrical and grid connections • Substation and transmission infrastructure • Transport and site access and internal access roads • Operational and maintenance facilities • Monitoring and communication towers • Fencing and gates • Water tanks Temporary infrastructure for construction will also be required and will include, laydown and stockpile areas, construction compounds, gravel borrow pits, water abstraction bores, dams/turkey's nests, concrete batching plant and storage facilities.	Figure 1	1,595 ha Indicative Disturbance Footprint including up to 3.44 ha of remnant native vegetation within a 15,847 ha Development Envelope.
Construction Elements		
Construction water supply	Within the Development Envelope	Groundwater abstraction of approximately 500,000 kL/annum
Operational Elements		
Wind energy generation	Within the Development Envelope	Up to 140 WTGs with a total wind capacity of up to 1,000 MW
Solar energy generation	Within the Development Envelope	Up to 500 MW
Battery energy storage system	Within the Development Envelope	Up to 500 MW

Proposal Elements with Greenhouse Gas Emissions		
Construction elements:		
Scope 1	1,741 t CO_2-e/annum	
Scope 2	Not applicable	
Scope 3	Scope 3 greenhouse gas emissions during construction are combined with operations emissions.	
Operation elements:		
Scope 1	1,514 t CO_2-e/annum	
Scope 2	1,612 t CO_2-e/annum	
Scope 3	29,600 t CO_2-e/annum	
Rehabilitation		
Disturbed land will be rehabilitated to a post closure land use agreed with the landowners during the decommissioning phase. The rehabilitation will align with a proposed post closure land use of broad-acre agriculture, unless agreed otherwise with key stakeholders. Progressive rehabilitation may occur prior to closure of the renewable energy facility and will be generally undertaken on areas no longer required during operation or identified as requiring rehabilitation ahead of broader site rehabilitation.		
Commissioning		
The Proposal has no environmental impacts specific to commissioning.		
Decommissioning		
Once the operational life of the Proposal comes to an end, it will either be repowered or decommissioned. Decommissioning will be completed within 24-months of operations ceasing and will include: • Dismantling and removal of all above-ground infrastructure. • Removal of concrete footing and buried services to a minimum depth of 500 mm below surface (i.e. to deep ripping depth), or as otherwise agreed with landowners. • Backfilling voids with appropriate fill. • Rehabilitation of disturbed land, which may include regrading, gravel removal, topsoil replacement, establishment of appropriate vegetation and ripping. • It is likely that the landowner(s) may wish to retain some infrastructure (access roads, offices) and this will be agreed at the time of decommissioning, as appropriate.		
Other Elements Which Affect Extent of Effects on the Environment		
Proposal time	Maximum project life	Approximately 40 years At the end of life, the project will be repowered or decommissioned.
	Construction phase	Approximately 18 to 24 months
	Operations phase	Approximately 35 years
	Decommissioning phase	Approximately 24 months

1.4 Exclusions

The scope of the Proposal referred under Section 38 of the *Environmental Protection Act 1986* (EP Act) excludes investigative works such as geotechnical and hydrogeological investigations which would support the later detailed design of the Proposal. These investigations and surveys will be subject to relevant provisions under Part V of the EP Act for clearing of native vegetation and other relevant legislation.

1.5 Proposal Alternatives

1.5.1 Need for Renewable Energy Projects

With the growing concerns surrounding the accumulation of greenhouse gases (GHG) within the atmosphere driving climate change, the need for alternative clean energy is ever-increasing. The desire to achieve reductions in GHG emissions has led to a transition in energy generation towards renewable energy facilities including wind farms, solar farms and BESS both regionally and globally.

The *Climate Change Act 2022* set Australia's GHG emissions reduction target to a 43% reduction from 2005 levels by 2030 and net zero by 2050. The Australian government is also targeting 82% renewable energy in electricity grids by 2030 (DCCEEW, 2023). In Western Australia, the Government has committed to a whole-of-government 2030 GHG emissions reduction target of 80% below 2020 levels. To achieve the State and National targets, the need for a transition to energy generated from renewable sources is evident, with renewable energy developments such as the Proposal essential to achieving renewable energy objectives.

The Proposal is a crucial renewable energy project that will contribute to achieving State and National targets, whilst maintaining affordable and reliable electricity supply for customers across the SWIS. The Proposal will increase the supply of renewable energy into the SWIS, thus reducing GHG emissions and promoting a sustainable economy. Implementation of the Proposal will also create opportunities for employment.

1.5.2 Site selection

Selection of a suitable location included consideration of physical site conditions, engineering requirements and environmental and social constraints. The proposed location was selected following detailed investigations with the following outputs indicating the suitability of the DE for a proposed renewable energy development:

- The strong local wind resource and favourable diurnal wind profile that compliments the electricity demand profile.
- Proximity to existing 330 kV power lines that traverse the DE, comprising the Western Power Eneabba to Three Springs transmission lines.
- The topography of the subject land which is largely open and gently undulating.
- Physical and environmental conditions, primarily that the DE is largely cleared and only contains small pockets of remnant, good quality vegetation that will be largely retained through careful siting of the WTGs, solar facilities, BESS and supporting infrastructure.
- Access to the DE via the regional road network from ports, with minimal (and only localised) upgrades required.
- Consolidated land ownership, with nine private landowners affected.

- Sparsely populated surrounds and minimal sensitive land uses.

The Mid West region of Western Australia is widely recognised as one of the country's most favourable locations for wind energy development and is characterised with an exceptional solar source. The combination of wind and solar sources results in compatible renewable energy generation whereby solar power generation reaches a peak during the middle of the day, when wind output is typically lowest.

Co-locating wind and solar generation on the same DE reduces both environmental impact and project costs by enabling shared use of infrastructure such as grid connections and substations. The addition of a BESS further enhances this setup by:

- Balancing wind and solar output during periods of overlap.
- Improving grid stability.
- Storing surplus energy that would otherwise be curtailed.
- Supporting a more consistent electricity supply during periods of high demand.

1.5.3 Iterative design process

In addition to the broader site selection process and constraints assessment undertaken to determine the location of the Proposal, an iterative layout design process has been undertaken to optimise the power generation capacity of the Proposal while minimising the potential environmental, heritage and social impacts. It is through this process that proposed clearing is predominantly confined to site access points.

Key design changes implemented within the project layout (excludes site access points) include:

- Siting of proposed project infrastructure within predominately cleared farmland to avoid and minimise clearing impacts and overall project disturbances.
- Application of at least 100 m setback from surveyed and subsequently mapped native vegetation for wind turbines to minimise impacts to fauna and bushfire risk.
- Selection of infrastructure locations that avoids all Category 1-3 Black Cockatoo potential nesting trees.
- Implementation of 'Clearing Exclusion Areas' that have been delineated to avoid impacts to significant fauna habitat, potential GDEs and vegetation communities potentially analogous with a TEC.
- Selection of infrastructure locations to reduce impacts to vegetation clearing and moderate- high quality Black Cockatoo habitat.
- Application of at least 100 m setback from a wetland and major waterways and 30 m from minor drainage lines for WTGs to avoid potential impacts to Groundwater Dependent Ecosystems (GDEs) and minimise potential impacts to bat species.
- Application of noise setbacks for WTGs of at least 1.5 km from all identified sensitive receptors potentially impacted by the project, via ongoing engagement throughout the project layout design process.
- Utilisation of existing farm tracks and entrances for internal access roads and site access to minimise impacts.
- Avoidance of waterways with exception of existing water way crossings.
- Minimise direct impacts to significant flora and vegetation through:

  - Avoidance of all recorded Threatened flora within the DE and vegetation types associated with GDEs along the route of the overhead transmission line.
  - Limiting disturbance to vegetation types (VTs) that potentially include ‘‘Assemblages of organic mound springs of the Three Springs’ TEC to two areas: an area up to 0.08 ha that intersects buffer vegetation along an existing well-used track and an area up to 0.25 ha under the transmission line corridor where any disturbance will be undertaken to maintain vegetation clearance from the overhead power lines and the understorey vegetation will remain intact.
- Relocation of overhead transmission infrastructure within the DE to avoid vegetation types associated with GDEs.
- Does not require clearing of mapped native vegetation to facilitate implementation of bushfire management measures.
- Reduction of buffers associated with internal access roads and other infrastructure through review of the construction footprint

A structured selection process was undertaken to review all access points, prioritising options with the lowest environmental impact. The following key changes and refinements were made resulting in the proposed access points:

- Avoids direct disturbance to recorded Threatened flora, including *Hakea megalosperma*.
- Avoids all Category 1-3 Black Cockatoo potential nesting trees.
- Selection of site access points to reduce impacts to vegetation clearing resulting to a reduction of disturbance to moderate - high quality Black Cockatoo habitat to below 1 ha.
- Minimise the number of transport and site access points and associated swept paths (from 18 to 9) through appropriate selection and design (refer to Section 7.6.1.1).

A Clearing Exclusion Area and a WTG Exclusion Zone are proposed within the Development Envelope to avoid and minimise impacts to significant patches of native vegetation and fauna habitat for Conservation Significant species and to meet the environmental commitments detailed in this RSD. The Clearing Exclusion Area and WTG Exclusion Zone are shown on Figure 11.

The Proponent has considered alternative options for the Proposal, including ‘do-nothing’, and alternative locations for the development. The Proponent has also revised the proposed design to avoid and minimise potential environmental impacts.

1.6 Local and Regional Context

1.6.1 Land Use and Tenure

The DE is located in the Shire of Carnamah and comprises land zoned ‘Rural’ under the Shire of Carnamah Local Planning Scheme No. 2. The Proposal is located on 14 freehold lots within an area of 15,847 ha, including adjacent and external road reserves to support transport access for the wind farm components. The Proponent has legal access to the freehold lots through Option to Lease agreements or Consent letters with the landowners (see Table 4).

The DE is bounded by Eneabba-Three Springs Road, Brimson Road, Carnamah-Eneabba Road and Rose Thomson Road to the west, and Garibaldi Wilis Road and Reserve Road (Figure 1). The DE is bounded by agricultural land to the south. Western Power's Eneabba Terminal and the Warradarge Wind Farm are also located immediately south of the DE, with the Warradarge Wind Farm land zoned 'Rural' and retaining the agricultural use across the majority of the area.

The compressor station for the Dampier to Bunbury Natural Gas Pipeline (CS08) is located approximately 3 km southwest of the DE. The Eneabba township and Illuka's Eneabba Rare Earth Minerals stockpile are located within 15 km west of the DE.

The current land use in the DE is primarily broad-acre agriculture. The DE, therefore, comprises predominantly cleared land, with pockets of remnant native vegetation. Parts of Lot 31 and Lot 6661 are affected by an Agreement to Reserve (ATR) under the *Soil and Land Conservation Act 1945*. The ATR includes conditions that apply to disturbance and rehabilitation within the ATR Lot boundaries. Following engagement with the Department of Primary Industries and Regional Development (DPIRD) and relevant landowners, Synergy is in the process of working with DPIRD to modify the ATR footprint to avoid any overlap with the IDF.

The Proponent has legal access to freehold land through Agreement or Consent letters with the landowners.

Table 4 Land Tenure

Lot Number	Plan/ Diagram	Volume/ Folio	Project Tenure
2572	110258	2075/615	Freehold tenure with Option to Lease
6214	83001	1477/934	Freehold tenure with Option to Lease
9737	163065	1316/28	Freehold tenure with Option to Lease
10487	208223	1716/136	Freehold tenure with Option to Lease
10488	208223	1316/944	Freehold tenure with Option to Lease
10560	167347	1293/816	Freehold tenure with Option to Lease
10890	210786	1790/464	Freehold tenure with Option to Lease
10847	210798	1904/371	Consent letters for DA provided by BEI (leaseholder) and landowners.
10846	210811	1681/755	Freehold tenure with Option to Lease
10845	210811	1642/241	Freehold tenure with Option to Lease
31	065745	2745/422	Freehold tenure with Option to Lease
6661	090156	1825/323	Freehold tenure with Option to Lease
10842	210815	1650/559	Freehold tenure with Option to Lease
10843	210815	1648/152	Freehold tenure with Option to Lease

Lot Number	Plan/ Diagram	Volume/ Folio	Project Tenure
N/A Untitled Crown land dedicated as public road reserve and forming part of: • Brimson Road (Landgate Land ID 3705201); • Carnamah-Eneabba Road (Landgate Land ID's 3731612 & 3626838); • Eneabba-Three Springs Road (Landgate Land ID's 3705202, 3705203 & 3705204); • Garibaldi Willis Road (Landgate Land ID 3626840); • Reserve Road (Landgate Land ID 3626841); and • Rose Thomson Road (Landgate Land ID's 3704812 & 3704813).			Crown land with consent letter for DA provided by Shire of Carnamah (as management body).

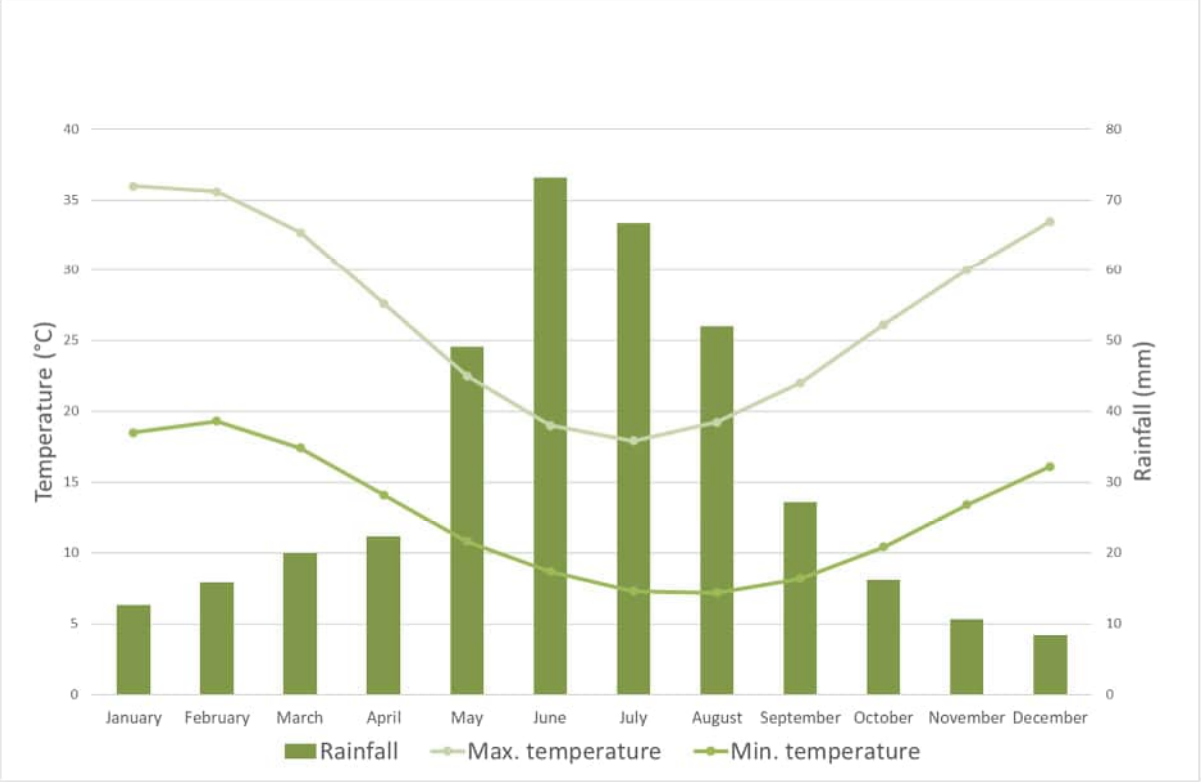
1.6.2 Social Context

The Shire of Carnamah has a population of 552 persons with a median age of 46 years at the last reported census (ABS, 2021). Of those reported in the labour force, 63.4% were employed full time, 26% were employed part time, 7.2% were away from work and 5.3% were unemployed. The 'Other Grain Growing' and 'Local Government Administration' industries dominated the workforce with 22.6% of those employed working in these sectors (ABS, 2021).

1.6.3 Climate

The Mid West region of Western Australia experiences a hot semi-arid climate, with hot, dry summers and mild, somewhat rainy winters. The nearest long-term Bureau of Meteorology (BoM) weather station to the DE is Carnamah weather station (Station 008025), located approximately 48 km east of the DE.

The data statistics have been collected since 1887 to date. The long-term mean minimum temperature for Carnamah weather station ranges from 7.2ºC (August) to 19.3ºC (February) and the long-term mean maximum temperature ranges from 17.9ºC (July) to 36ºC (January) (BoM, 2025). The long-term average annual rainfall for the area is 374.7 mm (Graph 1).



Graph 1 Long-term and Monthly Total Rainfall, Maximum and Minimum Temperatures for Carnamah (Station 008025) (BoM, 2025)

1.6.4 Topography

The topography of the DE is generally undulating with an overall downward slope from high points of approximately 300 m Australian Height Datum (AHD) in the eastern part of the DE to low points of approximately 200 m AHD towards the western part of the DE. An alluvial drainage system dissects the central part of the DE where the area is generally low lying (approximately 220 m AHD) surrounded by higher hill tops (WSP, 2025).

1.6.5 Regional Geology

The 1:100,000 Geological series map – Arrowsmith – Beagle Island indicates that the surface geology at the DE comprises:

- Early Cainozoic ferruginous laterite (Czl) and associated leached quartz sands.
- Small areas of exposed upper Parmelia Formation rocks (Kp) typically associated with topographic features.
- Quaternary alluvial sediments (Qa) and mixed colluvial/residual/diluvial deposits (sand, silt and clay – Q) associated with drainage lines and associated floodplains particularly in the western portion of the DE.
- Some Quaternary swamp/lacustrine deposits in tributary confluence zones in the southeast portion of the DE.

1.6.6 Land Systems, Soil and Vegetation

1.6.6.1 Soil Landscapes and Land System

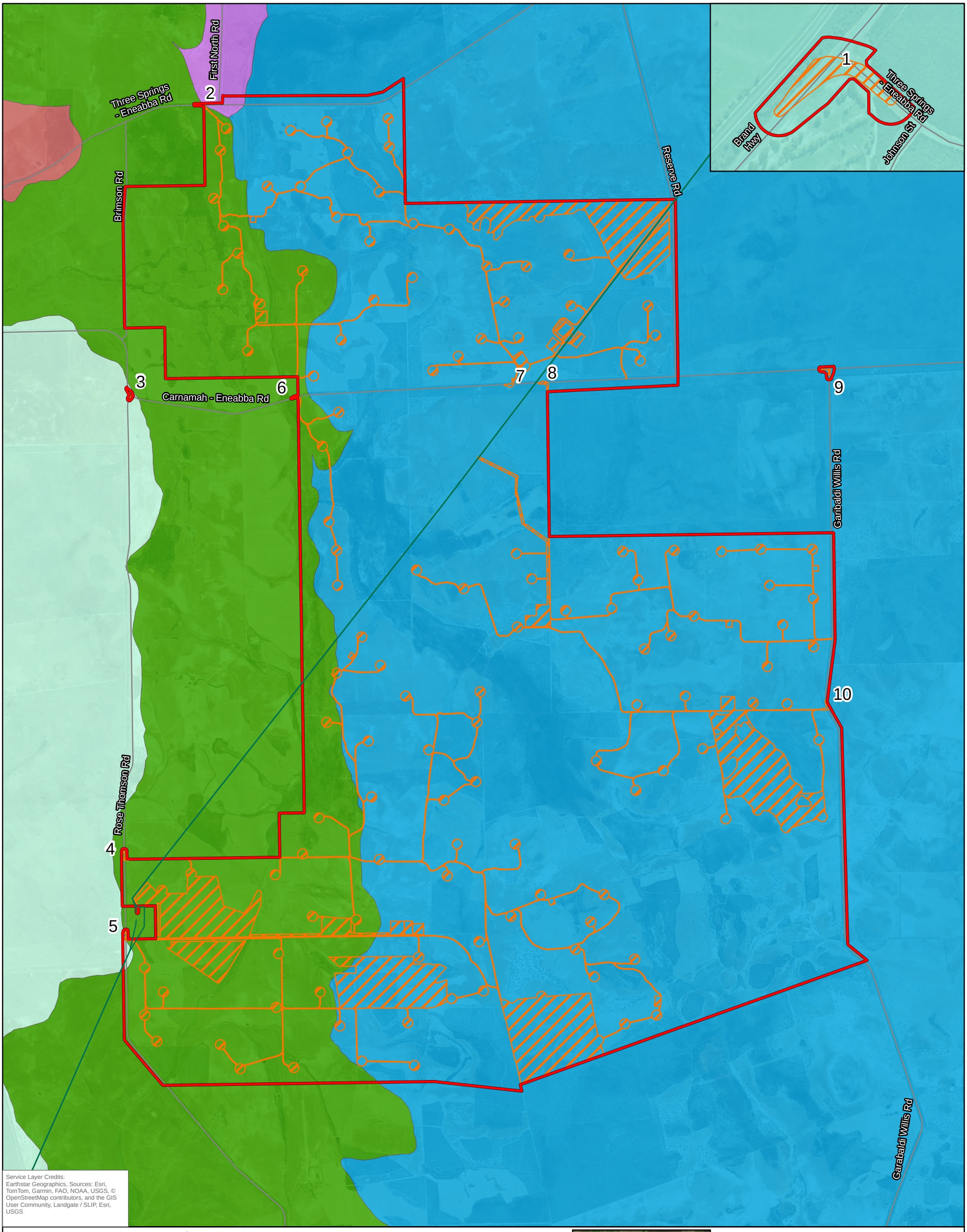
Soil landscapes and land system mapping of Western Australia describes the broad soil and landscape characteristics from regional to local scales and has been captured ranging from 1:20,000 to 1:250,000 (DPIRD, 2025b).

The DE is located in the Coalara System (ID 1433), Boothendarra System (ID 1424), Yerremullah System (ID 1429) and Otorowiri System (ID 1515) and comprises three soil landscape systems (DPIRD, 2025b):

- Coalara System (222Co) – Partially dissected plateau with lateritic caps and intervening dandy drainage lines; Pale and yellow deep sand, sandy gravels and sand over gravel.
- Boothendarra System (224Bh) – Subdued stripped lateritic plateau, undulating and gently undulating rises, Sandy duplexes, pale deep sand, sandy and loamy gravels and minor clays.
- Otorowiri System (224Ot) – Undulating to rolling sandplain and low hills. Gentle to moderately steep valley sides at margins of Mooladara Hill System. Spring lines are a common occurrence.

The soil landscape systems are presented in Figure 2.

A review of the Department of Water and Environmental Regulation (DWER) Acid Sulfate Soil (ASS) risk mapping identified no risk mapping has been completed for the area in the DE (WSP, 2025). However, the area surrounding the Proposal near Eneabba is generally considered to have a low risk of ASS as the area is characterised by sandy soils and elevated terrain (WSP, 2025).



Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

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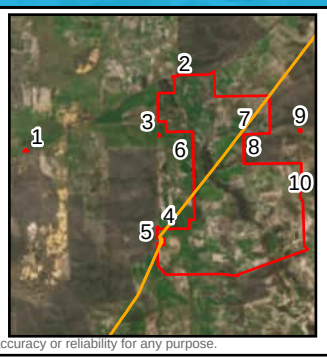
Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads

Soil Landscape Systems

- Boothendarra System
- Coalara System
- Mount Adams System
- Otorowiri System
- Yerramullah System



Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

SOIL LANDSCAPE SUBSYSTEMS

SLR

FIGURE 2

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F02_Soil Landscape Subsystems

1.6.6.2 Interim Biogeographic Regionalisation of Australia

The Interim Biogeographic Regionalisation of Australia (IBRA) divides Australia into 89 bioregions based on major biological and geographical/geological attributes. These bioregions are subdivided into 419 subregions, as part of a refinement of the IBRA framework (DCCEEW, 2025). The Proposal is located within the Geraldton Sandplains (GES) bioregion and the Lesueur Sandplain (GES02) subregion (DCCEEW, 2025).

The Geraldton Sandplains bioregion consists of mainly proteaceous scrub-heaths, rich in endemics, on the sandy earths of an extensive, undulating, lateritic sandplain mantling Permian to Cretaceous strata. Extensive York Gum and Jam woodlands occur on outwash plains associated drainage (Desmond & Chant, 2001).

The Lesueur Sandplain subregion consists of coastal Aeolian and limestones, Jurassic siltstones and sandstones of central Perth Basin and Alluvials associated with drainage systems. There are extensive yellow sandplains in south-eastern parts, especially where the sub-region overlaps the western edge of the Pilbara Craton. Shrub-heaths occur on a mosaic of lateritic mesas, sandplains, coastal sands and limestones. Heath on lateralised sandplains along the subregions northeastern margins (McKenzie et al., 2000).

1.6.7 Hydrology and Hydrogeology

1.6.7.1 Hydrology

Two significant streams (Warradarge Creek and Eneabba Creek), two unnamed major tributaries and two unnamed minor tributaries intersect the DE (Figure 3) (DWER, 2018).

The DE extends across two distinct catchment areas (DWER, 2018):

- Hill River catchment, including Warradarge Creek which runs through the western portion of the DE from north to south.
- Eneabba Creek catchment, with upper reaches of Eneabba Creek located in the north-western portion of the DE.

Based on a review of the Geomorphic Wetlands Cervantes Eneabba (DBCA-015), one geomorphic wetland (ID 440) is located within the DE along the central western boundary of the DE along Warradarge Creek (Figure 3) (DBCA, 2025c).

A search of the DCCEEW Directory of Important Wetlands indicates that the closest classified wetland to the DE is Lake Logue/Indoon located approximately 33 km west of the DE (DBCA, 2018).

Information provided from the Soil landscape land quality – Flood Risk Map (DPIRD, 2025a) indicates that the majority of the DE is classified as L1 (<3% of map unit has a moderate to high flood risk), equivalent to a low to moderate risk, while the northwest corner of the DE between Warradarge Creek and upper Eneabba Creek has a slightly higher flood risk of L2 (3-10% of map unit has a moderate to high flood risk) or H2 (>70% of map unit has a moderate to high flood risk) (Eco Logical Australia, 2025) (Appendix B).

Warradarge Creek
First North Rd
Three Springs - Eneabba Rd
Brimson Rd
Reserve Rd
Eneabba Creek
Carnamah - Eneabba Rd
Garibaldi Wills Rd
Rose Tihomson Rd
Warradarge Creek
Garabaldi Wills Rd
Brand Hwy
Johnson St
1
2
3
4
5
6
7
8
9
10

Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

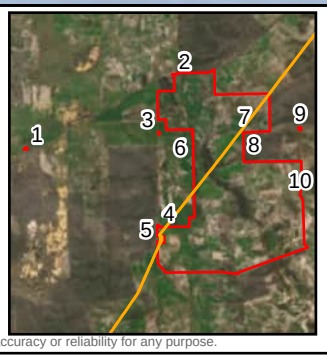
LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Surface Water
- Geomorphic Wetlands

Flood Risk

- H1
- H2
- L1
- L2
- M1
- M2

Note: Numbers represent site access point ID's



SLR

TATHRA WIND FARM EP ACT REFERRAL

HYDROLOGY AND WETLANDS

FIGURE 3

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F03_Hydrology and Wetlands

1.6.7.2 Hydrogeology

The DE is located within the Arrowsmith groundwater area, which is proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DWER, 2025b). This area includes Eneabba and was established to regulate groundwater abstraction and ensure sustainable use (DWER, 2025b).

Desktop assessments indicated presence of potential Terrestrial and Aquatic GDEs, including one geomorphic wetland located along the central western DE boundary (Eco Logical Australia, 2025).

The DE is not located within a Public Drinking Water Source Area (PDWSA) (DWER, 2025b). The nearest PDWSAs are located near the coastal town of Jurien Bay (the Cervantes-Jurien Bay Water Reserve), which lies more than 30 km southwest of Eneabba.

1.6.8 Reserves and Conservation Areas

1.6.8.1 Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are declared by the DWER to prevent the degradation of important environmental values such as Threatened flora, Threatened Ecological Communities (TECs) and significant wetlands.

One ESA (ID 10734) intersects the DE and is identified as a TEC (DWER, 2021) (Figure 4). ESA mapping incorporates a buffer and therefore it is anticipated that the ESA is located within the northern portion of the DE.

1.6.8.2 Conservation Areas

Conservation Areas consist of areas protected for the purpose of conservation, including but not limited to National Parks, Nature Reserves, Conservation Parks and Regional Parks.

No Nature Reserves or National Parks are present in the DE. Three Conservation Areas are located directly along the boundary of the DE, including (DBCA, 2025a) (Figure 4):

- White Gums Nature Reserve (ID 26799) located along the northwestern boundary of the DE.
- Wotto Nature Reserve (ID 29806) located along the northern boundary of the DE.
- Tathra National Park (ID 29805) located along the northeastern boundary of the DE.

Alexander Morrison National Park is located approximately 15 km south of the DE. The Yarra Yarra Lakes are located 23 km northeast of the DE.

ID 17386
Wotto Nature Reserve

First North Rd

Depot Hill Nature Reserve

Three Springs - Eneabba Rd

White Gums Nature Reserve

Brimson Rd

Reserve Rd

Tathra National Park

ID 7203

ID 17292

ID 18479

Carnamah - Eneabba Rd

ID 18478

ID 10734

Tathra National Park

ID 17291

Garibaldi Wills Rd

ID 18477

Rose Thomson Rd

Brand Hwy

Johnson St

1
2
3
4
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6
7
8
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10

Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Lot 31, F902482 Agreement to Reserve
- Buffered Environmentally Sensitive Areas
- Conservation Areas

Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

CONSERVATION AND ENVIRONMENTALLY SENSITIVE AREAS

SLR

FIGURE 4

2.0 Legislative Context

2.1 Environmental Impact Assessment Process

2.1.1 Environmental Protection Act 1986

The EP Act is the key legislation for environmental protection in Western Australia. The EP Act is administered by the Department of Water and Environmental Regulation (DWER), with the Environmental Protection Authority (EPA) operating as an independent statutory authority as established under the EP Act.

Part IV of the EP Act sets out the requirements for environmental impact assessment (EIA) with administrative procedures establishing the practices of EIA.

Proposals that may have a significant effect on the environment are referred under Section 38 of the EP Act. The Environmental Protection Authority (EPA) decides whether a Proposal requires formal assessment based on the information provided in the referral process; information from any investigation done by the EPA; and other statutory decision-making process that can mitigate the potential impacts of the Proposal on the environment. If formal assessment of a Proposal is required, the EPA, sets the level of assessment and determines the key environmental factors that require consideration. If the EPA decides that formal assessment of the Proposal is not required, the EPA may issue public advice or determine that the Proposal can be managed under other statutory processes.

This document supports a referral under Section 38 of the EP Act and has been prepared in accordance with the *EPA Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual*.

2.1.2 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is administered by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and is Australia's primary national environmental legislation. The EPBC Act provides for the protection of Matters of National Environmental Significance (MNES) at a national level.

Under the EPBC Act all actions that will have, or are likely to have, a significant impact on MNES are defined as 'controlled actions' and must be approved by the Commonwealth Minister for the Environment (the Commonwealth Minister) prior to implementation. The process for assessment and approval of a controlled action comprises:

- Referral – the action is referred to DCCEEW for the Commonwealth Minister to determine whether the action is a controlled action.
- Assessment – the potential impacts of the controlled action on MNES are assessed.
- Decision – the Commonwealth Minister decides whether to approve the controlled action and, if so, whether conditions are to be attached to the approval.

Matters of National Environmental Significance, namely threatened and migratory species, have been identified as occurring in or near the DE, hence the Proposal will be referred under the EPBC Act.

2.2 Other Approvals and Regulation

In addition to meeting requirements under the EP Act and EPBC Act, the Proposal will be subject to requirements under other legislation that will mitigate potential environmental impacts as outlined in Table 5.

Table 5 Decision-Making Authorities and Processes Relevant to the Proposal

Decision Making Authority	Legislation or Agreement	Approval Required	Whether and How Statutory Decision-Making Process Can Mitigate Impacts on the Environment	Conditions, Enforcement and Review Process Required by Decision-making Processes
Regional Development Assessment Panel (RDAP), Shire of Carnamah	*Planning and Development Act 2005* (PD Act) Planning and Development (Development Assessment Panels) Regulations 2011 Planning and Development (Local Planning Schemes) Regulations 2015 *Shire of Carnamah Local Planning Scheme No.2*	Development Application	A Development Application (DA) has been lodged for the Proposal. It is anticipated that the DA will regulate requirements for the management and mitigation of environmental impacts, and Condition these appropriately. Key Management Plans required by the DA are expected to include: • Construction Environmental Management Plan, including: o Erosion and sediment control o Stormwater management o Dust management o Noise and Vibration o Fauna management o Dieback management (if required) o Waste management o Fire and Emergency response o Heritage Management (local heritage) • Traffic and Transport Management Plan. • Occupational Health and Safety Management Plan. • Operations Environmental Management Plan, including: o Dust o Fire o Stormwater o Waste • Operational Noise Management and Monitoring Plan. • Bird and Bat Adaptive Management Plan. • Preliminary Decommissioning and Rehabilitation Management Plan. The DA process takes into account conflicting and compatible land uses and will, therefore assess, and if necessary, condition management of potential impacts to the Social Surroundings EPA Environmental Factor.	**Conditions** Under s 171P(1) the Commission must consider a significant development application and determine it by: • Granting approval for the development without conditions. • Granting approval for the development with conditions. • Refusing approval for the development. Conditions applied to the DA will consider all phases of the Proposal and are likely to require the implementation of management plans including construction, bushfire, traffic and Bird and Bat Adaptive Management. **Enforcement** Under s 171V(1) if the development is not constructed in accordance with conditions, the Commission has powers of a responsible authority. This includes preventing the completion of the development. **Review Process** Under s 171Y(1) an applicant may make an appeal to the State Administrative Tribunal to review the Commission's decision.
Department of Water and Environmental Regulation (DWER)	*Rights in Water and Irrigation Act 1914 (RIWI Act)*	Bed and Banks Permit 26D Licence to construct well 5C Licence to take surface water or groundwater	Surface water features located within the DE include Warradarge Creek and Eneabba Creek. A Bed and Banks permit under the RIWI Act will be required if any activity or works associated with the Proposal might interfere with, obstruct, or destroy the bed or banks of a watercourse, wetland or surrounds. Bed and Banks permits will be required to modify and improve existing waterway crossings through the construction of culverts. A 26D licence under the RIWI Act will be required if a new well (or modification of an existing well) is required. A 5C Licence will be required if surface water or groundwater is to be taken. DWER assesses key environmental considerations associated with water courses and groundwater aquifers prior to granting a permit or and licence under the RIWI Act.	**Conditions** The Minister may 'prescribe terms, conditions and restrictions' under Schedule 1 of the RIWI Act). All terms must be adhered to as long as the licence exists. The issue of permits including 26D, 5C and Bed and Banks are guided by the overarching objectives of the RIWI Act which includes the management of water resources and protection of their ecosystems. Therefore, permits issued will consider and regulate activities that may be detrimental to these values. **Enforcement** Under Schedule 1, s 18 of the RIWI Act, the Minister is empowered to enforce any conditions attached to an approved licence. This includes the issuing of notices to the licence and monetary fines.

Decision Making Authority	Legislation or Agreement	Approval Required	Whether and How Statutory Decision-Making Process Can Mitigate Impacts on the Environment	Conditions, Enforcement and Review Process Required by Decision-making Processes
			Specifically, DWER will consider potential impacts to environmental values associated with a watercourse, potential impacts to other water users and sustainable use of the water resource. If a Bed and Banks permit is granted, it will specify the scope and duration of the permitted activity and may include conditions relevant to the activities that will interfere with the bed and banks of the watercourse. If a 5C licence is granted to take water, a limit on the volume approved to be taken will be included on the licence. The requirements under the RIWI Act can, therefore, mitigate potential impacts of the Proposal on the Inland Waters EPA Environmental Factor.	**Review Process** Under s 26GG and 26GI of the RIWI Act, an applicant may appeal the licence to have the State Administrative Tribunal review the Ministers decision. For s 5C licences, any person with agreement to use any water generated under the licence can make an appeal.
Department of Planning, Lands and Heritage (DPLH)	*Aboriginal Heritage Act 1972* (AH Act) Aboriginal Heritage Regulation 1974	Section 16 authorisation to enter, excavate, examine, or remove anything on an Aboriginal site. Section 18 consent for impact on an Aboriginal site. Regulation 10 authorisation for minor activities and impacts. Regulation 7 authorisation to bring plant and equipment to an Aboriginal Site.	An Aboriginal cultural heritage survey of the IDF was completed in August 2025 with Yamatji Traditional Owners and a Heritage Consultant all nominated by Yamatji Southern Regional Corporation. The final report of the survey is currently being finalised at the time of writing. Based on the completed Heritage Due Diligence Assessment, the chances of encountering Aboriginal heritage within the DE is low. The Proposal will implement measures outlined in Section 8 to mitigate any potential impacts to any Aboriginal heritage that has not been identified and will at all times comply with the AH Act.	**Conditions** Under s 18(3) of the AH Act where the Committee submits a notice to the Minister under subsection (2) they shall either: a) Consent to the use of the land the subject of the notice, or a specified part of the land, for the purpose required, subject to such conditions, if any, as he may specify. b) Under subsection 6(A), if the Minister becomes aware of new information about an Aboriginal site, they may amend the consent by amending the condition, to which it is subject, imposing new conditions, or changing the specifications or the land to which it relates. **Enforcement** Under Part VII of the AH Act, the Minister (or any delegate) may exercise any of the powers listed under the Act. This includes the issuing of penalties for a person who commits an offence against this Act. **Review Process** Under s 18(5), a landowner or native title party in relation to land may make an appeal to the State Administrative Tribunal for a review of a decision made under subsection (3) or (6A).
Department of Biodiversity, Conservation and Attractions (DBCA)	*Biodiversity Conservation Act 2016* (BC Act)	Sections 40 and 45 Authorisation for operations	Threatened species and a BC Act listed TEC have been recorded within the DE. Activities that may result in the taking or disturbance of threatened species or the modification of a TEC require lawful authority under the BC Act via Ministerial Authorisation under Sections 40 and 45 of the BC Act respectively. Requirements for Section 40 and 45 Authorisation under the BC Act and appropriate mitigations will be discussed with DBCA in the context of potential direct and indirect impacts to threatened taxa and potential indirect impacts to the TEC. Authorisation under the BC Act can, therefore, mitigate potential impacts to threatened fauna and the TEC.	**Conditions** • Under s 41(1), s 41(2), s 41(3), s 41(4) of the BC Act the Minister of the day may impose conditions on the authorisations approved under Section 40 of the BC Act. **Enforcement** Under s 198 of the BC Act, a wildlife officer may carry out inspections to determine if the BC Act, associated regulations, or licence conditions have been breached. If a breach has been identified the Chief Executive Officer (CEO) is empowered under Part 14, Division 2 of the BC Act to enforce the undertaking of remedial action and/or administer penalties as outlined within the Biodiversity Conservation Regulation 2018.

Decision Making Authority	Legislation or Agreement	Approval Required	Whether and How Statutory Decision-Making Process Can Mitigate Impacts on the Environment	Conditions, Enforcement and Review Process Required by Decision-making Processes
				Review Process Under s 89 of the Biodiversity Conservation Regulation 2018, any affected party may lodge an appeal with the State Administrative Tribunal to review any decision made by the CEO in relation to the issuing of licences.
DWER	*Environmental Protection Act 1986* (EP Act); *Environmental Protection (Clearing of Native Vegetation) Regulations 2004;* *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998*	Part V Division 2 of the EP Act – Native Vegetation Clearing Permit (NVCP)	The assessment process for an NVCP includes consideration of significant flora and vegetation, areas of high biological diversity, significant fauna habitat and conservation areas. This aligns with the EPA Environmental Factor Objectives for Flora and Vegetation and Terrestrial Fauna. If the Proposal is not assessed under Part IV of the EP Act, an NVCP will be sought to authorise the clearing of native vegetation. An NVCP will specify the location and extent of clearing and may also include conditions relating to the clearing such as the method and timing of clearing. An NVCP can, therefore, mitigate potential impacts to EPA Factors Flora and Vegetation, Terrestrial Fauna, Terrestrial Environmental Quality and Inland Waters. Concrete for foundations will be mixed at concrete batching plants either for the Proposal or sourced offsite. The *Environmental Protection (Concrete Batching and Cement Product Manufacturing) Regulations 1998* provide for the management and minimisation of environmental impacts from concrete batching and cement product manufacturing activities. The main objectives include control of dust emissions, wastewater and outlines penalties for non-compliance.	**Conditions** In accordance with ss 51G, 51H and 51I of the EP Act, DWER is empowered to attach conditions to the NVCP that are proportionate to the assessed potential impacts on the environment. **Enforcement** Under s 51J of the EP Act the NVCP may include conditions requiring the permit holder to report on various aspects of the clearing activities approved under the permit. It may also contain conditions allowing DWER to undertake compliance inspections. If through the reporting and inspection processes, it is identified that a law has been breached, DWER is empowered under s 70 of the EP Act to undertake 'enforcement actions' to either remedy the situation or sanction the permit holder. **Review Process** Under ss 101A (1), 101A(3) and 101A(4) of the EP Act any permit applicants or a third party, including the general public, have the opportunity to appeal against DWER's determination or any conditions attached to an approved permit, within the legislated timeframe. These appeals will be considered by the Minister of the day, who is empowered under ss 51K(1)(h), 51K(2), 105(aa), 107, 109, 110 of the EP Act to make a final determination to uphold or dismiss the appeal.
Department of Primary Industries and Regional Development (DPIRD)	*Soil and Land Conservation Act 1945*	Amendment to the Agreement to Reserve on Lot 31	Land within the Agreement to Reserve boundaries is to be avoided and protected during development. An amendment to existing boundaries will be sought to reflect the results of the recent vegetation surveys. The *Soil and Land Conservation Act 1945* can, therefore, mitigate potential impacts to native vegetation.	The clauses within the Agreement to Reserve restrict the clearing of native vegetation within the boundary of the Agreement.
Department of Health	*Health Act 1911* Health (Treatment of sewage and disposal of effluent and liquid waste) Regulations 1974	Application to Construct or Install an Apparatus for the Treatment of Sewage.	As the operations and maintenance building will not be connected to the sewerage network an onsite septic system will be required. An application must be lodged to install the proposed wastewater treatment system. Details of the system will be assessed by the Local Shire and/or Department of Health, depending on the amount of wastewater to be handled by the apparatus each day. By adhering to the licence, the outcomes are likely to align with the EPA's objectives for Inland Waters and Terrestrial Environmental Quality.	**Conditions** Under Part 2 Division 1 regulation 4(3) a local government shall grant the approval subject to conditions as the local government sees fit. **Enforcement** Under Part 2 Division 2 regulation 10(3) if an officer is not satisfied that an apparatus conforms with the regulations or the approval, they shall advise the owner of corrective actions and arrange for a further inspection. **Review Process** Under regulation 22(1) a person may make an appeal to the local government for it to review the decision.

3.0 Stakeholder Engagement

3.1 Key Stakeholders

The following stakeholders outlined in Table 6 have been identified as key stakeholders for the Proposal.

Table 6 Key Stakeholders

Stakeholder Group	Stakeholder	Area of Interest
Federal Government	Air Services Australia and Civil Aviation Safety Authority (CASA)	• Proposal details. • Planning approval.
	BoM	Meteorological radar.
	DCCEEW	• Impact upon MNES. • EPBC Act referral.
	Geoscience Australia	Trigonometrical stations.
State Government	Premier of WA	Alignment with Net Zero 2030 target.
	Minister for Energy	
	Member for the Mid West	
	DBCA	• Biodiversity aspects. • Land use.
	DWER	• Environmental impact assessment. • Referral under EP Act. • Groundwater licensing.
	DPLH	• Planning approval. • Heritage.
	Department of Fire and Emergency Services (DFES)	Bushfire risk management.
	Main Roads WA	Road usage.
	Port of Henderson	Potential use of port for future delivery of turbines.
	Water Corporation	• Availability and capacity of water for construction activities. • Understanding seasonal constraints for water supply.
	WA Police	• Land use. • Electromagnetic interference.
	Western Power	Connection to existing infrastructure.
	Shire of Carnamah	• Planning approval.

Stakeholder Group	Stakeholder	Area of Interest
Local Government		• Social impact and considerations such as set-back distances, employment and accommodation. • Bushfire risk management. • Community Benefit Fund.
	Mid West Development Commission	• Proposal details. • Employment opportunities. • Local road usage and maintenance.
Traditional Owners	Yamatji Southern Regional Corporation	• Aboriginal cultural heritage engagement and protection. • Employment opportunities.
Landowners and Neighbours	Various including private and industry	• Social values assessment, including noise. • Land use. • Landowner and neighbour benefits.
Local community	Community members	• Community Benefit Fund. • Proposal details. • Potential impacts. • Social values assessment. • Employment opportunities.
Non-Government Organisations	Telstra/Optus/NBN	Impacts to service provision.
	Wildflower Society of WA	Environmental impact assessment.
	Mid West Chamber of Commerce & Industry	• Proposal details. • Community Benefit Fund. • Employment opportunities. • Social values assessment, including noise. • Land use. • Environmental impact assessment.
	Country Women's Association (Jurien Bay Branch)	
	Midwest Council on Agriculture	
	Mid West Growers Group (Gascgoyne Region)	
	Tourism Geraldton Mid West	

3.2 Stakeholder Identification and Engagement Process

The Proponent has been consulting with key stakeholders since July 2023. Key objectives of the engagement have been to:

- Provide clear, accurate and up-to-date information.
- Consult meaningfully with communities and stakeholders and provide suitable opportunities and channels for stakeholder input into the Proposal.
- Build and maintain Social and Cultural Licence with the community and other stakeholders to facilitate approvals, construction, and operation of the Proposal.

- Establish and strengthen relationships with stakeholders and communities.

A stakeholder identification process has been completed to support the planning and delivery of community and stakeholder consultation activities to inform the preparation of the Social Impact Assessment (SIA) (Appendix C) (Umwelt, 2025g). The identification of stakeholders is driven by the selection of individuals/groups that have a potential interest in the Proposal, or are directly or indirectly impacted by the Proposal, including any marginalised or under-represented groups.

Consultation activities undertaken to support the Proposal focused on providing information on the Proposal, understanding the social impacts of the Proposal and gathering community suggestions on potential management measures to address social impacts. Information provision and consultation activities that have been undertaken are outlined in Table 7.

Table 7 Stakeholder Consultation and Engagement Undertaken

Mechanism	Details
Pop-up stalls	A total of five pop-up stalls were held in Carnamah, Eneabba and Coorow between 9 -11 April and 26-17 August 2025. Seventeen people attended the Carnamah session, three people attended the Eneabba session and three people attended the Coorow session in April, 47 people attended the Carnamah and 10 people attended the Coorow session. These sessions provided an opportunity for engagement and sharing of the Proposal objectives, with opportunities to participate in informal discussion.
Project meetings	Forty-one meetings were held in person and online between April and October 2025. These meetings were held with key stakeholders to seek input on specific matters and to facilitate introduction and relationship building.
Online survey	An online survey was made available from mid-April to late May 2025, with six community members completing the survey. The survey aimed to gain feedback from key stakeholders and the local community on the Proposal and community needs and values.
Information sheets	Digital and hard copy Proposal information sheets were developed to communicate key Proposal updates and opportunities to participate in formal discussion.

Table 8 summarises the engagement mechanisms for each stakeholder group, as well as the total number of stakeholders contacted and consulted per group.

Table 8 Stakeholder Groups Consulted

Stakeholder Group	Mechanism	Number Contacted	Number Consulted
Traditional Owners	Virtual meeting	3	2
Host landholders/ neighbouring landholders	Telephone interview/face-to-face meeting	12	10
Local Government	Virtual meeting/face-to-face meeting	5	5
State Government	Virtual meeting	7	4
Community members	Online survey, pop-up stall, telephone interview	14	14

Stakeholder Group	Mechanism	Number Contacted	Number Consulted
Community and special interest	Face-to-face meeting	10	4
Business and industry	Virtual meeting/face-to-face meeting	3	3
Local businesses	Face-to-face meeting	7	6
Health and emergency service providers	Virtual meeting/telephone interview	9	4
Service providers	Virtual meeting	3	1
Education providers	Face-to-face meeting/virtual meeting	4	2
Tourism and accommodation	Telephone interview, online survey/telephone interview/face-to-face meeting	37	11
Local media providers	-	1	0

3.3 Stakeholder Consultation Outcomes

A summary of stakeholder consultation completed for the Proposal, including topics discussed is provided in Table 9.

Table 9 Stakeholder Register

Stakeholder	Date(s)	Topic Discussed	Response/Outcomes
State and Federal Government & Agencies			
AirServices /CASA	March 2024 – Ongoing	• Notified agency of proposed met masts. • Registration of constructed met masts to meet compliance. • Provided comments in response to the Aviation Impact Assessment (AIA) as part of the DA submission.	• Met masts for DA supported. • SynergyRED is working through comments provided by CASA, primarily on recommendation for aviation lighting.
CASA and ASA	March 2024-October 2024	Registration of the met masts with CASA to comply with air safety in proximity of the project area.	Met masts are operational and compliant.
DBCA	August 2025 - ongoing	• Briefing on Development Application (DA) and EPA referral. • Pre-referral meeting and presentation of Proposal and key impacts most relevant to DBCA. • Offered to provide a further briefing, noting DE abuts several DBCA managed reserves.	• Clarified with DBCA that Proposal DA will be lodged with Shire of Carnamah. • DBCA declined further briefing.
DCCEEW	September 2025 - ongoing	Pre-referral meeting to introduce the Proposal with a focus on MNES values and presentation with impacts presented.	• DCCEEW recommended to reduce impacts further, if possible, to reduce offsets. • Arrange a follow up meeting.
DWER (Green Energy Team)	June 2025 – ongoing	• Introduction to DWER Green Energy Team. • Provide update on proposed S38 referral timeframes. • Two pre-referral meeting, SynergyRED provided an introduction to the Proposal, studies completed and planned. • Discussed focus on Flora, Vegetation and Fauna impacts.	Incorporate/ follow up on issues of interest (water allocation, value of canola crops as foraging habitat in area).

Stakeholder	Date(s)	Topic Discussed	Response/Outcomes
DWER (Noise Branch)	April -June 2025	Sought advice on noise modelling methodologies and guidelines.	Noise modelling was undertaken as per advice provided (DWER confirms acceptance of ISO9613-2024 Annex D as accepted methodology.
DWER (Water Licencing)	December 2024-November 2025	• Enquired about water allocation for construction in the Mid West Gascoyne region. • Requested updated water allocation details.	Selected resources are available including Strategic Aboriginal Water Source component.
Mid West Development Commission	March 2025 – October 2025	• Meeting to discuss Proposals in the region and community consultation. • Proposal update.	
Main Roads Western Australia	March 2025	Consulted as part of Traffic Impact Assessment.	
Western Power	April 2025 - ongoing	Clean Energy Link discussion and discussion of North Region projects. The Project was described and discussed in relation to planned upgrades. The project was deemed Connection Ready in Sept 2025 under the Critical Project Framework, introducing three stages. A second workshop in Oct 2025 reviewed staging and refreshed connection options, which are currently being reassessed.	SynergyRED will continue to work closely with Western Power to ensure timing and suitability of connection mechanisms. SRED to choose connection option post October 2025 workshop, aligning with schedule and cost.
DPIRD (Office of Commissioner of Soil and Land Conservation)	November 2024 – Nov 2025	Obtained further details regarding an Agreement to Reserve (ATR) under the *Soil and Land Conservation Act 1945* which applies to Lot 31 and Lot 6661.	SynergyRED is in the process of working with the Department to modify the ATR footprint to avoid any overlap with the IDF.

Stakeholder	Date(s)	Topic Discussed	Response/Outcomes
Local Government			
Shire of Carnamah	April 2024 - ongoing	Several meetings have been conducted to: • Introduce the Proposal. • Provide updates. • Discussions on metrological masts, planning approval pathways (development application), biological surveys. • Discussion on suitable times and venues for community consultation. • Discuss DA landowner consent letters. • Notification of Synergy CBF opening. • Provide a pre-consultation overview of the DA. • Discuss DA application and timing.	SynergyRED will continue engage with the Shire and provide ongoing updates on the Proposal and Community Benefit Fund Consent letter from the Shire to allow DA to be submitted, noting potential impacts of proposed development on Shire Road Reserves.
Shire of Three Springs	April 2025 to August 2025	• Introduction to the Proposal. • Update on Proposal. • SIA interview. • Notification of Synergy CBF opening.	
Shire of Coorow	August 2025	Notification of Synergy CBF opening.	
Traditional Owners			
Yamatji Southern Regional Corporation (YSRC)	February 2024-November 2025	• Introduction of Project. • Heritage Agreement and Activity Notice timelines. • Discussed surveys required. • Update on cultural heritage engagement. • Project updates. • Discuss LVIA reference locations.	• Activity Notice for met masts, geotechnical investigation and IDF submitted. • Confirmed survey dates. • Commenced arrangement of Aboriginal Heritage surveys (completed). • Share SIA information.

Stakeholder	Date(s)	Topic Discussed	Response/Outcomes
Landowners and Neighbours			
Landholders and neighbours	March 2024 – ongoing	Numerous in-person meetings, phone calls and emails the following items were discussed: • Introduction to the Proposal. • Interest in hosting wind turbines and/or consenting to feasibility studies. • Updates to the Proposal. • Negotiations to finalise Option to Lease agreements • Discussions on hosting solar panels Request permission to access properties for the purpose of studies: • Noise monitoring. • Visual Impact Assessment. • Biological Surveys (Flora and Fauna). • Bird and Bat Utilisation Surveys. • Geotechnical assessment. • Met mast location, height, size, timing and access for installation. • Location of wind turbines, road and infrastructure. • Negotiations on the hosting of wind turbines, energy infrastucture and land access requirements. • Signing Option to Lease agreements and Project consent letters. • Neighbour communications via phone, in-person, letters and emails including: Introduction to the proposal Maps of proposed infrastructure	• Eight of the nine landowners have executed an Option to Lease, ensuring the majority of land is secured to allow the development of the Proposal. • Access granted to properties for feasibility studies. • SynergyRED commitment to ongoing engagement regarding the Development Application and Environmental Approvals with landowners and neighbours.

Stakeholder	Date(s)	Topic Discussed	Response/Outcomes
		Met mast location, height, size and timing of installation Preliminary discussions on neighbour agreements	
Community			
Local community members	April 2025 -ongoing	SynergyRED held community engagement sessions, including drop-in sessions to: • Introduce the Proposal to the community. • Provide an overview of the Proposal. • Gather insights for the SIA. • Feedback the results of the feasibility assessments for the Proposed Tathra Wind Farm. • Discuss the Development Application and Environmental Impact Assessment process.	
Local Community and Industry Groups			
Various local businesses including, but not limited to: Coorow Primary School Hardware Store General Store CWA Post Office Carnamah Hotel	October 2024-ongoing	• Ongoing engagement from October 2024. • Three community drop-in sessions (plus two planned sessions in August 2025) • Geotargeted Facebook advertising. • Advertisements in local newspapers, the Carnamah Mat and the Eneabba News • Dedicated project webpage. • Distribution of project factsheet, followed by a detailed project booklet • Posters on notice boards. • Emails to Project database and customer database. • Community event sponsorship and participation.	• Most community members who interacted directly with Synergy thought these engagements were positive or neutral towards the Project. • Community asked questions about if the Wind Farm would increase pressure on accommodation availability, healthcare, or emergency services. Concerns were also raised about the ability to recycle the infrastructure. Community members were interested in what community

Stakeholder	Date(s)	Topic Discussed	Response/Outcomes
		• Energy education session at Coorow Primary School. • Impromptu drop-in meetings with local businesses in Eneabba, Coorow and Carnamah. • Meetings with key groups such as the Country Woman's. • Association and the Wildflower Society. • Conducted a Social Impact Assessment which included a community wide survey and targeted in-depth interviews.	benefits the project might bring to the local areas. • These topics have been addressed in community engagement materials that will be released in due course.
Wildflower Society of WA (Perth)	February 2025	• Introduction to Proposal. • High-level overview of feasibility studies.	SynergyRED to continue to keep society informed Biological survey to follow EPA and DCCEEW guidelines (no change to scope was required)

4.0 Object and Principles of the EP Act

The object of the EP Act is to '*protect the environment of the State*', having regard to the five principles summarised in Table 10.

Table 10 EP Act Principles

No.	Principle	Consideration
1	**The Precautionary Principle** Where there are threats of serious irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, decisions should be guided by – a) Careful evaluation to avoid, where practicable, serious or irreversible damage to the environment. b) An assessment of the risk-weighted consequences of various options.	Baseline studies and investigations were commissioned through various specialist consultants to understand the environmental and social values in and near the DE and the potential environmental and social impacts associated with the Proposal. Based on the results of the baseline studies and investigations, the Proposal has been designed to avoid sensitive areas and minimise potential environmental and social impacts, including: • Proposal design to utilise existing cleared areas where possible to minimise clearing of native vegetation. • Proposal design to avoid clearing of environmentally significant vegetation. • Ensuring an appropriate separation distance to sensitive receptors. • Assessing the risks of the identified key Environmental Factors, and presenting management regimes to avoid, mitigate and monitor potential impacts. • Proposal design to avoid environmentally and culturally sensitive wetlands and significant waterways. • Proposal design to avoid the built heritage fabric of the Original Eneabba Springs – site (Homestead, Horse Yards and House. • Utilisation of lower value farmland for solar infrastructure.
2	**The principle of intergenerational equity** The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.	Measures to avoid and minimise impacts to the environment have been identified and will be implemented to ensure the value of environmental health and ecological functions are maintained for future generations. Avoidance measures include siting the Proposal on agricultural land to limit clearing of native vegetation. Wind farms support the transition to renewable energy production through significant reductions in greenhouse gas emissions and assist in the transition away from reliance on carbon-based products as

No.	Principle	Consideration
		energy sources. This transition will greatly benefit future generations.
3	**The principle of the conservation of biological diversity and ecological integrity** Conservation of biological diversity and ecological integrity should be a fundamental consideration.	Studies and investigations have been undertaken to identify and confirm the range and condition of the environmental values within the DE. Studies included flora, vegetation and fauna assessments, including targeted surveys for threatened species. Areas of biological diversity and ecological integrity are located within and adjacent to the DE. The Proposal has been designed to avoid direct impacts and indirect impacts to these areas.
4	**Principles relating to improved valuation, pricing and incentive mechanisms** a) Environmental factors should be included in the valuation of assets and services. b) The polluter pays principle – those who generate pollution and waste should bear the cost of containment, avoidance or abatement. c) The users of goods and services should pay prices based on the full life cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any wastes. d) Environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, which enable those best placed to maximise benefits and/or minimise costs to develop their own solutions and responses to environmental problems.	The Proponent acknowledges the need for improved valuation, pricing and incentive mechanisms and endeavours to pursue these principles where practicable. For example: • Consideration of environmental factors has played a role in determining the planning and design of the Proposal, such as infrastructure types, specifications and locations. • The location of the Proposal has been selected to ensure the most appropriate environmental setting while also meeting technical needs (e.g. consistent, high wind speeds).
5	**The principle of waste minimisation** All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.	Waste will be minimised by adopting the hierarchy of waste controls: • Avoid and reuse at waste stream source. • Reuse and recycling shall be adopted where practicable. • All waste shall be collected and appropriately disposed of off-site.

5.0 Environmental Factors

Environmental factors are those parts of the environment that may be impacted by an aspect of a proposal. The EPA has 14 environmental factors, organised into five themes: Sea, Land, Water, Air and People. Table 11 details the relevance of the environmental factors to the Proposal.

Table 11 Relevant Factor Assessment

Factor	Environmental Factor and Objective	Relevance to Proposal	
Sea	**Benthic Communities and Habitats** Objective: To protect benthic communities and habitats so that biological diversity and ecological integrity are maintained.	The Development Envelope is located approximately 50 km from the coast.	NA
	Coastal Processes Objective: To maintain the geophysical processes that shape coastal morphology so that the environmental values of the coast are protected.	The Development Envelope is located approximately 50 km from the coast.	NA
	Marine Environmental Quality Objective: To maintain the quality of water, sediment and biota so that environmental values are protected.	The Development Envelope is located approximately 50 km from the coast.	NA
	Marine Fauna Objective: To protect marine fauna so that biological diversity and ecological integrity are maintained.	The Development Envelope is located approximately 50 km from the coast.	NA
Land	**Flora and Vegetation** Objective: To protect flora and vegetation so that biological diversity and ecological integrity are maintained.	The Proposal will result in the direct loss of native vegetation and individuals of significant flora.	Key
	Landforms Objective: To maintain the variety and integrity of significant physical landforms so that environmental values are protected.	There are no significant or local landforms located within the Development Envelope.	NA
	Subterranean Fauna Objective: To protect subterranean fauna so that biological diversity and ecological integrity are maintained.	Subterranean fauna are not expected to be significantly impacted by the Proposal. There will be no dewatering associated with construction or operations. Limited groundwater abstraction required during construction. The deepest excavations will be associated with the WTG foundations which are anticipated to be up to 5 m bgl.	NA

Factor	Environmental Factor and Objective	Relevance to Proposal	
	Terrestrial Environmental Quality Objective: To maintain the quality of land and soils so that environmental values are protected.	The quality of the terrestrial environment is not expected to be impacted by the Proposal. No disturbance of ASS. Clayey materials (sandy clay) have been identified at relatively shallow depth in some areas, which are susceptible to increased erosion potential (WSP, 2025). Where these are present in excavations, appropriate sediment and erosion control measures will be implemented during construction.	NA
	Terrestrial Fauna Objective: To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.	The Proposal will result in the direct loss of fauna habitat including vegetation providing foraging habitat for significant fauna.	Key
Water	**Inland Waters** Objective: To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.	Direct loss of native vegetation associated with a watercourse or wetland. Access tracks will utilise existing farm tracks and cleared areas where possible, however there are some areas where existing creek crossings may need to be upgraded with the installation of culverts and a Bed and Banks permits will be required to modify and improve existing waterway crossings. Groundwater abstraction will be required for construction water supply.	Other
Air	**Air Quality** Objective: To maintain air quality and minimise emissions so that environmental values are protected.	Limited impacts to air quality as a result of dust during construction.	NA
	Greenhouse Gas Objective: To reduce net greenhouse gas emissions in order to minimise the risk of environmental harm associated with climate change	Greenhouse Gas emissions are estimated to be less than 100,000 tonnes per annum.	NA
People	**Social Surroundings** Objective: To protect social surroundings from significant harm.	Alteration of visual landscape including from blade shadow or flicker Operation of the turbines results in noise emissions Operation of the infrastructure results in Light emissions Ground disturbance has the potential to result in disturbance to unknown heritage places	Key

Factor	Environmental Factor and Objective	Relevance to Proposal	
		Operation of the turbines results in loss of access to or reduction in value on cultural heritage Loss of water availability for existing groundwater users	
	Human Health Objective: To protect human health from significant harm.	The Proposal does not involve the mining, processing, transport, storage or emission of radioactive materials.	NA

The following sections provide the impact assessment for each of the key factors and an overview of the considerations afforded to the other factors.

Matters of National Environmental Significance (MNES) are identified where relevant within each factor discussion and summarised in Section 10.

6.0 Flora and Vegetation

6.1 EPA Environmental Factor and Objective

The EPA environmental objective for Flora and Vegetation is '*to protect flora and vegetation so that biological diversity and ecological integrity are maintained*' (EPA, 2016a). Whereby '*ecological integrity is the composition, structure, function and processes of ecosystems, and the natural range of variation of these elements*'.

6.2 Policy and Guidance

Relevant policy and guidance documents have been considered for the surveys and assessment of Flora and Vegetation as summarised in Table 12.

Table 12 Policy and Guidance Documents Applicable to the Proposal

Policy and Guidance	Consideration for the Proposal
Statement of Environmental Principles, Factors and Objectives (EPA, 2023).	Considered in the identification and assessment of Preliminary Key Environmental Factors.
Environmental Factor Guideline – Flora and Vegetation (EPA, 2016a).	Referred to in the assessment of potential impacts as a result of the Proposal.
Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016b).	Referred to in the flora and vegetation survey design.
EPA Guidance Statement No. 33 – Environmental Guidance for Planning and Development (EPA, 2008).	Referred to in the environmental impact assessment.
Survey guidelines for Australia's threatened orchids: Guidelines for detecting orchids listed as 'threatened' under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth of Australia 2013) (DCCEEW, 2013)	Considered in the environmental impact assessment.
Assemblages of Organic Mound Springs of the Three Springs Area: Interim Recovery Plan 2005– 2010 (Interim Recovery Plan No. 196). Department of Conservation and Land Management. (DBCA, 2023a)	Considered in the environmental impact assessment.
Department of Conservation and Land Management. (2004). Ferricrete floristic community (Rocky Springs type): Interim Recovery Plan 2004–2009 (Interim Recovery Plan No. 154) (CALM, 2004)	Considered in the environmental impact assessment.

6.3 Receiving Environment

6.3.1 Studies and Investigations

Reconnaissance and targeted flora and vegetation surveys have been conducted across the DE as described in Table 13. The Reconnaissance and Targeted survey areas are represented in Figure 5. Considering the size of this Proposal (15,847 ha), approximately

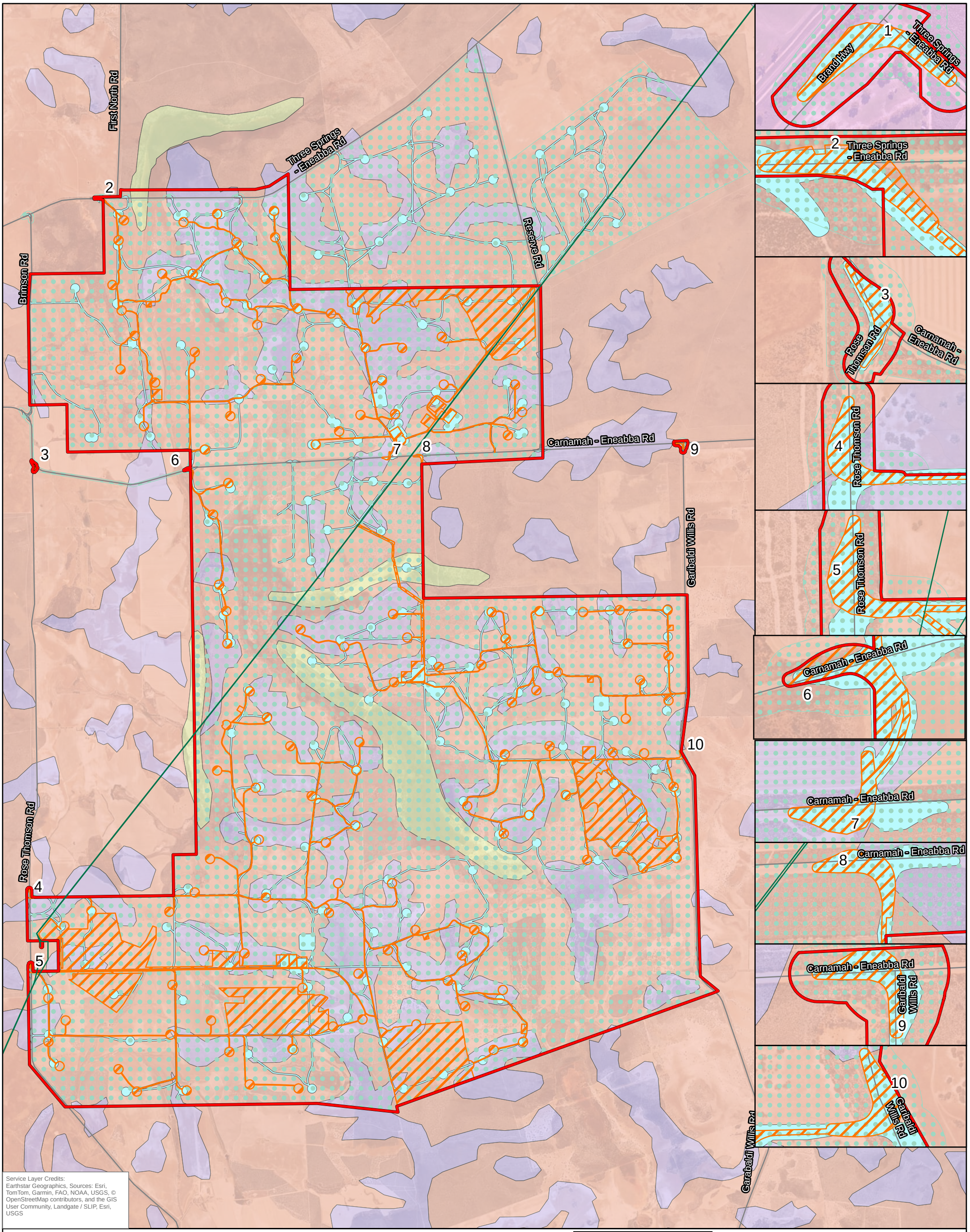
99.78% of the DE has been surveyed (approximately, 65 ha (0.41%)) has not been surveyed, however, the entirety of the IDF has been surveyed.

Table 13 Summary of Flora and Vegetation Surveys Relevant to the Proposal

Report	Survey Scope	Survey Effort	Survey Limitations
Reconnaissance and Targeted Flora and Vegetation Survey Report (Umwelt, 2025f) (Appendix D).	Desktop Assessment and Reconnaissance Survey undertaken in June 2024 and Targeted Surveys and supplementary Reconnaissance data collection in October and November 2024. Objective of flora and vegetation assessment was to identify and characterise the potential significant flora and vegetation.	The Reconnaissance Flora and Vegetation Survey Area was sampled via relevés and vegetation notes with supplementary quadrants undertaken in November to assist with interpretation of potential significant vegetation. The Targeted Flora and Vegetation Survey Area was assessed via traverses at 10 m spacing; timing of Targeted surveys aligned with the flowering and identifiability of conservation significant flora.	No limitations were identified for either the Reconnaissance or Targeted flora and vegetation survey.

Several other flora and vegetation surveys have been conducted in the area to assist in forming a good understanding of the area this includes the following publicly available survey reports and reports provided by the Proponent:

- Flora, Vegetation and Fauna Assessment – Warradarge Wind Farm (Focused Vision Consulting, 2018).
- ESA Site Inspection Report C709 (Woodman Environmental Consulting, 2016).
- Eneabba Substation to Karara Mine Tee-off Line Removal: Threatened and Priority Flora Follow-up and Demarcation Survey (Woodman Environmental Consulting, 2015).
- Warradarge Wind Farm Flora, Vegetation and Fauna Assessment (Biota Environmental Sciences, 2012).
- Potential for Impact of Proposed Abstraction on Groundwater Dependent Ecosystems North Perth Basin (Synrix Environmental, 2007).



Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:67,000 at A3
Project Number:	675.072927.00002
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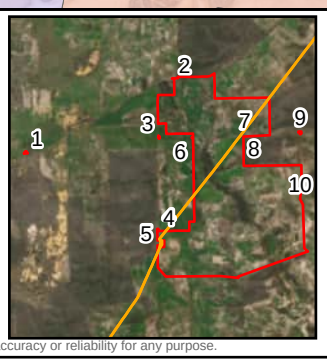
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Targeted Survey Area
- Reconnaissance Survey Area

Vegetation System Associations

- TATHRA_379
- TATHRA_391
- TATHRA_49



Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

FLORA AND VEGETATION SURVEY EFFORT AND VEGETATION SYSTEM ASSOCIATIONS

FIGURE 5

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F05_Flora and Vegetation Survey Effort and Vegetation System Associations

6.3.2 Regional Vegetation

The vegetation of WA as it was presumed to have existed prior to European settlement has been mapped at a scale of 1:250,000 as vegetation system associations (VSAs), with the pre-European Vegetation spatial database created (Beard et al., 2013; DPIRD, 2019). There are four VSAs mapped in the DE as summarised in Table 14 and represented in Figure 5. A threshold level of retention for pre-European extent of each vegetation complex within a local area and bioregion is considered to be 30% or more (Umwelt, 2025f) (Appendix D). The current extent of Tathra_379 within the Geraldton Sandplains bioregions is considered to be below the 30% threshold (23.74%). Of the current extent of Tathra_379 VSAs, approximately 5% is currently protected for conservation. The other three VSA extents are above the 30% retention threshold, with between approximately 8% and 22% protected for conservation.

Table 14 Vegetation System Associations of the Development Envelope

Vegetation System Association	Pre-European Extent (ha)	Current Extent (ha)	Extent Remaining (%)	Current Extent Protected for Conservation (%)
Eridoon_378	93,523.98	60,826.66	65.04	22.00
Tathra_49	39,719.28	14,489.68	36.48	8.03
Tathra_379	545,938.93	129,585.93	23.74	5.13
Tathra_391	3,063.14	1,622.19	52.96	21.08

6.3.3 Vegetation Types

A total of 12 VTs were described in the DE (Figure 6). The majority (11,215.87 ha (70.77%)) of the DE was mapped as Highly Modified vegetation (including areas such as paddocks, planted trees, dams, roads and infrastructure) and is considered to be in a Completely Degraded condition (Table 16) (Umwelt, 2025f) (Appendix D).

Approximately 1,590.90 ha (99.78%) of the IDF was mapped as Highly Modified vegetation, consisting of areas such as paddocks, planted trees, dams, roads and infrastructure and is considered to be in a Completely Degraded condition (Table 15) (Umwelt, 2025) (Appendix D).

Table 15 presents a description and total area of each VT mapped within the DE and IDF (Umwelt, 2025f) (Appendix D).

Table 15 Extent of Vegetation Types Mapped in the Development Envelope and Indicative Disturbance Footprint

Code	Description	Total Area (ha)	
		DE	IDF
Vegetation Types			
AS	Sparse mid shrubland of *Allocasuarina campestris* over low sparse heathland of *Melaleuca aspalathoides* over open mid sedgeland of *Ecdeiocolea monostachya* on grey sand flats and slopes.	67.61	0.00
CAM	Low woodland of *Eucalyptus camaldulensis* subsp. *arida* over *Melaleuca rhaphiophylla*, *M. concreta*, and/or *Banksia menziesii* tall open shrubland over sparse	83.75	0.08

Code	Description	Total Area (ha)	
		DE	IDF
	sedgeland. Associated with wetland and drainage areas.		
CS	Isolated *Calitris pyramidalis* and *Eucalyptus drummondii* over tall closed shrubland of *Calothamnus quadrifidus* subsp. *angustfolius*, *Banksia leptophylla* var. *leptophylla*, *Thryptomene mucronulata* and *Melaleuca ryeae* over isolated shrubs over sparse sedgeland. Associated with edges of drainage lines on white to brown sand or sandy clay loam.	119.86	0.18
HH	Sparse mid heathland of mixed *Allocasuarina* species over sparse low heath of mixed proteaceous species over low isolated sedges. Generally associated with lateritic slops on white or grey sand, or orange or brown clay loam, with laterite pebbles.	648.11	0.98
HM	Low *Eucalyptus gittinsii* subsp. *illucida* and/or *Eucalyptus drummondii* woodland over tall open shrubland of *Banksia armata* and/or *B. kippistiana* and *Petrophile shuttleworthiana* over isolated sedges. Associated with rocky upper slopes and crests on sandy clay loam with gravelly laterite.	375.72	0.29
PFE	Low open woodland of *Eucalyptus accedens* and/or *Eucalyptus drummondii*, over tall open shrubland of *Banksia strictifolia* and/or *Banksia sessilis*, or with *Isopogon divergens* or *Melaleuca concreta*, over mixed low sparse understorey species. Associated with exposed ironstone bedrock and coarse fragments on red-brown clay loam or light clay plains or lower slopes, especially seasonally inundated areas.	322.30	0.00
PM	Tall shrubland of *Melaleuca acutifolia* and *Melaleuca concreta* over mixed low to mid sparse understorey shrubs. Occasionally with low woodland of *Eucalyptus diminuta*. Associated with seasonally inundated areas, mostly on red-brown light clay to clay loam soils, with exposed ironstone bedrock and coarse fragments.	118.18	0.00
RC	Sparse to open low *Eucalyptus* woodland of mixed mallee species, over tall shrubland to open shrubland of *Melaleuca concreta*, *M. marginata* and/or *M. tinkeri*, over *Lepidosperma* sparse sedgeland. Associated with rocky slopes and breakaways on clay.	89.62	0.00
SAC	Low open *Eucalyptus accedens* (occasionally with *E. loxophleba*) woodland over sparse low to mid shrubland or proteaceous species, over sparse mid sedgeland of *Ecdeiocolea monostachya*. Associated with mid to lower slopes and flats on grey sand or light clay over laterite, or sandstone crests.	411.29	0.00
SBP	Low sparse woodland of *Xylomelum angustifolium*, *Banksia prionotes* and *Banksia attenuata* or *Eucalyptus todtiana* over mid sparse shrubland of *Banksia candolleana* or *Scholtzia laxiflora* over isolated low	75.85	0.00

Code	Description	Total Area (ha)	
		DE	IDF
	shrubs or sedges of mixed species. Associated with yellow sand.		
SEB	Low sparse woodland of *Eucalyptus todtiana* and *Banksia* spp. Over mid sparse shrubland of proteaceous and myrtaceous species, over low sparse sedgeland of *Mesomelaena pseudostygia* or *Ecdeiocolea monstachya*. Associated with white to grey sands on plains and low slopes.	1,852.62	1.66
WM	Tall shrubland to closed shrubland of *Melaleuca concreta*, *M. viminea* subsp. *viminea* and *M. rhaphiophylla* over sparse to open shrubland of *Kunzea micrantha* subsp. *petiolata*, *Thryptomene mucronulata* and *Calytrix flavescens* over sparse sedgeland. Associated with wetland and drainage areas.	401.24	0.25
DAM	Dams, artificial water bodies.	6.47	0.29
M1	Mostly cleared, with isolated remnant trees over pasture	5,356.87	724.06
M2	Planted areas, including plantations, gardens, revegetated riparian areas, and tree-lined driveways.	362.40	4.95
M3	Cleared land with no vegetation including minor tracks and crop areas.	5,416.95	856.15
CL	Cleared land including bitumen roads and infrastructure.	73.19	5.45
	Unsurveyed	65.14	0.52*
Total^		**15,847.17**	**1,594.86**

* Based on aerial imagery and the surrounding mapped vegetation, this area is associated with the Western Power Eneabba Terminal and likely to be either mostly cleared, with isolated remnant trees over pasture or cleared.

^ Any differences in totals are due to rounding

Three Springs - Eneabba Rd
First North Rd
Brimson Rd
Reserve Rd
Carnamah - Eneabba Rd
Caribaldi Willis Rd
Rose Thomson Rd
Brand Hwy
VT CAM
VT WM
1
2
3
4
5
6
7
8
9
10

Conservation Significant Flora

- *Acacia epacantha* (P3)
- *Acacia wilsonii* (T)
- *Allocasuarina grevilleoides* (P3)
- *Allocasuarina ramosissima* (P3)
- *Arnocrinum gracillimum* (P3)
- *Banksia chamaephyton* (P4)
- *Banksia cypholoba* (P3)
- *Banksia elegans* (P4)
- *Banksia fraseri* var. *crebra* (P3)
- *Banksia kippistiana* var. *paenepeccata* (P3)
- *Banksia nobilis* subsp. *fragrans* (P3)
- *Banksia pteridifolia* subsp. *vernalis* (P3)
- *Banksia splendida* subsp. *macrocarpa* (P3)
- *Banksia subulata* (P3)
- *Beaufortia bicolor* (P3)
- *Calothamnus accedens* (P4)
- *Calytrix chrysantha* (P4)
- *Calytrix flavescens s. lat.* (PU)
- *Catacolea enodis* (P2)
- *Caustis gigas* (P2)
- *Comesperma griffinii* (P2)
- *Comesperma rhadinocarpum* (P3)
- *Conostephium magnum* (P4)
- *Daviesia speciosa* (T)
- *Desmocladus elongatus* (P4)
- *Desmocladus nodatus* (P3)
- *Drosera pedicellaris* (P1)
- *Grevillea aff. levis* (PU)
- *Grevillea erinacea* (P3)
- *Grevillea makinsonii* (P3)
- *Grevillea rudis* (P4)
- *Grevillea vestita x biternata* (PU)
- *Haemodorum loratum* (P3)
- *Hakea megalosperma* (T)
- *Hemiandra* sp. *Eneabba* (H. Demarz 3687) (P3)
- *Hemiandra* sp. *Watheroo* (S. Hancocks 4) (P4)
- *Hensmania stoniella* (P3)
- *Hibbertia subglabra* (P3)
- *Hibbertia subvillosa* (P3)
- *Hypolaena robusta* (P4)
- *Paracaleana dixonii* (T)
- *Petrophile septemfida* (P3)
- *Phlebocarya pilosissima* subsp. *pilosissima* (P3)
- *Poranthera asybosca* (P1)
- *Schoenus griffinianus* (P4)
- *Stylidium nonscandens* (P3)
- *Stylidium torticarpum* (P3)
- *Styphelia pallens* (P2)
- *Synaphea sparsiflora* (P2)

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads

Vegetation Types

- AS
- CAM
- CL
- CS
- DAM
- HH
- HM
- M1
- M2
- M3
- PFE
- PM
- RC
- SAC
- SBP
- SEB
- WM

Note: Numbers represent site access point ID's

SLR

TATHRA WIND FARM EP ACT REFERRAL

VEGETATION TYPES AND CONSERVATION SIGNIFICANT FLORA

FIGURE 6

6.3.4 Vegetation Condition

A total of 4,566.46 ha of remnant native vegetation ranging in condition from Degraded to Excellent, was mapped within the DE (Table 16; Figure 7), of which 3.44 ha was mapped within the IDF with condition also ranging from Degraded to Excellent (Umwelt, 2025f) (Appendix D). The majority of the remnant vegetation recorded in the survey showed signs of disturbance consistent with edge effects due to proximity to cleared land and agricultural land uses (Umwelt, 2025f) (Appendix D).

Table 16 Vegetation Condition in the Development Envelope and Indicative Disturbance Footprint

Vegetation Condition	Area within the DE (ha)	Area within the IDF (ha)
Excellent	939.88	0.49
Very Good	1,437.88	0.97
Good	1,162.07	1.30
Degraded	1,026.63	0.92
Completely Degraded	11,136.22	1,585.16
Cleared or Dam	79.35	5.49
Unsurveyed	65.14	0.52*
Total ^	**15,847.17**	**1,594.86**

* Based on aerial imagery and the surrounding mapped vegetation, this area is associated with the Western Power Eneabba Terminal and likely to be Cleared / Dam or Completed Degraded.

^ Any differences in total are due to rounding

Service Layer Credits:
Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

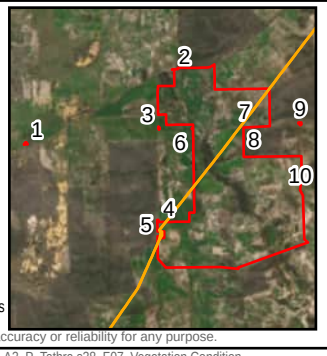
Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads

Vegetation Condition

- Excellent
- Very Good
- Good
- Degraded
- Completely Degraded
- Cleared land
- Dam



Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

VEGETATION CONDITION

SLR

FIGURE 7

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F07_Vegetation Condition

6.3.5 Groundwater Dependent Ecosystems

6.3.5.1 Aquatic GDEs

Aquatic GDEs are ecosystems that rely on the surface expression of groundwater. Review of the BoM GDE Atlas identified seven areas within the DE that are mapped as potential aquatic GDEs (BoM, 2024), with two identified as 'unclassified', one as 'low', three as 'moderate' and one as 'high' potential. The are no areas mapped as 'known' aquatic GDEs within the DE.

The BoM GDE Atlas (BoM, 2024) records show an area with high potential to be an aquatic GDE occurs on the western boundary within the DE. The area is recorded as a wetland and floodplain, of marked wet winter and dry summer (BoM, 2024).

6.3.5.2 Terrestrial GDEs

Terrestrial GDEs are ecosystems that rely on the presence of subsurface groundwater. According to the BoM GDE Atlas (BoM, 2024), the DE includes numerous areas mapped as 'low', 'moderate' and 'high' potential to be terrestrial GDEs. The areas mapped with potential to be terrestrial GDEs generally align with the locations of remnant vegetation. There are no areas mapped as 'known' terrestrial GDEs within the DE.

There are three general areas or wetland chains within the DE that have been mapped as having high GDE potential (Umwelt, 2025f) (Appendix D). All three areas are recorded as 'Shrublands; *Melaleuca uncinata* thicket' in low lying areas of marked wet winter and dry summer.

Five VTs are considered to be associated with watercourses or wetlands (CAM, CS, PFE, PM and WM) (Table 17). A total of 1,045.33 ha of VTs associated with wetlands was recorded within the DE and 0.51 ha was recorded within the IDF. These communities are considered likely to be partially or totally dependent on surface water flow for survival and potentially also represent groundwater dependent vegetation (Umwelt, 2025f) (Appendix D).

Groundwater dependent vegetation is generally indicated by the presence of one or several phreatophytic taxa. Phreatophytic taxa are classified as obligate phreatophytes and facultative phreatophytes. Obligate phreatophytes are completely reliant on access to groundwater. These taxa occur in areas where groundwater is close to the surface and there is direct access to groundwater all year round. Obligate phreatophytes are sensitive to changes in groundwater levels. Facultative phreatophytes are reliant on groundwater during periods of extended drought. These taxa tend to be less sensitive to changes in groundwater regimes than obligate phreatophytes. Depth to groundwater can be used as an indicator of the potential for vegetation to be groundwater dependent, with a reduced reliance noted where the depth to groundwater exceeds 10 m (Umwelt, 2025f) (Appendix D).

Potentially obligate phreatophytic taxa have been recorded in the DE, including *Eucalyptus camaldulensis* (VT CAM) and *Melaleuca rhaphiophylla* (in parts of VT WM). Based on the landforms which these taxa occur on (drainage lines), they may rely on groundwater to some extent (Umwelt, 2025f) (Appendix D).

The facultative phreatophytes *Banksia attenuata* and *B. menziesii* have been recorded in association with some areas of VTs SB and SBP. Where these taxa occur in areas where depth to groundwater is less than 10 m, they are potentially dependent on groundwater for at least part of the year, and particularly in times of drought (Umwelt, 2025f) (Appendix D).

Table 17 Extent of Potential Groundwater Dependent Vegetation in the Development Envelope and Indicative Disturbance Footprint

Vegetation Type	Area within the DE (ha)	Area within the IDF (ha)
CAM	83.75	0.08
CS	119.86	0.18
PFE	322.30	0.00
PM	118.18	0.00
WM	401.24	0.25
Total	**1,045.33**	**0.51**

6.3.6 Significant Vegetation

Desktop assessment identified four TECs listed under the BC Act and three Priority Ecological Communities (PECs) that may occur in or near the DE (DBCA, 2020a).

Of the three PECs identified during the desktop assessment, the Reconnaissance Flora and Vegetation Survey confirmed none are considered to be present in the DE. Of the four TECs identified in the desktop assessment, the survey confirmed two are considered to be potentially present in the DE (Figure 8 and Table 18) (Umwelt, 2025f):

- ‘Ferricrete floristic community (Rocky Springs type)’ TEC (Critically Endangered): up to 440.48 ha potentially occurs within VTs PFE and PM.
- ‘Assemblages of the organic mound springs of the Three Springs area’ TEC (Critically Endangered): up to 484.99 ha potentially occurs within VTs CAM and WM.

The ‘Ferricrete floristic community (Rocky Springs type)’ is characterised by its tall shrubland and preference for irregularly inundated red brown sandy loams over ferricrete soils (DBCA, 2023b). It is assumed that the floristic composition of this community is driven by the soil/substrate types and depths, resulting in the communities extremely restricted distribution to a 45 km range between Arrino and south Eneabba (CALM, 2004). This community’s major threats are associated with hydrological change (groundwater abstraction), land clearing, grazing, invasive species, fire regimes and drying climate (DBCA, 2023b).

The ’Assemblages of the organic mound springs of the Three Springs area’ TEC is characterised by continuous discharge of groundwater in raised areas of peat (DBCA, 2023a). The peat provides a stable microhabitat and the supply of permanent freshwater, which the community becomes dependent on (DBCA, 2023a). This community is reliant on the Dandaragan Trough hydrological catchment, restricting its range to a 41 km area around Eneabba to Arrino (DBCA, 2023a). The key threats for this TEC are associated with grazing, hydrological change (surface water flow alteration), land clearing, invasive species and fire regimes (DBCA, 2023a).

The mapped extent of VTs (PFE, PM, CAM and WM) is not considered to be representative of the extent of the TECs, rather the occurrences of the TECs may be present within these VTs. Therefore, the mapped extent of these VTs shows areas where the TECs may be present (Umwelt, 2025f) (Appendix D).

Following a targeted survey of the IDF, two VTs (CAM and WM) totalling 0.33 ha were considered to be representative of the ‘Assemblages of the organic mound springs of the Three Springs area’ TEC (Figure 8 and Table 18) (Umwelt, 2025f) (Appendix D). No VTs considered representative of the ‘Ferricrete floristic community (Rocky Springs type)’ TEC were mapped within the IDF (Umwelt, 2025f) (Appendix D).

A degraded *E. camaldulensis* creek line surrounds the mound springs location. The IDF intersects 0.33 ha of this surrounding vegetation. Whilst this area is not itself a mound spring (lacking any peat soil in a raised mound or otherwise), or additional indicator taxa it is considered part of the critical habitat buffer of the 'Assemblages of the organic mound springs of the Three Springs area' TEC due to proximity, connectivity of vegetation and connectivity of hydrological processes to the mound spring (Umwelt, 2025f) (Appendix D).

Table 18 Summary of Vegetation Types associated with Listed Significant Vegetation in the Development Envelope and Indicative Disturbance Footprint

Vegetation Type	Area within the DE (ha)	Area within the IDF (ha)
CAM	83.75	0.08
PFE	322.30	0.00
PM	118.18	0.00
WM	401.24	0.25
Total	**925.48**	**0.33**

In addition to VTs that are representative of TECs or may include TECs, two VTs (CS and RC) mapped in the DE and IDF are considered potentially significant in a local and regional context for reasons other than formal listing. Vegetation Type CS is considered potentially significant in a local context as it is mapped in twelve areas of the DE and the restricted extent for the species (<1%) is within the DE, at a regional scale the landform type (fringes and bordering floodplains of wetlands) is likely to be restricted (Umwelt, 2025f) (Appendix D). VT RC is considered potentially significant at a local scale as it is mapped in six localities within the DE, occurs on a restricted landform and the restricted extent for the species (<0.5%) is within the DE (Umwelt, 2025f) (Appendix D). At a regional scale, VT RC is potentially significant as the landform type is likely restricted (Umwelt, 2025f) (Appendix D). One VT (AS) is considered potentially significant in a local (but not regional) context, for reasons other than formal listing. This vegetation type is considered potentially significant at a local scale as it is mapped in three small occurrences in the DE, the restricted extent for the species (<0.5%) is within the DE, however, the soil and landform the species is mapped on is not restricted locally or regionally (Umwelt, 2025f) (Appendix D). Vegetation Types CS, RC and AS, representative of TECs are therefore unlikely to be present within the DE and IDF.

Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Potential Groundwater Dependent Ecosystems

Potential Threatened Ecological Community

- Ferricrete floristic community (Rocky Springs type)
- Assemblages of the organic mound springs of the Three Springs area

Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

POTENTIAL THREATENED ECOLOGICAL COMMUNITY AND GROUNDWATER DEPENDENT ECOSYSTEMS

FIGURE 8

6.3.7 Flora

A total of 373 discrete flora taxa were recorded during the 2024 surveys. The taxa represent 46 families and 143 genera (Umwelt, 2025f) (Appendix D). The most well-represented families were Proteaceae (80 taxa), Myrtaceae (76 taxa) and Fabaceae (36 taxa).

6.3.8 Significant Flora

A search of the DCCEEW Species Profile and Threats (SPRAT) Database (DCCEEW, 2024a) with regard to MNES identified 49 flora taxa listed as Threatened species under the EPBC Act, or habitat for such species, that may occur in the DE.

A search of the DBCA Significant Flora Database (WA Herbarium specimen database and Threatened and Priority Flora databases) (DBCA, 2024b) and NatureMap search (DBCA, 2024c) identified 204 significant flora taxa within 10 km of the Reconnaissance Flora and Vegetation Survey Area including 30 Threatened taxa and 174 Priority (P) taxa; this count includes the now delisted *Drosera prophylla* (previously P3).

The 2024 surveys recorded a total of 40 significant flora taxa within the DE, including four Threatened taxa listed under the BC Act and EPBC Act, 33 Priority taxa as classified by the DBCA, and three potentially undescribed (PU) taxa. Of the 40 significant flora taxa, 12 were recorded within the IDF, none of which are considered to be Threatened (Umwelt, 2025f) (Appendix D).

A summary of the significant flora taxa records from the 2024 survey is presented in Table 19 and locations of records are shown on Figure 6.

Table 19 Significant Flora Recorded in the Development Envelope and Indicative Disturbance Footprint

Species	Status (WA)	Status (Cwth)	Abundance		VTs
			DE	IDF	
Acacia wilsonii	T	Endangered	5	0	HH^
Daviesia speciosa	T	Endangered	52	0	HH
Hakea megalosperma	T	Vulnerable	29	0	SEB^
Paracaleana dixonii	T	Endangered	2	0	SEB
Drosera pedicellaris	P1	-	685	2	SEB^
Poranthera asybosca	P1	-	529	0	HH, SEB^
Comesperma griffinii	P2	-	40	0	HM, SEB
Styphelia pallens	P2	-	114	32	AS, HH, HM^, SEB
Synaphea sparsiflora	P2	-	174	20	AS, HH, HM^, SEB
Acacia epacantha	P3	-	99	0	AS^

Species	Status (WA)	Status (Cwth)	Abundance		VTs
			DE	IDF	
Allocasuarina grevilleoides	P3	-	180	0	AS^, HH^
Allocasuarina ramosissima	P3	-	560	128	AS^, HH, HM^
Arnocrinum gracillimum	P3	-	1	0	SEB^
Banksia cypholoba	P3	-	1,608	69	AS^, CS, HH, HM, PM, SBP, SEB
Banksia fraseri var. *crebra*	P3	-	845	16	AS, CS, HH, HM^, RC, SAC, SEB, WM
Banksia kippistiana var. *paenepeccata*	P3	-	112	2	HH, HM, SEB^
Banksia nobilis subsp. *fragrans*	P3	-	1	0	HM^
Banksia splendida subsp. *macrocarpa*	P3	-	358	0	HH^, HM, SEB
Comesperma rhadinocarpum	P3	-	98	46	HH^, HM, SEB
Desmocladus nodatus	P3	-	1	0	CS
Grevillea erinacea	P3	-	5	0	HH^, SBP, SEB
Haemodorum loratum	P3	-	298	29	AS, HH^, HM, SBP, SEB
Hemiandra sp. *Eneabba* (H. Demarz 3687)	P3	-	7	0	SEB^

Species	Status (WA)	Status (Cwth)	Abundance		VTs
			DE	IDF	
Hensmania stoniella	P3	-	2	0	SEB^
Hibbertia subglabra	P3	-	5	0	HH^
Hibbertia subvillosa	P3	-	117	36	CS, HH^, HM
Stylidium torticarpum	P3	-	202	0	CS, HH^, SEB
Banksia chamaephyton	P4	-	13	0	HH, SBP, SEB^
Banksia elegans	P4	-	1	0	SBP^
Calothamnus accedens	P4	-	147	10	HH^, RC^
Calytrix chrysantha	P4	-	2	0	CS, HH, SEB
Conostephium magnum	P4	-	107	0	SEB^
Desmocladus elongatus	P4	-	26	0	HH, HM, SEB^
Grevillea rudis	P4	-	6	0	AS, HH, SEB^
Hemiandra sp. *Watheroo* (S. Hancocks 4)	P4	-	29	0	HM, SEB^
Hypolaena robusta	P4	-	7	0	SEB^
Schoenus griffinianus	P4	-	472	111	HH, HM^, SBP, SEB
Calytrix flavescens s. lat.	PU	-	1	0	HM
Grevillea aff. *levis*	PU	-	1	0	SAC
Grevillea vestita x *biternata*	PU	-	7	0	HH, SEB

^preferred habitat

6.3.9 Introduced Flora Taxa

Eight introduced flora taxa were recorded within the DE during the 2024 surveys, none of which occur within the IDF. Of these, one (**Echium plantagineum*) is a declared pest under

the *Biosecurity and Agriculture Management Act 2007* (BAM Act) (Umwelt, 2025f) (Appendix D). No taxa were considered to be Weeds of National Significance (WoNS).

Two introduced flora taxa (**Echium plantaginium* and **Ursinia anthemoides*) recorded in the DE by the 2024 surveys are rated as having 'High' ecological impact. Five introduced flora taxa recorded in the DE by the 2024 survey are rated as having 'Rapid' invasiveness in native vegetation (Umwelt, 2025f) (Appendix D).

6.4 Potential Environmental Impacts

The following potential direct impacts to flora and vegetation values from the Proposal have been identified:

- Loss of up to 3.44 ha of native vegetation due to clearing including the following categories of vegetation:
    - Poorly represented vegetation complexes (2.58 ha or <1% of the current extent of Tathra_379 in the Geraldton Sandplains).
    - 0.33 ha of VTs that potentially include 'Assemblages of organic mound springs of the Three Springs' TEC.
    - 0.51 ha of native vegetation associated with a watercourse or wetland.
- Loss of significant flora due to clearing.

Potential indirect impacts of the Proposal to flora and vegetation have been identified as:

- Degradation of native vegetation due to changes to surface hydrology or groundwater availability.
- Degradation of vegetation due to introduction or ingress of weeds or plant disease including Phytophthora dieback.
- Fragmentation of native vegetation and significant flora populations.
- Degradation of vegetation or significant flora populations due to altered fire regime.
- Degradation of vegetation due to increased dust generation during construction.

The significance of these potential impacts is discussed in Section 0.

Cumulative impacts are considered in Section Table 20.

6.5 Mitigation

The mitigation hierarchy has been applied during design of the Proposal to avoid, mitigate and rehabilitate impacts to flora and vegetation as far as practicable as described in Table 20.

Table 20 Application of the Mitigation Hierarchy for Potential Impacts to Flora and Vegetation

Potential Impact	Avoidance	Minimisation	Rehabilitation	Residual Impact
Loss of native vegetation due to clearing	• Maximises the use of existing disturbed areas. • Siting of WTGs to avoid native vegetation. • Does not require clearing of mapped native vegetation to facilitate implementation of any of the bushfire mitigation measures. • Avoids clearing of VTs associated with GDEs along the route of the overhead transmission line and areas required for infrastructure associated with the overhead transmission line. • Utilises an existing agricultural track through the buffer vegetation type analogous with the 'Assemblages of organic mound springs of the 'Three Springs' TEC (CAM VTs), thus avoiding clearing of this TEC.	• The final layout will utilise existing cleared areas as far as practicable with no clearing of native vegetation within the Clearing Exclusion. • Area Selection of swept paths with least number of priority species, high quality BC foraging habitat and potential BC nest trees, as demonstrated in Figure 9 and Figure 10. • Minimising the size of the swept paths associated with transport and site access points and internal access roads through the reduction in buffer distances, as demonstrated in in Figure 9 and Figure 10. • Minimising the number of transport and site access points and associated swept paths through the appropriate selection and design, as demonstrated in in Figure 9 and Figure 10. • Minimising clearing of vegetation types analogous with GDE and the Tathra_379 pre-European vegetation where possible. • Minimising disturbance to the WM VTs within the 'Three Springs' TEC by ensuring transmission poles and towers are not installed within creeklines and any clearing of this vegetation within the transmission line corridor is limited to that required to maintain vegetation clearance from the overhead power lines. • Minimising disturbance to waterways by utilising existing waterway crossings. • Installing culverts to maintain surface water flows where existing access tracks are upgraded to allow creekline crossings. • An Environmental Management Framework (Appendix E) has been developed to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal. The finalised Construction Environmental Management Plan (CEMP) will specify measures to: • Implementing weed management as outlined by Weeds Australia (Weeds Australia, 2025). • Limiting movements within the IDF, utilising existing tracks where available. • Implementing exclusion areas within the DE for areas significant vegetation value including intact patches of vegetation type analogous with the 'Assemblages of organic mound springs of the 'Three Springs' TEC or GDEs. • Utilising observers and spotters when working near sensitive areas, including TEC vegetation types and GDEs • Implementing hygiene protocols during clearing and construction to minimise the introduction and spread of weeds and plant pathogens, including: o Minimising clearing and earthworks during wet conditions. o Ensuring vehicles, machinery and personnel are free from mud/soil and plant material upon entering the site and prior to works commencing.	The Proponent will implement Decommissioning Management Plan (Appendix A) that includes requirements to establish suitable drainage to manage surface water flows and erosion and, where appropriate, to apply a suitable seed mix.	Based on the mitigation proposed the Proposal will result in clearing up to 3.44 ha of native vegetation. The assessment and significance of this residual impact detailed in Section 6.6.
Loss of significant flora due to clearing	Avoids direct disturbance to recorded Threatened flora, including the *Hakea megalosperma.*			Based on the mitigation proposed the Proposal will not result in impacts to significant flora. The assessment and significance of this residual impact detailed in Section 6.6.
Degradation of native vegetation due to changes to surface hydrology or groundwater availability	Avoiding clearing of VTs associated with GDEs, along the route of the overhead transmission line.	• Minimising disturbance to waterways by utilising existing waterway crossings. • Installing culverts to maintain surface water flows where existing access tracks are upgraded to allow creekline crossings.		Based on the mitigation proposed the Proposal will not result in impacts to native vegetation through changes to surface hydrology or groundwater availability. The assessment and significance of this residual impact detailed in Section 6.6.

Potential Impact	Avoidance	Minimisation	Rehabilitation	Residual Impact
Degradation of vegetation due to introduction or ingress of weeds or plant disease including Phytophthora dieback	N/A	• An Environmental Management Framework will be implemented to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal by: o Implementing weed management as outlined by Weeds Australia (Weeds Australia, 2025). • Limiting movements within the IDF utilising existing tracks where available. • Implementing hygiene protocols during clearing and construction to minimise the introduction and spread of weeds and plant pathogens, including: o Minimising clearing and earthworks during wet conditions. o Ensuring vehicles, machinery and personnel are free from mud/soil and plant material upon entering the site and prior to works commencing.	N/A	Based on the mitigation proposed the Proposal will not result in impacts to native vegetation through introduction of weeds or dieback. The assessment and significance of this residual impact detailed in Section 6.6.
Fragmentation of native vegetation and significant flora populations	Maximising the use of existing tracks	• Final layout utilises existing cleared areas as far as practicable with no clearing of native vegetation within the Clearing Exclusion Area. • Selection of swept paths with the least number of priority species, high quality BC foraging habitat and potential BC nest trees, as demonstrated in in Figure 9 and Figure 10. • Minimising the size of the swept paths associated with transport and access points and internal access roads through the reduction in buffer distances, as demonstrated in in Figure 9 and Figure 10. • Minimise the number of transport and site access points and associated swept paths through the appropriate selection and design.	N/A	Based on the mitigation proposed the Proposal will not result in fragmentation of native vegetation. The assessment and significance of this residual impact detailed in Section 6.6.
Degradation of vegetation or significant flora populations due to altered fire regime.	Does not require clearing of mapped native vegetation to facilitate implementation of any of the bushfire mitigation measures.	A BMP (Appendix F) will be implemented to ensure potential risks of bushfire through the implementation of the Proposal is adequately managed.	N/A	Based on the mitigation proposed the Proposal will not result in degradation of vegetation or significant flora through altered fire regime. The assessment and significance of this residual impact detailed in Section 6.6.
Degradation of vegetation due to increased dust generation during construction	N/A	• An Environmental Management Framework will be implemented to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal by: • Limiting movements and utilising existing tracks where available during construction.	N/A	Based on the mitigation proposed the Proposal will not result in degradation of vegetation or significant flora through increased dust generation. The assessment and significance of this residual impact detailed in Section 6.6.

synergyRED

Eneabba-Three Springs Rd

Reserve Rd

Brimson Rd

Rose Thomson Rd

Carnamah-Eneabba Rd

Garibaldi Willis Rd

Coorow-Green Head Rd

Brand Hwy

Tootbardie Rd

Approximately 16km south of site

Insets provided to show detail

Legend

- Optional Swept Paths
- Selected Swept Paths
- Development Envelope
- Existing Road

N

0 1.5 3

Kilometers

Scale @ A3, 1:100,000

Perth

Figure 9

Swept Paths Selection Process

Created By: A.Yu
Map Number: 00233

Date: 4/11/2025
PCS: GDA2020 MGA Zone 50

synergyRED

Eneabba-Three Springs Rd

Reserve Rd

Brimson Rd

Rose Thomson Rd

Carnamah-Eneabba Rd

Garibaldi Willis Rd

2

3

4

5

6

7

8

9

10

VT CAM

VT WM

Insets provided to show detail

Legend

- Indicative Initial Disturbance Footprint
- Indicative Selected Disturbance Footprint
- Development Envelope
- Existing Road

N

0 1.5 3

Kilometers

Scale @ A3, 1:100,000

Perth

Figure 10

Disturbance Footprint of Access Tracks, Transmission Line, and Wind Turbine Generator Selection Process

Created By: A.Yu
Map Number: 00234

Date: 5/11/2025
PCS: GDA2020 MGA Zone 50

6.6 Assessment and Significance of Residual Impact

6.6.1 Direct Loss of Native Vegetation

Poorly Represented Vegetation Complexes

The extent of clearing associated with the Proposal is low, with 3.44 ha native vegetation proposed to be removed.

There are three broad VSA that are located within the IDF based on Beard *et al* (2013) vegetation mapping:

- 0.14 ha of Eridoon_378
- 0.72 ha of Tathra_49
- 2.58 ha of Tathra_379

The EPA Guidance Statement No. 33 – Environmental Guidance for Planning and Development sets a threshold for the retention of 30% of the pre-existing extent of native vegetation within constrained areas (EPA, 2008). As shown in Table 14 the current extent remaining for Tathra_379 is below this 30% threshold. The total proposed clearing of 3.44 ha will include approximately 2.58 ha of this VSA, equating to approximately 83.09% of the proposed extent of clearing.

The Proponent assessed 18 site access points for transport of the turbines into the DE. Potential site access points were assessed for their suitability to safely accommodate transport of the turbines as well as the potential impacts to native vegetation and fauna habitat (particularly Black Cockatoo habitat) associated with the clearing at each location. Following assessment of the options, the Proponent has selected a base case comprising 9 site access points (numbers 1, 2, 3, 5, 6, 7, 8, 9, 10) which will require clearing of up to 2.66 ha of native vegetation. An alternative option is shown on Figure 9 that utilises number 4 (required clearing of 0.38 ha) instead of number 5 (required clearing of 0.44 ha) may be possible. Following detailed design, either 4 or 5 will be selected.

Considering the percentages provided in Table 14, clearing up to 2.58 ha of vegetation will result in a decrease in the representation of Tathra_379 in the Geraldton Sandplains of approximately <1%; this decrease is not considered significant in a local or regional context. Clearing up to 1 ha with the other three VSA, is not considered significant in a local or regional context due to the amount still remaining (see Table 14).

Threatened Ecological Communities (TEC)

Four VTs mapped within the DE are considered to be significant in a regional context as they potentially include areas of State listed TECs. The ‘Ferricrete floristic community (Rocky Springs type)’ TEC potentially occurs within VTs PFE and PM and the ‘Assemblages of the organic mound springs of the Three Springs area’ TEC potentially occurs within VTs CAM and WM (Umwelt, 2025f) (Appendix D).

No VTs considered representative of the ‘Ferricrete floristic community (Rocky Springs type)’ TEC were recorded within the IDF (Umwelt, 2025f) (Appendix D).

The IDF intersects a total of 0.33 ha of VTs CAM and WM in two locations (Figure 6). However, no direct impact to these VTs will occur due to placement of infrastructure. The remaining areas of VTs CAM and WM that intersect the DE are located within a clearing exclusion area (Figure 11).

In the first location, the IDF intersects 0.08 ha of VT CAM which represents a degraded *E. camaldulensis* creek line that is considered to be buffer vegetation for the 'Assemblages of the organic mound springs of the Three Springs area' TEC. Whilst this area is not itself a mound spring (lacking any peat soil in a raised mound or otherwise), or additional indicator taxa it is considered part of the critical habitat buffer of the 'Assemblages of organic mound springs of the Three Springs' TEC due to proximity, connectivity of vegetation and connectivity of hydrological processes to the mound spring (Umwelt, 2025f) (Appendix D). The IDF intersects the buffer vegetation along a well-used track (Plate 3). The vegetation in this section of the creek line is in Degraded condition. There are no condition or patch size thresholds for determination of this TEC; all known habitat is considered critical habitat, and all occurrences are important (Umwelt, 2025f) (Appendix D).

In the second location (Figure 6), the IDF intersects 0.25 ha of VT WM in an area required for the transmission corridor to connect into the substation. This area is considered to be buffer vegetation for the 'Assemblages of the organic mound springs of the Three Springs area' TEC. It is expected that vegetation disturbance within the potential TEC will be minimal (if any) due to the requirement that poles and towers are not installed within creeklines. Any clearing of this vegetation within the transmission line corridor will be undertaken to maintain vegetation clearance from the overhead power lines only. The understorey vegetation will remain intact.

Outside of the DE and approximately 1 km south of the two previously described locations, another area of permanently moist peat soil with *E. camaldulensis* was recorded in an area mapped as VT CAM. This area is likely a spring and considered representative of the 'Assemblages of the organic mound springs of the Three Springs area' TEC (Umwelt, 2025f) (Appendix D).

Through careful Proposal design, the impact of the Proposal on the 'Assemblages of the organic mound springs of the Three Springs area' TEC will be limited to:

- Disturbance to 0.08 ha of buffer vegetation potentially associated with the TEC.
- Trimming of vegetation within an area of 0.25 ha to maintain clearance to the transmission line.

The disturbance to the TEC is limited to the construction of access tracks along existing disturbed tracks (refer to Plate 4) and therefore is unlikely to cause significant impacts to the vegetation. Given the small extent of the proposed disturbance to this TEC (0.33 ha) and that the potential TECs are isolated patches of vegetation in degraded condition, the proposed clearing in these areas is unlikely to be significant.

Plate 3 Area of the 'Assemblages of the organic mound springs of the Three Springs area' TEC buffer vegetation within the IDF (source: Umwelt).

Native Vegetation Associated with a Watercourse or Wetland

Five VTs mapped in the DE (PFE, PM, CAM, CS and WM) occur in association with watercourses and/or wetlands. Four of these VTs (PFE, PM, CAM and WM) are considered to be potentially analogous with TECs as discussed in Section 6.3.6.

The IDF intersects a total of 0.51 ha of three (CAM, CS and WM) of the five VTs associated with watercourses and/or wetlands. The potential impacts to 0.33 ha of VTs CAM and WM is discussed in the TEC section above. The remainder of the intersection of the IDF with VTs associated with watercourse and/or wetlands is an intersection of 0.18 ha with VT CS, representing 0.15% of VT CS mapped in the DE. The small extent and proportion of VT CS proposed to be cleared is not considered to be significant in a local or regional context.

Three Springs - Eneabba Rd
First North Rd
Brimson Rd
Reserve Rd
Carnamah - Eneabba Rd
Garibaldi Willis Rd
Rose Thomson Rd
Garibaldi Willis Rd

1 2 3 4 5 6 7 8 9 10

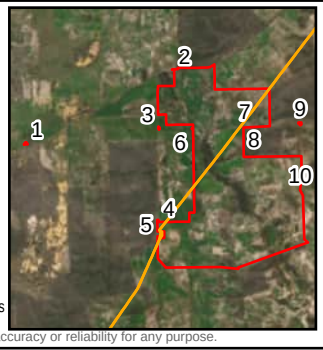
Service Layer Credits:
Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	25/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Proposed Clearing Exclusion Area
- Proposed Wind Turbine Generator Exclusion Zone



Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

EXCLUSION AREAS

SLR

FIGURE 11

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F11_Avoidance Areas

6.6.2 Direct Loss of Significant Flora

The potential direct impacts to the significant flora species populations recorded in the IDF at a local and region level is summarised in Table 21. The number of known indicative regional populations of significant flora taxa presented in Table 21 has been determined using the WA Herbarium database records. The potential site access points have been assessed for their suitability to safely accommodate transport of the turbines as well as the potential impacts to significant flora, in particular the *Hakea megalosperma* (T) recorded within 5 m of site access point 10. The potential site access points have been assessed for their suitability to safely accommodate transport of the turbines as well as the potential impacts to significant flora, in particular the *Hakea megalosperma* (T) recorded within 5 m of site access point 10. Following assessment of the options, including consideration of the swept path assessment and species descriptions being defined as a multi-stemmed shrub growing to 1.2 m tall, the IDF has been reduced in this area to avoid potential direct impacts on this species from clearing (DCCEEW, 2008).

Of the flora species recorded during the survey, 23 records represented a range extension or fill gaps within the species known distribution (Umwelt, 2025f) (Appendix D). Three of the species recorded within the IDF were representative of range extension (*Haemodorum loratum* and *Comesperma rhadinocarpum*) or addressed a gap in the species known distribution (*Calothamnus accedens*). None of these extensions or gaps for these species are considered significant typically since they are a widespread taxon and are likely under surveyed/recorded (Umwelt, 2025f) (Appendix D).

The potential local impact to preferred habitat of all significant flora taxa assessed is considered to be low due to the relatively small percentages of mapped extent of habitat at risk of impact.

All significant flora species that have known records in the IDF also have known records and preferred habitat extending outside the IDF in the wider local area. *Synaphea sparsiflora* (P2) and *Banksia fraseri* var*. crebra* (P3) are the only species with records within the IDF that do not have records within DBCA conservation estate or nature reserves. In the context of the number of records in the WA Herbarium database for each of the significant flora taxa recorded in the IDF, including records within DBCA conservation estates and nature reserves, the potential regional impact is unlikely to be significant for any of the assessed significant flora taxa.

Table 21 Potential Significance of Direct Impacts to Significant Flora

Species	WA Herbarium Records	Survey Records	Recorded Vegetation Types	Local Impact (% of Development Envelope)	
				Disturbance to Preferred Habitat	Individuals
Drosera pedicellaris (P1)	• Eight records with: o Four regional populations. o All records within DBCA conservation estate (Badgingarra National Park).	• 13 locations, including 699 individual records within the survey area. • Two individual records within the IDF.	SEB^	0.09	0.29
Styphelia pallens (P2)	• 14 records with: o Nine regional populations. o Eight records within DBCA conservation estates (Wotto Nature Reserve, Tathra National Park).	• 52 locations, with 120 individual records within the survey area. • 32 individual records within the IDF.	AS, HH, HM^, SEB	0.10	28.07
Synaphea sparsiflora (P2)	• 17 records with: o Ten regional populations. o No records within DBCA conservation estate.	• 62 locations, with 179 individual records within the survey area. • 20 individual records within the IDF.	AS, HH, HM^, SEB	0.10	11.49
Allocasuarina ramosissima (P3)	• 26 records with: o 20 distinct populations. o One record within DBCA conservation estate (South Eneabba Nature Reserve). • One WA Herbarium record within 500 m of the DE.	• 118 locations, including 568 individual records within the survey area. • 128 individual records within the IDF.	AS^, HH, HM^	0.12	22.86
Banksia cypholoba (P3)	• 41 records with: o 32 individual regional populations o Six records within DBCA conservation estate (South Eneabba Nature Reserve, Boothendarra Nature Reserve and Alexander Morrison National Park).	• 686 locations, including 1,835 individual records within the survey area. • 69 individual records within the IDF.	AS^, CS, HH, HM, PM, SBP, SEB	0.10	4.29
Banksia fraseri var. crebra (P3)	• 6 records with: o 14 regional populations. o No records within DBCA conservation estate. o One herbarium record within the DE.	• 443 locations, including 994 individual records within the survey area. • 16 individual records within the IDF.	AS, CS, HH, HM^, RC, SAC, SEB, WM	0.09	1.89
Banksia kippistiana var. paenepeccata (P3)	• 28 records with: o 20 regional populations o Seven records within DBCA conservation estate (Leseur National Park, Boonanaring Nature Reserve). o One herbarium record within 2.5 km of the intersection of Brand Highway with Coorow-Greenhead Road.	• 71 locations, including 224 individual records within the survey area. • Two individual records within the IDF.	HH, HM, SEB^	0.10	1.78
Comesperma rhadinocarpum (P3)	• 19 records with: o 17 regional populations. o Seven records within DBCA conservation estate (Fynes Road Nature Reserve, Brand Highway reserve, Lake Logue Nature Reserve, Drummond Nature Reserve, Badgingarra National Park, Howatharra Hill Reserve, Nature reserve owned by University of Western Australia).	• 68 locations, including 123 individual records within the survey area. • 46 individual records within the IDF.	HH^, HM, SEB	0.10	46.94

Species	WA Herbarium Records	Survey Records	Recorded Vegetation Types	Local Impact (% of Development Envelope)	
				Disturbance to Preferred Habitat	Individuals
Haemodorum loratum (P3)	• 25 records with: o 20 regional populations. o Seven records within conservation estate (Lesueur National Park, Coomallo Nature Reserve, Moore River National Park and South Eneabba Nature Reserve).	• 194 locations, including 379 individual records within the survey area. • 29 individual records within the IDF.	AS, HH^, HM, SBP, SEB	0.10	9.73
Hibbertia subvillosa (P3)	• 65 records with: o 47 regional populations. o Eight records within DBCA conservation estate (Kokeby Reserve, Wallaby Hills Nature Reserve, Goldfields Nature Reserve, Boothendarra Hill Reserve, Wognan Hills Flora Reserve, Tathra National Park).	• 15 locations, with 117 individual records within the survey area. • 36 individual records within the IDF.	CS, HH^, HM	0.13	30.77
Calothamnus accedens (P4)	• 40 records with: o 25 regional populations. o Two records within DBCA conservation estate (Watheroo National Park and Jarrahdale State Forest).	• 22 locations, including 162 individual records within the survey area. • Ten individual records within the IDF.	HH^, RC^	0.13	6.80
Schoenus griffinianus (P4)	• 45 records with: o Six records within DBCA conservation estate (Tarin rock Nature Reserve, Moore River National Park, Fynes Nature Reserve, Yardanogo Nature Reserve, Melaleuca Park conservation area) o The nearest herbarium record being found 0.2 km from the survey area.	• 166 locations, with 621 individual records within the survey area. • 111 individual records within the IDF.	HH, HM^, SBP, SEB	0.10	23.52

^preferred habitat

6.6.3 Loss or Degradation of Native Vegetation Due to Changes to Surface Hydrology or Groundwater Availability

Watercourses that are intersected by the IDF have potential to be impacted by the Proposal, which in turn may result in impacts to vegetation associated with the watercourses. Potential changes to surface hydrology that may affect vegetation are associated with areas where internal access tracks between WTGs are required to cross watercourses. However, potential changes to surface water flow in these areas can be adequately managed through appropriate design of culverts and drainage infrastructure.

No dewatering activities are proposed for the Proposal. Groundwater abstraction will be required only for water supply purposes, particularly during construction. Groundwater for construction water supply will be abstracted from either the Parmelia or Yarragadee aquifers lying approximately 96 to 238 mAHD (Eco Logical Australia, 2025) (Appendix B). Phreatophytic species in the Geraldton Sandplains region can typically access water up to a depth of 10 m (Umwelt, 2025e) (Appendix D). Groundwater from the Parmelia and Yarragadee aquifers is, therefore, deeper than phreatophytic species can access. As such, changes to groundwater levels as a result of groundwater abstraction during construction are unlikely to impact on the vegetation types CAM and WM that include phreatophytic species.

Culverts will be constructed where creek crossings are required, including the portion of the IDF that intersects with the vegetation analogous with the ‘Assemblages of the organic mound springs of the Three Springs area’ TEC. However, the installation of culverts will remain within the existing disturbed track that intersects the vegetation and therefore no impact is anticipated to occur to the TEC due to changes to surface hydrology. Given that suitably designed culverts and drainage structures will be installed where creek crossing are required and groundwater abstraction will be limited to water supply, the residual impact to native vegetation from a potential change to surface hydrology or groundwater availability is not considered to be significant.

6.6.4 Degradation of Vegetation Due to Introduction or Ingress of Weeds or Plant Disease Including Phytophthora Dieback.

The management of introduced flora is a standard hygiene matter for operations. Subject to the implementation of standard hygiene management practices (control of identified infestations, hygiene of vehicles/equipment arriving into the DE), the Proposal is not expected to result in a significant indirect impact from introduced flora due to the introduction or ingress of weeds.

Phytophthora dieback (dieback) is a plant disease of native ecosystems. It is caused by a plant pathogen from the genus Phytophthora, with *Phytophthora cinnamomi* being the main species responsible. Phytophthora spreads naturally by moving through soil and the roots it infects, as well as in run-off. Animals can also spread the disease when infected soil is caught in their fur or feet and is then deposited in uninfected areas. However, humans are the biggest spreader of the disease through activities which disturb and move infected soil, resulting in dieback spreading further and faster than it could naturally (DBCA, 2020b). The Proposal is located in the ‘vulnerable zone’ of WA, where the conditions allow the disease to persist and establish, causing dieback in natural ecosystems (DBCA, 2020b).

The Phytophthora dieback occurrence assessment (Glevan Consulting, 2025b) (Appendix G) identified that the majority (99.52%) of the survey area was Excluded from assessment due to the lack of natural vegetation with the remaining 0.48% classed as Uninfested vegetation (0.46%) or Permanently Uninterpretable (0.02%) due to the overall lack of

sufficient indicators. All areas within the DE were categorised as Protectable from Phytophthora dieback (Glevan Consulting, 2025b) (Appendix G).

Based on the results of the dieback occurrence assessment and subject to implementation of general hygiene management during high-risk activities, degradation of vegetation due to plant diseases including Phytophthora dieback is unlikely to be significant.

6.6.5 Fragmentation of Native Vegetation and Significant Flora Populations

The Proposal has the potential to result in the fragmentation of flora populations through the clearing of native vegetation. However, given the current land use is dominated by agricultural activities the land is predominantly cleared of native vegetation, with 71% of the DE and 99.39% of the IDF being mapped as Highly Modified (Umwelt, 2025f) (Appendix D). The modified nature of the current extent of native vegetation has resulted in the existing landscape being highly fragmented. Therefore, it is anticipated that the Proposal will not result in a significant increase in fragmentation, with the minimisation to clearing ensuring linkages to larger patches of vegetation will remain.

6.6.6 Degradation of Vegetation or Significant Flora Populations Due to Altered Fire Regime

Fires occur naturally as a result of lightning strikes, and the flora and vegetation of the associated landscapes have evolved to recover rapidly from these occurrences. However, according to the EPA (EPA, 2016c):

“Although fire is an important process for regeneration and renewal of many Australian species and ecosystems, some fire regimes can adversely impact flora and vegetation through alteration of the structure and composition of vegetation, increased soil erosion, and expansion of weed and feral animal populations”.

The DE is identified as being within the Department of Fire and Emergency Services (DFES) Bushfire Prone Area. A Bushfire Management Plan (BMP) has been developed by Bushfire Prone Planning (BPP) which addresses the relevant guidelines applicable to a Proposal of this nature (Appendix F). The BMP will be implemented to minimise the risk of human sources of bushfire ignition; therefore, the Proposal is unlikely to result in degradation of vegetation or flora due to altered fire regimes.

6.6.7 Degradation of Vegetation Due to Increased Dust Generation During Construction

During construction it is anticipated that dust generation will be amplified due to the ground disturbance activities and increased usage of the existing dirt tracks by light and heavy vehicles. The increased dust generation has the potential to result in the degradation of environmental condition impacts to vegetation that can result in stunting to growth and reproduction (Umwelt, 2025e) (Appendix D). Twenty-nine records of *Hakea megalosperma* (T) have been recorded along Garibaldi-Willis Road with the closest record within 5 m of site access point 10. During construction, daily activities will be considered in accordance with weather conditions and specific dust management measures in the CEMP that would potentially increase dust. Along Garibaldi-Willis Road in the vicinity of the *Hakea megalosperma* (T) records, visual inspections for dust deposition on vegetation will be undertaken with corrective actions implemented should high levels of deposition be recorded.

However, indirect impacts via dust are considered to be low in intensity, temporary in nature and limited to construction and are therefore considered to not result in significant impacts on flora and vegetation.

6.7 Environmental Outcomes

The EPA objective for flora and vegetation is ‘to protect flora and vegetation so that biological diversity and ecological integrity are maintained’.

The mitigation hierarchy, including avoidance and minimisation, has been applied to the design of the Proposal such that direct impacts to significant flora and vegetation will largely be avoided and where impacts cannot be avoided, measures are proposed to minimise impacts. With implementation of the proposed avoidance and mitigation measures, the predicted outcomes for identified flora and vegetation values are:

- Loss of 3.44 ha of native vegetation.
- Avoidance of recorded Threatened flora and vegetation types associated with GDEs along the route of the overhead transmission line.
- Disturbance of recorded Priority flora species limited to 501 recorded individuals.
- The potential disturbance of VTs that potentially include ‘Assemblages of organic mound springs of the Three Springs’ TEC will be limited to:
    - Up to 0.08 ha that intersects of buffer vegetation along an existing well-used track.
    - Up to 0.25 ha under the transmission line corridor where any disturbance will only be undertaken to maintain vegetation clearance from the overhead power lines and therefore understorey vegetation will remain intact.

The proposed loss of vegetation and flora is not expected to cause a loss of biological diversity or to reduce ecological integrity at the local or regional scale and can be regulated through an NVCP under Part V of the EP Act. The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for Flora and Vegetation. The identified residual impacts are not considered to be significant.

7.0 Terrestrial Fauna

7.1 EPA Environmental Factor and Objective

The EPA environmental objective for Terrestrial Fauna is '*to protect terrestrial fauna so that biological diversity and ecological integrity are maintained*' (EPA, 2023). Where '*ecological integrity is the composition, structure, function and processes of ecosystems, and the natural range of variation of these elements*'.

7.2 Policy and Guidance

Table 22 considers policy and guidance documents applicable to the Proposal.

Table 22 Policy and Guidance Documents Applicable to the Proposal

EPA Policy and Guidance	Consideration for the Proposal
Statement of Environmental Principles, Factors and Objectives (EPA, 2023).	Referred to in the identification and assessment of Preliminary Key Environmental Factors.
Environmental Factor Guideline – Terrestrial Fauna (EPA, 2016b).	Referred to in the assessment of potential impacts as a result of the Proposal.
Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020)	Referred to in the survey design.
Technical Guidance – Sampling of short range endemic invertebrate fauna (EPA, 2016d)	Referred to in the survey design.
Referral Guideline for 3 WA Threatened Black Cockatoo Species: Carnaby's Cockatoo, Baudin's Cockatoo and Forest Red-tailed Black-cockatoo (DCCEEW, 2022)	Referred to in the assessment of potential impacts as a result of the Proposal.
Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (Department of the Environment, 2013)	Referred to in the assessment of potential impacts as a result of the Proposal.
Scoring system for the assessment of foraging value of vegetation for Black-Cockatoos (Bamford, 2020)	Referred to in the assessment of foraging habitat quality for Black Cockatoos.
Survey guidelines for Australia's threatened bats: Guidelines for detecting bats listed as threatened under the EPBC Act (DEWHA, 2010a)	Referred to in the survey design.
Survey guidelines for Australia's threatened birds: Guidelines for detecting birds listed as threatened under the EPBC Act (DEWHA, 2010b)	Referred to in the survey design.
Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the EPBC Act (DSEWPC, 2011a)	Referred to in the survey design.
Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptiles listed as threatened under the EPBC Act (DSEWPC, 2011b)	Referred to in the survey design.

EPA Policy and Guidance	Consideration for the Proposal
Wind Farms and Birds: Interim Standards For Risk Assessment. Australian Wind Energy Association Report (Brett Lane and Associates 2005 (Australian Wind Energy Association et al., 2005)	Referred to in the survey design.
Onshore Wind Farm Guidance: Best practice approaches when seeking approval under Australia's national environment law (Draft) (DCCEEW, 2024b)	Referred to in the survey design.

7.3 Receiving Environment

7.3.1 Studies and Investigations

Multiple surveys have been completed for the Proposal to gain an understanding of the terrestrial fauna values within the DE. Fauna surveys that are relevant to the Proposal are outlined in Table 23. The relevant study areas are shown in Figure 12. Across the DE, 65.14 ha (0.41%) has not been surveyed, however, all of the IDF has been surveyed. All fauna surveys have been conducted in accordance with relevant guidance outlined in Section 7.2.

Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:67,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Basic Fauna Assessment
- Targeted Fauna Assessment

Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

FAUNA SURVEY EFFORT

SLR

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

FIGURE 12

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F12_Fauna Survey

Table 23 Summary of Fauna Surveys Relevant to the Proposal

Survey	Survey Scope	Survey Effort	Survey Limitations
Basic and Targeted Fauna Assessment (Umwelt, 2025c) (Appendix H)	The purpose of this assessment was to undertake a Basic and Targeted terrestrial vertebrate fauna survey to identify the occurrence of terrestrial vertebrate fauna species and their supporting habitats within the Basic and/or Targeted Fauna Survey Area (FSA), with a focus on conservation significant species listed under the BC Act and the EPBC Act.	The Basic and Targeted fauna survey area was surveyed on foot and by light vehicles over 13 days total in October/November 2024 and February 2025. Six acoustic and ultrasonic detectors (totalling 23 nights recording) and nine remote cameras (totalling 24 days/nights) were deployed. A total of 141 fauna habitat assessment points and 110 Black Cockatoo habitat assessment points were recorded during this time.	Although the timing of the February survey is outside the recommended survey timing for assessing Black Cockatoo breeding habitat it is not considered a limitation as nest-tree suitability can be assessed at any time of the year. Rainfall within the year was lower than the long-term average which resulted in dryer than usual conditions. However, this is only considered a minor limitation.
Bird and Bat Utilisation Surveys Year 1 Summary Report (Umwelt, 2025d) (Appendix I)	Specific objectives of this scope include: • Determine the status of bird and bat species within the Bird and Bat Utilisation Survey (BBUS) area based on the results of desktop assessments and all BBUS undertaken to date. • Synthesise and summarise the results gathered from all BBUS undertaken to date. • Identify bird and bat species susceptible to blade strike in the BBUS Survey Area through an analysis of flight behaviour recorded within the DE and publicly available literature.	Bird surveys utilised a Before After Control Impact (BACI) based vantage point design, with structured 30-minute observations conducted at multiple times of day and seasons. Observers recorded species presence, abundance, flight height and behaviour, along with incidental sightings of high-interest species. Bat activity was captured using passive ultrasonic detectors placed at ground level and at 30 m and 100 m on a meteorological mast.	Survey limitations for the BBUS include: • BBUS 01 – Meteorological mast was not installed and therefore bat flight height data were not collected. • BBUS 02 – Access to Wotto Nature Reserve (vantage point (VP) 05) and Tathra National Park (VP09) was restricted during periods when the soil was wet, as requested by the Turquoise Coast District of Parks and Wildlife Services, DBCA. This impacted access to VP05 and VP09 for two days out of the seven-day survey period. During these days, survey personnel performed VP assessments as close to the original locations as practical. • BBUS 03 – The predicted maximum temperature for 16 January was 44ºC. Due to health and safety requirements, staff were unable to perform lone working during this period and therefore had to work in a pair and performed fewer VP surveys during this time.

Survey	Survey Scope	Survey Effort	Survey Limitations
			These VPs were surveyed within the appropriate sampling periods on alternative days resulting in full survey completion. • BBUS 04 – No limitations were reported. • Due to health and safety requirements, survey durations were limited to a maximum of 12 consecutive hours, across all BBUS. While efforts were made to commence surveys during the early morning dawn (approximately 6:00 am), this constraint occasionally resulted in reduced coverage of the dusk period. As a result, bird activity during the late afternoon and dusk period may be under-represented in the dataset.
Memorandum – Black Cockatoo Assessments for Potential Solar Farm Areas (Umwelt, 2025b) (Appendix J)	Additional analysis following the Basic and Targeted survey focussing on the potential usage by Carnaby's Black Cockatoo (*Zanda latirostris*).	Black Cockatoo foraging values within the solar farm area were assessed by extrapolating foraging quality scores from the targeted fauna survey using spatial analysis tools in ArcGIS Pro. Specifically: • Foraging scores (ranging from 0 to 6, following the methodology outlined in Bamford (2020) were spatially intersected with mapped habitat types. A conservative approach was adopted: the highest recorded foraging score within each habitat type was applied uniformly across that entire habitat type, ensuring potential habitat value was not underestimated.	Due to the differing scope of the Basic and Targeted fauna surveys, a comprehensive assessment of nesting tree potential within the solar farm area was not feasible, as not all individual trees were surveyed. As a result, the relative likelihood of each solar farm area supporting potential breeding habitat for Carnaby's Black Cockatoo was inferred based on a combination of previous field observations, survey notes and the professional judgement and recollections of the field team. While the approach does not replace a dedicated nesting tree assessment, it provides a preliminary indication of potential breeding habitat presence to inform further planning and impact assessment. These limitations were subsequently addressed via Solar Farm Additional Tree survey (Umwelt, 2025a).

Survey	Survey Scope	Survey Effort	Survey Limitations
Memorandum – Black Cockatoo Assessment for Solar Farm Area and Additional Trees within Disturbance Footprint (Umwelt 2025a) (Appendix K)	Additional analysis focussing on the potential usage by Carnaby Black Cockatoo, within the Solar Farm area and additional tree assessment and ground-truthing.	A Black Cockatoo habitat assessment was undertaken, between 15 October and 17 October 2025 to ground-truth the previous extrapolation of foraging habitat. The surveyed areas were surveyed on foot and light vehicle. A total of five Black Cockatoo habitat assessment points (Solar Areas) were recorded. All unsurveyed potential breeding trees were assessed within the IDF	The field survey was conducted in October; this is within recommended survey timing for Carnaby's Black Cockatoo. No limitations were identified in this report.
Carnaby's Cockatoo in the Warradarge Region, Western Australia (Johnstone, 2025) (Appendix L)	Advice regarding Black Cockatoo species in south-west Australia, and specifically for its wind farm locations, including the Warradarge Region.	Desktop study of south-west Australia Black Cockatoo species that considered Tathra and included the following: • Species occurrence, including likelihood. • Seasonal migration patterns, including changes over time. • Habitat preferences. • Main food sources, including changes over time. • Flight behaviour, including flight heights. • Recommendations for timing of surveys. • Consideration of potential direct and indirect impacts from wind farms.	No limitations were identified for the report.
Acoustic Analysis and Bat Call Identification from Tathra, Western Australia	Determining the presence of all bat species and how common each species was.	The dataset submitted for analysis comprised two parts: 1. Recordings from bat detectors set at stationary sites over four separate surveys. This comprised a total of 223,528 full spectrum WAV-format sound files recorded	No limitations were identified for the report.

Survey	Survey Scope	Survey Effort	Survey Limitations
(Specialised Zoological, 2025) (Appendix M)		with Titley Scientific Anabat Ranger ultrasonic recorders, at 73 sites over 238 survey nights (3-10 nights per site) for the period 5 October 2024 to 12 March 2025. 2. Recordings from a Met Mast site from three surveys (November 2024, January 2025, March 2025, sound file totals included in the above overall total), with detectors placed at ground level, 30 metres altitude and 100 metres altitude.	

7.3.2 Fauna Habitat

A total of ten broad fauna habitat types (including cleared area) were identified within the DE as described in Table 24 and represented in Figure 13 (Umwelt, 2025c) (Appendix H).

The dominant habitat type was Cleared Agricultural Land (10,718.02 ha (67.63 %) in the DE and 1,580.28 ha (99.09 %) in the IDF, which provides low fauna habitat value for most species, but does still provide some foraging, roosting and potential breeding opportunities for Carnaby's Black Cockatoo (Umwelt, 2025c) (Appendix H).

Table 24 Broad Fauna Habitat Types within the Development Envelope and Indicative Disturbance Footprint

Habitat Type	Area (ha) in DE	Area (ha) in IDF	Habitat Description
Sparse to Open Eucalypt and Banksia Woodland on Plains and Slopes	1,959.27	1.70	Low, sparse to open woodland of *Eucalyptus todtiana* and *Banksia* sp. and/or *Xylomelum angustifolium* over mid sparse shrubland of proteaceous and myrtaceous species, over low sparse shrubs and sedges. Associated with grey or yellow sands on plains and slopes. • Small tree hollows provide habitat for small hollow nesting birds, roosting bats and some arboreal mammals and reptiles. • Fallen timber, logs, woody debris and leaf litter provide shelter for reptiles and small mammals. • Shrubland provided nesting habitat for birds. • Sandy substrate provides habitat for fossorial and semi-fossorial mammals, reptiles and amphibians. Disturbances include weeds, rubbish and tracks.
Wandoo Woodland on Sandy Soil	423.60	0.00	Low, open *Eucalyptus accedens* (occasionally with *E. loxophleba* subsp*. loxophleba*) woodland over sparse low to mid shrubland of proteaceous species. Associated with mid to lower slopes and flats on grey sand. • Small to large tree hollows provide habitat for hollow nesting birds (including Carnaby's Black Cockatoo), roosting bats and some aboreal mammals and reptiles. • Fallen timber, logs, woody debris and leaf litter provide shelter for reptiles and small mammals. Hollow logs and log piles may provide habitat for Western Spiny-tailed Skink colonies. • Areas of dense vegetation provide nesting habitat for birds. • Sandy substrate provides habitat for fossorial and semi-fossorial mammals, reptiles and amphibians. Disturbances include weeds, rubbish, tracks and grazing.
Eucalyptus Woodland	712.20	0.29	Low open woodland of *Eucalyptus accedens* and/*or E. drumundii*, over tall open Proteaceae (*Banksia/Isopogon*) or *Myrtaceae* shrubland, over mixed low sparse understorey species.

Habitat Type	Area (ha) in DE	Area (ha) in IDF	Habitat Description
on Stoney Substrate			Associated with exposed ironstone bedrock and course fragments. May also contain grey sand or clay loam with gravelly laterite. • Small to large tree hollows provide habitat for hollow nesting birds (including Carnaby's Black Cockatoo), roosting bats and some aboreal mammals and reptiles. • Fallen timber, logs, woody debris and leaf litter provide shelter for reptiles and small mammals. Hollow logs and log piles may provide habitat for Western Spiny-tailed Skink colonies. • Rocky outcrops provide thermal refuge and shelter for small reptiles and mammals. • Areas of dense vegetation provided nesting habitat for birds. Disturbances include weeds, tracks and grazing.
Low Shrubland on Gentle Slope	714.68	0.90	Sparse mid heathland of mixed *Allocasuarina* species over sparse low heath of low proteaceous species over low isolated sedges. Generally associated with slopes on white or grey sand, or orange to brown clay loam. May contain isolated Eucalyptus. • Vegetation, particularly proteaceous plants, may provide foraging habitat for Carnaby's Black Cockatoo. • Shrubs may provide nesting habitat for small birds, and shelter for reptiles and small mammals. • Sandy substrate provides habitat for fossorial and semi-fossorial mammals, reptiles and amphibians. Disturbances include weeds, grazing, rubbish, tracks, fire and drought.
Tall Shrubland Associated with Dampland	630.70	0.50	Tall to closed *Melaleuca* shrubland over mixed shrubland of *Myrtaceae* and some *Proteaceae* species over sparse sedgeland. May contain isolated *Eucalyptus diminuta* or *Callitris pyramidalis*. Associated with wetlands and drainage areas on white to brown sandy loam. Contains some areas with exposed ironstone bedrock and course fragments. • Dense shrubland provides shelter and foraging opportunities for birds, frogs and invertebrates. • Damp soil and seasonal surface water supports the survival of some amphibian species.

Habitat Type	Area (ha) in DE	Area (ha) in IDF	Habitat Description
			• Sandy substrate provides habitat for fossorial and semi-fossorial mammals, reptiles and amphibians. • Leaf litter may provide habitat for small reptiles and amphibians. • Disturbances include grazing and weeds.
Eucalyptus Woodland along Drainage Line	92.32	0.08	Low woodland of *Eucalyptus camaldulensis* subsp. *arida* over *Melaleuca rhaphiophylla, M. concreta* and/or *Banksia menziesii* tall open shrubland over sparse sedgeland. Associated with ephemeral drainage lines with some persistent pools. • Surface water provides drinking water source for birds, mammals and reptiles, as well as breeding habitat for amphibians. • Tree hollows provide habitat for hollow nesting birds (including Carnaby's Black Cockatoo), roosting bats and some arboreal mammals and reptiles. • Fallen timber, logs, woody debris and leaf litter provide shelter for reptiles and small mammals. • Areas of dense vegetation provided nesting habitat for birds. • Sandy substrate provides habitat for fossorial and semi-fossorial mammals, reptiles and amphibians. Disturbances include grazing, rubbish, weeds and tracks.
Eucalypt Woodland on Rocky Hills	89.46	0.00	Sparse to open low *Eucalyptus* woodland of mixed *Mallee* species (including *E. accedens*), over tall open *Melaleuca* shrubland, over sparse sedgeland. Associated with rocky slopes and breakaways on clay. • Laterite outcropping, small overhangs and surface rocks provide shelter habitat for reptiles and small mammals. • Fallen timber, logs, woody debris and leaf litter provides shelter for reptiles and small mammals. • Small to large tree hollows provide habitat for hollow nesting birds, roosting bats, and some aboreal reptiles and mammals. Disturbances include weeds, grazing and rubbish.

Habitat Type	Area (ha) in DE	Area (ha) in IDF	Habitat Description
Planted	366.52	5.03	Planted areas including plantations, gardens, laneways and revegetated shelter beds. These areas often contained little or no mid storey and weedy understories. • Linear corridors of vegetation may provide 'wildlife corridors' promoting the movement of fauna through the landscape. • Planted trees may provide foraging, roosting and breeding habitat for birds, as well as roosting habitats for bats and shelter for reptiles and other aboreal mammals. • One pine plantation located in the southeast portion of the study area may provide foraging habitat for Carnaby's Black Cockatoo.
Cleared Agricultural Land	10,718.02	1,580.28	Paddocks used for grazing or growing crops with isolated paddock trees. • Pasture may provide foraging habitat for macropods and birds that forage in open habitat. • Crops such as Canola may provide foraging habitat for birds, including Carnaby's Black Cockatoo. • Farm Dams may provide a drinking water source for birds, bats, mammals and reptiles, as well as breeding habitat for amphibians and foraging habitat for some water birds. • Isolated paddock trees may provide foraging and/or breeding habitat for birds and roosting habitat for birds. • Disturbances include high levels of clearing, grazing, cropping, weeds, tracks, transmission lines etc.
Cleared (Other)	75.06	5.56	Cleared land including bitumen road and infrastructure.
Unsurveyed	65.14	0.00	
TOTAL	**15,846.96**	**1,594.86**	

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0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line

DBCA Conservation Significant Fauna Records

- *Pezoporus flaviventris*
- *Idiosoma nigrum*

Fauna Habitat

- Cleared (other)
- Cleared agricultural land
- Eucalypt woodland on rocky hills
- Eucalyptus Woodland along drainage line
- Eucalyptus woodland on stoney substrate
- Low shrubland on gentle slope
- Planted
- Sparse to open Eucalypt and Banksia woodland on plains and slopes
- Tall shrubland associated with dampland
- Wandoo Woodland on sandy soil

Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

FAUNA HABITAT AND CONSERVATION SIGNIFICANT FAUNA RECORDS

FIGURE 13

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F13_Fauna Habitat and Conservation Significant Fauna Records

7.3.3 Vertebrate Fauna

A search of the NatureMap database results (DBCA, 2024c) identified 217 vertebrate fauna species previously recorded within 20 km of the DE, comprising 133 birds, 56 reptiles, 21 mammals and seven amphibians. A search of the DCCEEW Protected Matters Search Tool (PMST) database (DCCEEW, 2024b) identified an additional nine birds and two mammals, the DBCA search output (DBCA, 2024c) identified an additional three birds and one mammal species and BatMap (Australian Bat Society, 2024) identified two additional mammals that may occur in the DE.

Fauna considered to be of conservation significance include:

- Species listed as Threatened or Migratory under the EPBC Act.
- Species listed as Threatened or Specially Protected (includes Migratory species) under the BC Act.
- Priority species listed by DBCA.

The desktop assessment identified 24 conservation significant vertebrate fauna species as potentially occurring within the DE. These comprise 17 birds, four mammals and three reptiles. Twenty-two of these species are listed either under the EPBC or BC Acts, with two species listed as DBCA Priority fauna (Umwelt, 2025c) (Appendix H).

A total of 56 vertebrate fauna species were recorded during the survey, comprising 38 birds, 13 mammals and five reptiles. Of these, one species is listed as conservation significant (Carnaby's Black Cockatoo (EN)) and four are considered naturalised exotic (Cat, Rabbit, Red Fox and Laughing Kookaburra) (Umwelt, 2025c) (Appendix H).

A post-survey likelihood of occurrence was undertaken by Umwelt for conservation significant species with potential to occur in the DE. The results of this assessment are summarised in Table 25 and species listed under the BC Act and/or EPBC Act with a Moderate or higher likelihood of occurrence within the DE are discussed in more detail below. Recorded locations of conservation significant fauna from the DBCA database searches and 2024 survey are shown on Figure 13 and Figure 14.

Four species have been excluded from further assessment as the DE falls outside their contemporary known range; these are the Grey Wagtail (*Motacilla cinerea*), Western Ground Parrot (*Pezoporus flaviventris*), Ghost Bat (*Macroderma gigas*) and Dwarf Bearded Dragon (*Pagona minor* subsp*. minima*).

No bat species of conservation significance were recorded within the DE. At least six unique bat species were recorded across the BBUS program, none of which are considered to be conservation significant (Umwelt, 2025d) (Appendix I).

Table 25 Conservation Significant Terrestrial Fauna and their Likelihood of Occurrence

Species	Conservation Status	Likelihood of Occurrence
Known to occur		
Zanda latirostris (Carnaby's Black-Cockatoo)	Endangered, EPBC Act Endangered, BC Act	This species was recorded during the fauna survey. Breeding and foraging habitat is present within the Basic FSA.

Species	Conservation Status	Likelihood of Occurrence
Apus pacificus (Fork-tailed Swift)	Migratory, EPBC Act Migratory, BC Act	This species was recorded once during one BBUS. This species may occasionally occupy the airspace above the Basic FSA but is otherwise considered unlikely to depend on the habitat for survival.
Falco peregrinus (Peregrine Falcon)	Other Specially Protected, BC Act	This species was recorded four times across two BBUS. The Basic FSA may contain breeding habitat to support this species including: • Eucalypt Woodland on Rocky Hill • Cleared Agricultural Land (sheds, houses, structures etc).
High		
Neelaps calonotos (Black-striped Burrowing Snake)	P3, DBCA	The Basic FSA may contain habitat suitable to support this species. Particularly, Low Shrubland on Gentle Slope
Moderate		
Egernia stokesii Badia (Western Spiny-tailed skink)	Endangered, EPBC Act Vulnerable, BC Act	The Basic FSA may contain suitable habitat to support this species, particularly Wandoo Woodland on Sandy Soil, Eucalyptus Woodland on Stoney Substrate, and Eucalyptus Woodland on Rocky Hills
Low		
Actitis hypoleucos (Common Sandpiper)	Migratory, EPBC Act Migratory, BC Act	When surface water is present, this species may opportunistically utilise the following habitat types during the non-breeding season: • Tall Shrubland Associated with Dampland • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Aphelocephala leucopsis (Southern Whiteface)	Vulnerable, EPBC Act P4, DBCA	The habitat within the Basic and Targeted FSA is considered marginal. This species is unlikely to depend on habitat within the Basic FSA for survival.
Calidris Acuminata (Sharp-tailed Sandpiper)	Vulnerable, Migratory, EPBC Act Migratory, BC Act	When surface water is present, these species may opportunistically utilise the

Species	Conservation Status	Likelihood of Occurrence
		following habitat types during the non-breeding season: • Tall Shrubland Associated with Dampland • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Calidris ferruginea (Curlew Sandpiper)	Critically Endangered, Migratory, EPBC Act Critically Endangered, BC Act	• When surface water is present, this species may opportunistically utilise the following habitat types during the non-breeding season: • Tall Shrubland Associated with Dampland, • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Calidris Melanotos (Pectoral Sandpiper)	Migratory, EPBC Act Migratory, BC Act	When surface water is present, this species may opportunistically utilise the following habitat types during the non-breeding season: • Tall Shrubland Associated with Dampland • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Calidris ruficollis (Red-necked Stint)	Migratory, EPBC Act Migratory, BC Act	When surface water is present, this species may opportunistically utilise the following habitat types during the non-breeding season: • Tall Shrubland Associated with Dampland • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Dasyurus geoffroii (Chuditch, Western Quoll)	Vulnerable, EPBC Act Vulnerable, BC Act	The habitat within the Basic and Targeted FSA is considered marginal and the species is unlikely to depend on it for survival.
Very Low		
Calidris alba (Sanderling)	Migratory, EPBC Act Migratory, BC Act	Species is a saltwater and coastal habitat specialist. The Basic FSA does not contain habitat suitable to support this species.
Falco hypoleucos (Grey Falcon)	Vulnerable, EPBC Act Vulnerable, BC Act	The Basic FSA does not contain primary habitat to support this species, and the species has not

Species	Conservation Status	Likelihood of Occurrence
		been recorded within 20 km of the Basic FSA.
Leipoa ocellata (Malleefowl)	Vulnerable, EPBC Act Vulnerable, BC Act	Limited habitat is available within the Basic FSA to support this species.
Numenius madagascariens is (Eastern Curlew, Far Eastern Curlew)	Critically Endangered, Migratory, EPBC Act Critically Endangered, BC Act	The Basic FSA does not contain suitable habitat to support this species.
Rostratula australis (Australian Painted Snipe)	Endangered, EPBC Act Endangered, BC Act	When surface water is present, these species may opportunistically utilise the following habitat: • Tall Shrubland Associated with Dampland • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Pluvialis squatarola (Grey Plover)	Vulnerable, Migratory, EPBC Act Migratory, BC Act	When surface water is present, this species may opportunistically utilise the following habitat: • Tall Shrubland Associated with Dampland • Eucalyptus along Drainage Line • Cleared Agricultural Land.
Parantechinus apicalis (Dibbler)	Endangered, EPBC Act Endangered, BC Act	The species has not been recorded from within the Desktop Study Area and is not known to occur on the mainland near the Basic FSA.
Notamacropus irma (Western Brush Wallaby)	P4, DBCA	The Basic FSA does not provide suitable habitat to support this species.

7.3.3.1 Carnaby's Black Cockatoo

The Carnaby's Black Cockatoo is listed as Endangered (EN) under the EPBC Act and BC Act.

The Carnaby's Black Cockatoo is endemic to the southwest of Western Australia and occupies a wide range of habitats due to the species seasonal migratory pattern (Department of Parks and Wildlife, 2013). The distribution of this species extends north to the lower Murchison River and east the Nabawa, Wilroy, Waddi Forest, Nugadong, Manmanning, Noogar (Moorine Rock), Lake Cronin, Ravensthorpe Range, head of Oldfield River, 20 km east southeast of Coondingup and Cape Arid; also casual on Rottnest Island (Johnstone, 2025).

The Carnaby's Black Cockatoo tends to favour proteaceous scrubs and heaths and adjacent woodlands and forests (Johnstone, 2025). This species tends to use the Warrdarge area for foraging, particularly in patches of remnant bushland (i.e. nature reserves and national

parks) and along road verges (Johnstone, 2025). Individuals observed within the Warradarge area are likely to be non-breeding autumn-winter visitors from breeding sites well to the northeast and east of the area (Johnstone, 2025). Within the DE the patches of remnant native vegetation, particularly the GDEs extending through the middle of the DE are expected to provide higher quality foraging habitat for the Carnaby's Black Cockatoo than other areas in the DE.

The main threats to Carnaby's Black Cockatoo are associated with the loss of breeding habitat, non-breeding foraging and night roosting habitat, as well as declining tree health, mining and extraction activities, illegal shooting/ taking, climate change, collision with vehicles and disease (Johnstone, 2025).

DBCA database search results (DBCA, 2025b) returned 526 records of Carnaby's Black Cockatoo within the study area. Of these, eight occur within the DE.

Carnaby's Black Cockatoo were recorded on 21 occasions throughout the Basic and Targeted fauna surveys. Twelve of these records were primary observations (visual sightings), and nine were secondary observations (foraging and evidence calls). Of the 12 primary observations, birds were seen flying alone or in flocks of up to 20 individuals. The mean flock size recorded during the survey was six individuals.

Carnaby's Black Cockatoo were recorded on 53 occasions throughout the BBUS, including 38 primary observations (visual sightings) and 15 secondary observations (calls) (Umwelt, 2025d) (Appendix I). Sightings of Carnaby's Black Cockatoo ranged from single individuals to flocks of up to 35 birds, with the median flock size of two across all BBUS undertaken (Umwelt, 2025d) (Appendix I). The likelihood of occurrence within the DE is therefore 'High'.

Breeding and Roosting

A Black Cockatoo breeding site is defined as a location where Black Cockatoos are confirmed to be breeding (DBCA, 2019). A Black Cockatoo roosting site refers to an area where birds congregate to rest and sleep overnight (DBCA, 2019). Trees assessed across the surveys were given a nest-tree ranking in accordance with the Bamford ranking system described in Table 26.

Table 26 Black Cockatoo Nest-tree Ranks (Bamford, 2020)

Rank	Description of Tree and Hollows/Activity
1	Activity at hollow observed; adult (or immature) bird seen entering or emerging from hollow.
2	Hollow of suitable size visible with chew marks around entrance.
3	Potentially suitable hollow visible but no chew marks present; or potentially suitable hollow present (as suggested by structure of tree, such as large, vertical trunk broken off at a height of >10 m).
4	Tree with hollows or broken branches that might contain large hollows but hollows or potential hollows are not vertical or near-vertical; thus a tree with or likely to have hollows of sufficient size but not to have hollows of the angle preferred by Black Cockatoos.
5	Tree lacking large hollows or broken branches that might have large hollows; a tree with more or less intact branches and a spreading crown.

Black Cockatoo roost sites from the Great Cocky Count and additional validations have been provided by the DBCA within the study area. No roosting sites have been recorded within the DE or IDF (DBCA, 2024a).

During the targeted survey one confirmed breeding tree was recorded within the DE (Figure 14). A total of 420 trees that meet the potential Black Cockatoo nest tree criteria were recorded within the DE. Two of these trees were recorded as Category 2, while 39 trees were recorded as Category 3, 2 as Category 4 and the remaining 376 as Category 5 (ranking presented in Table 27). Ninety-six potential Black Cockatoo nest trees were recorded within the IDF none of which have a suitable hollow for Carnaby Black Cockatoos, they are all Category 4 and 5. All records of potential Black Cockatoo nest trees are detailed in Table 27.

The most significant trees recorded during the targeted survey were the Category 2 trees; Tree 02 (Powderbark Wandoo – *Eucalyptus accedens*) and T303 (Wandoo – *Eucalyptus wandoo* subsp. *pulverea*). Both trees are preferred species for Carnaby's Black Cockatoo nesting and contained hollows with suitable entrance diameters and showed evidence of old chew marks.

Table 27 Carnaby's Black Cockatoo Potential Nest Trees within the Development Envelope and Indicative Disturbance Footprint

Rank	Number of Trees within DE	Number of Trees within IDF
1	1	0
2	2	0
3	39	0
4	2	2
5	376	95

Foraging

The foraging values of each broad fauna habitat type were assessed based on site condition, context, based on the framework developed by Bamford Consulting Ecologists in collaboration with Quessentia Consulting. The foraging habitat assessment identified the majority of the DE to be of Negligible to Low foraging value (Site Score 0-2) (11,162.10 ha 70.4 %), with 432.78 ha (2.7%) of Low to Moderate foraging value (Site Score 3), and some areas of Moderate and Moderate to High foraging value habitat present (Site Score 4 and 5 4,187.68 (26.3 %) (Umwelt, 2025c) (Appendix H).

Almost all of the IDF was assigned a Site Score of 1; Negligible to Low foraging values (1,581.86 ha 99.2%), with 0.35 % assigned a Site Score of 0; No foraging value and 0.27 % assigned a Site Score of 2; Low foraging value (Figure 14). Table 28 shows the complete classification of Carnaby's Black Cockatoo foraging habitat within the DE and IDF (Umwelt, 2025c) (Appendix H).

Table 28 Carnaby's Black Cockatoo Foraging Habitat within the Development Envelope and Indicative Disturbance Footprint Based on Bamford (2020) Site Score Rankings

Site Score	Description of Vegetation Value	Area within DE (ha)	Area within IDF (ha)
0	No foraging value.	75.68	5.55
1	Negligible to Low foraging value.	10,719.51	1,581.86
2	Low foraging value.	366.94	4.26

Site Score	Description of Vegetation Value	Area within DE (ha)	Area within IDF (ha)
3	Low to Moderate foraging value.	432.78	1.89
4	Moderate foraging value.	1,435.75	0.55
5	Moderate to High foraging value.	2,751.93	0.76
6	High foraging value.	0.00	0.00
Unsurveyed		64.62	0.00
Total		**15,847.21**	**1594.87**

First North Rd
Three Springs - Eneabba Rd
Brimson Rd
Reserve Rd
Carnamah - Eneabba Rd
Caribaldi Willis Rd
Rose Thomson Rd
1
2
3
4
5
6
7
8
9
10

Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Black Cockatoo Potential Breeding Trees with Hollows
- Confirmed Black Cockatoo Breeding Tree

Black Cockatoo Potential Breeding Trees

- Category 2
- Category 3
- Category 4
- Category 5

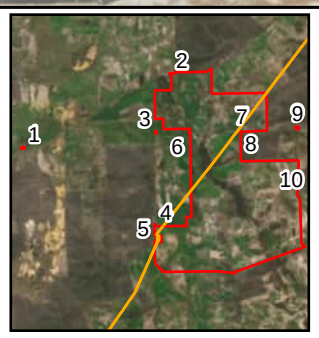
DBCA Black Cockatoo Records

- *Zanda latirostris*
- *Zanda sp.* 'white-tailed black cockatoo'

Black Cockatoo Foraging Habitat

- 0
- 1
- 2
- 3
- 4
- 5

Note: Numbers represent site access point ID's



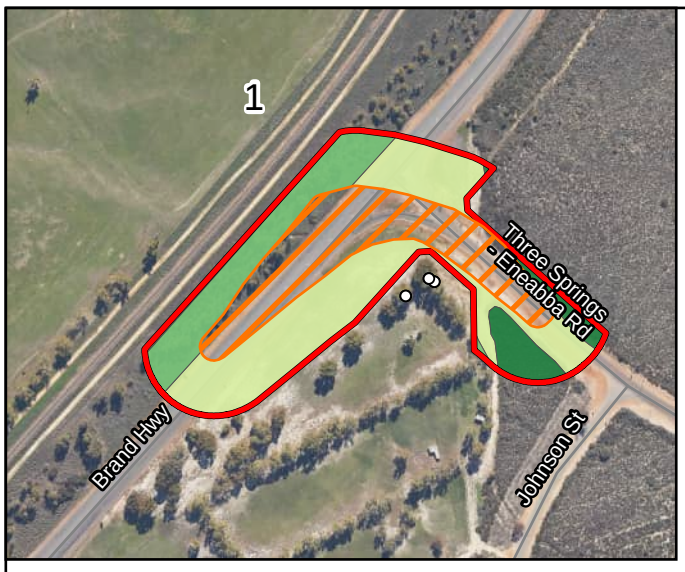
TATHRA WIND FARM EP ACT REFERRAL

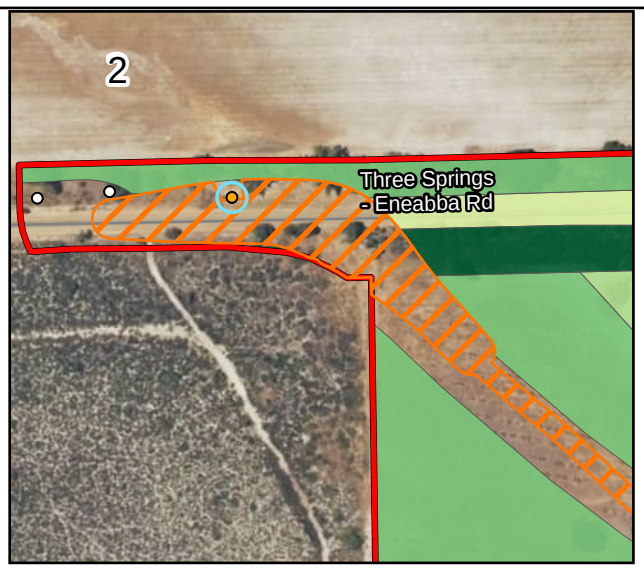
BLACK COCKATOO SIGHTINGS, FORAGING HABITAT AND POTENTIAL NESTING TREES

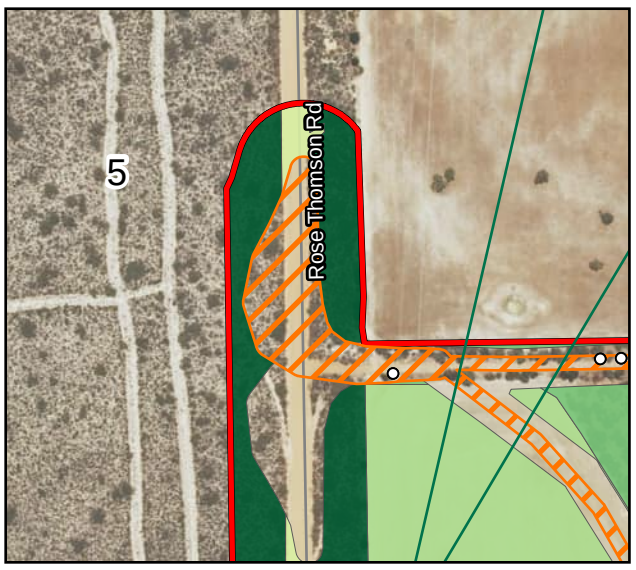
SLR

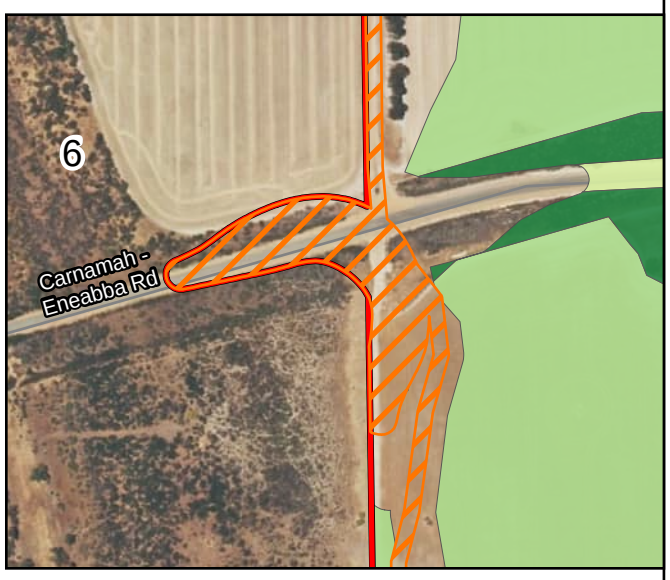
FIGURE 14a

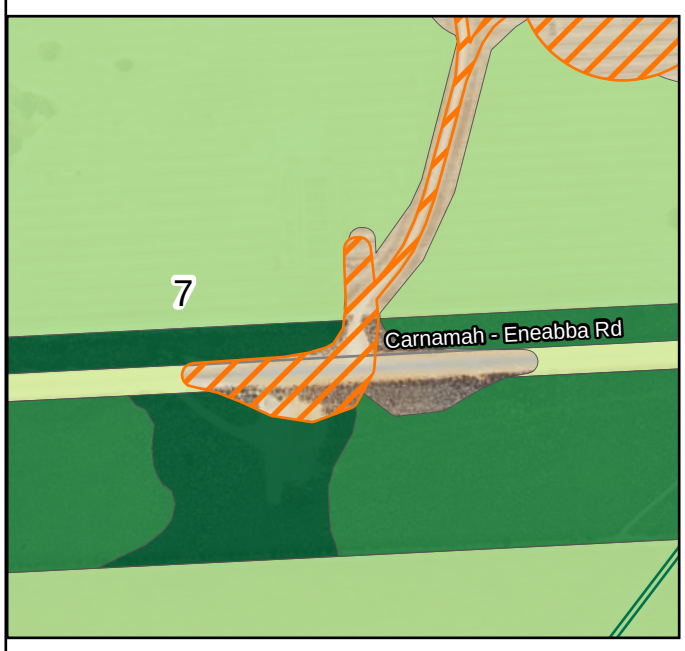
Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F14a_Black Cockatoo Foraging Habitat and Potential Nesting Trees

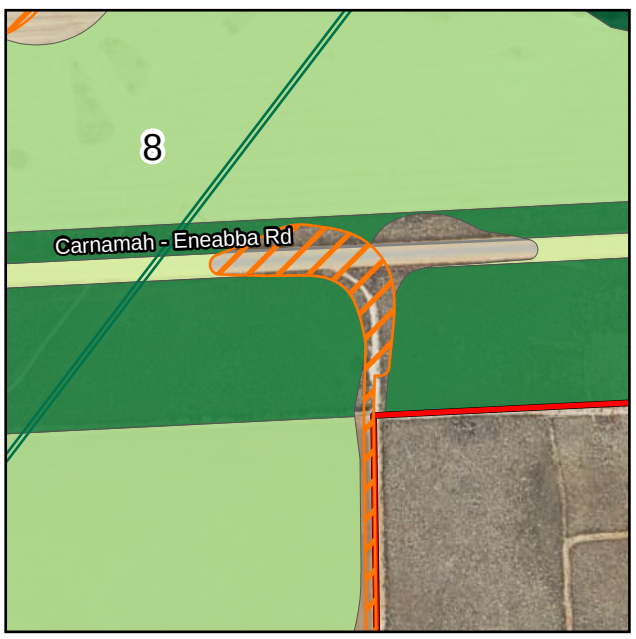


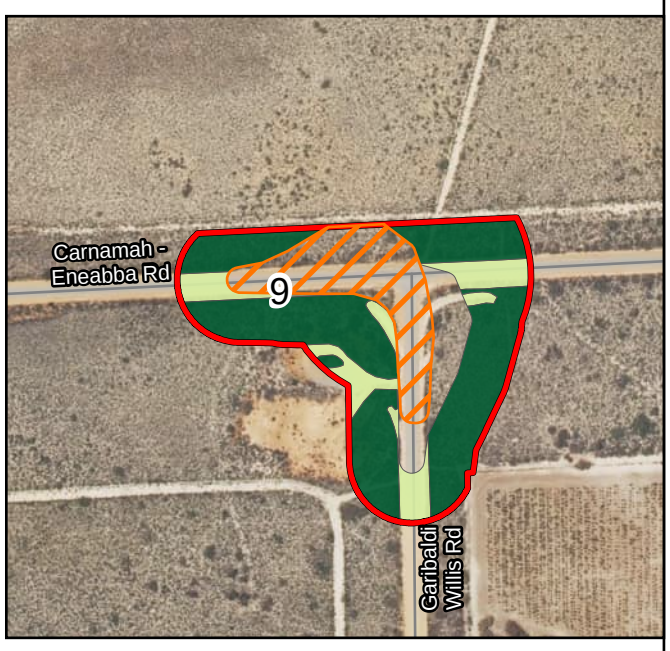


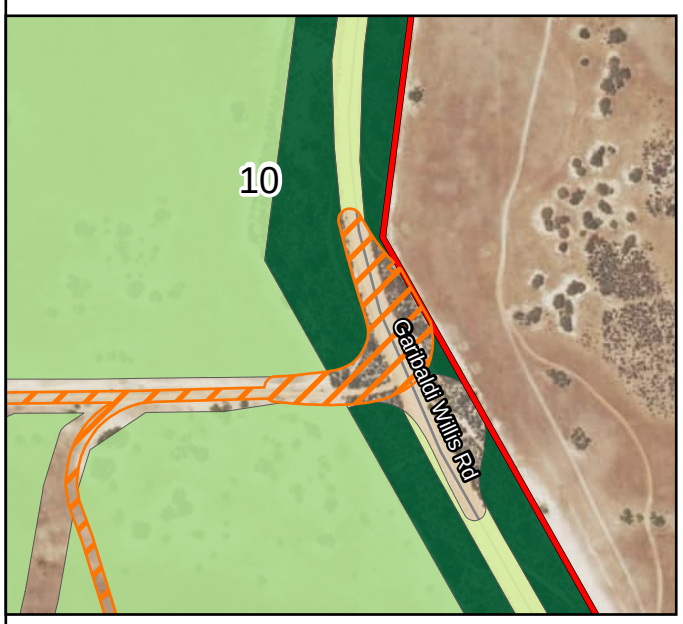












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0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:62,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

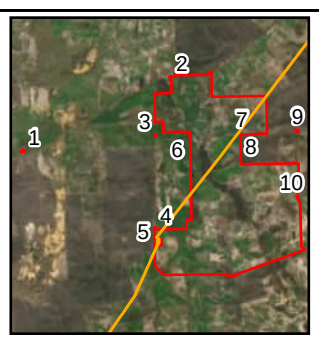
- Indicative Disturbance Footprint
- Development Envelope
- Existing Western Power Transmission Line
- Major Roads

Black Cockatoo Potential Breeding Trees

- Category 3
- Category 5

Black Cockatoo Foraging Habitat

- 0
- 1
- 2
- 3
- 4
- 5



Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

BLACK COCKATOO SIGHTINGS, FORAGING HABITAT AND POTENTIAL NESTING TREES

FIGURE 14b

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F14b_Black Cockatoo Foraging Habitat and Potential Nesting Trees

7.3.3.2 Pacific Swift

The Pacific Swift is listed as Migratory under the EPBC Act and BC Act.

The Pacific Swift has a sparsely scattered distribution along the south coast of Western Australia ranging from near the Eyre Bird Observatory and west to Denmark (DCCEEW, 2025b). The species tends to prefer inland plains but sometimes occurs above foothills or in coastal areas (DCCEEW, 2025b). The Pacific Swift is an aerial eater that flies between 1 m to 300 m above the ground to forage (DCCEEW, 2025b). Therefore, the species is unlikely to rely on the habitat within the DE and is instead expected to inhabit overhead air space of the DE.

There are no specific threats to the Pacific Swift in Australia, however, potential threats include habitat loss and feral species (DCCEEW, 2025b).

The Pacific Swift was recorded only once during one BBUS. This was a primary observation of four individuals flying directly over the surveyor (Umwelt, 2025d) (Appendix I). Only a single record of Pacific Swift was recorded, with a varied flight height of between 30 m and 65 m AGL (Umwelt, 2025d) (Appendix I). The likelihood of occurrence is therefore ‘High’.

7.3.3.3 Peregrine Falcon

The Peregrine Falcon is listed as Other Specially Protected under the BC Act.

The Peregrine Falcon has a wide distribution, from rainforests to arid zones and tends to occupy most altitudes, from the coast to alpine areas (Birdlife Australia, 2025). Given the species requirement for abundant prey and secure nests they tend to prefer coastal and inland cliffs or open woodlands near water (Birdlife Australia, 2025). This species is considered highly likely to utilise all habitats within the DE for foraging and may utilise the following habitat types within the DE for nesting (Birdlife Australia, 2025):

- Wandoo Woodland on Sandy Soil.
- Eucalyptus Woodland on Stoney Substrate.
- Eucalypt Woodland Along Drainage Lines.
- Eucalypt Woodland on Rocky Hills.
- Planted.

The main threats to the Peregrine Falcon are associated with the collision of the species with infrastructure (Birdlife Australia, 2025).

The Peregrine Falcon was recorded four times across two BBUS. One record of this species included four individuals observed hunting together. These are believed to be an adult pair with two juveniles. All other records were of single individuals observed in flight (Umwelt, 2025d) (Appendix I). Recorded flight heights ranged from 5 m to 200 m AGL (Umwelt, 2025d) (Appendix I). The likelihood of occurrence is therefore ‘High’.

7.3.3.4 Black-Striped Burrowing Snake

The Black-striped Burrowing Snake is listed as Priority 3 under the BC Act.

The Black-striped Burrowing Snake distribution is primarily restricted to coastal south-western Western Australia, particularly along dunes as well as open woodland and shrublands with sandy soil (Gaikhorst et al., 2018). This species has a high likelihood of occurring within the DE, particularly within vegetated habitats with sandy soil including (Gaikhorst et al., 2018):

- Sparse to Open Eucalypt and Banksia Woodland on Plains and Slopes.
- Wandoo Woodland on Sandy Soil.
- Low Shrubland on Gentle Slope.
- Tall Shrubland Associated with Dampland.
- Eucalyptus Woodland along Drainage Line.

Given the species restricted distribution, the main threat for the Black-striped Burrowing Snake is the increase in urban development within its restricted range along the coast (Gaikhorst et al., 2018).

The Black-striped Burrowing snake was not recorded during the fauna surveys, however, the species is cryptic and considered to have a high likelihood of occurring within the DE, due to the sandy habitat types within the DE and records within the region (Umwelt, 2025d) (Appendix I). The likelihood of occurrence is therefore 'High'.

7.3.3.5 Western Spiny-tailed Skink

The Western Spiny-tailed Skink is listed as Endangered under the EPBC Act and Vulnerable under the BC Act.

The Western Spiny-tailed Skink is known to occur in open eucalypt woodlands and *Acacia*-dominated shrublands in semi-arid to arid areas of southwestern WA (Department of Environment and Conservation, 2012). This species tends to live in logs, cavities in trunks and shrubs (Department of Environment and Conservation, 2012). Potential habitats within the DE that may support the species include (Department of Environment and Conservation, 2012):

- Wandoo Woodland on Sandy Substrates.
- Eucalyptus Woodland on Stoney Substrate.
- Eucalyptus Woodland on Rocky Hill.

The known threats to the Western Spiny-tailed Skink include clearing of habitat, degradation of existing habitat through grazing activities, modification to natural processes that generate hollows/logs and firewood collection (Department of Environment and Conservation, 2012).

The Western Spiny-tailed Skink was not recorded during the fauna survey and no potential refuge sites were recorded. Although habitat that has the potential to support the species was identified within the DE, the habitats did not contain suitable denning material and therefore the species is considered to have a moderate likelihood of occurring within the DE (Umwelt, 2025d) (Appendix I). The likelihood of occurrence is therefore 'Moderate'.

7.3.4 Invertebrate Fauna

A desktop assessment was completed by Umwelt to determine the likelihood of conservation significant and Short Range Endemic (SRE) invertebrate fauna occurring within the study area.

The DE intersects 24 soil landscape systems, which encompass four vegetation system associations (Umwelt, 2025c) (Appendix H). These habitat types support a diverse range of invertebrate species. Overall, the DE represents 5.83% of the land system habitat and 4.87% of the vegetation system associations found within the broader SRE study area (100 km x 100 km), indicating it comprises a relatively small but ecologically relevant portion of the regional landscape (Umwelt, 2025c) (Appendix H).

The desktop assessment identified up to 1,691 invertebrate species (SRE and non-SRE) previously recorded or with potential to occur within the study area. This total comprises one

Annelid, 1,648 Anthropods, 36 Molluscs, five Nematodes and one Platyhelminthes (Umwelt, 2025c) (Appendix H).

Only four species identified in the desktop assessment were recorded within the DE, none of which are considered SREs or conservation significant invertebrate species. These include three species of ants (*Colobostruma ellioti, Colobostruma fraggatti* and *Mesostruma eccentrica*) and one arachnid (*Artoroopsis expolita*) (Umwelt, 2025c) (Appendix H).

7.3.4.1 Conservation Significant Invertebrate Fauna

The desktop assessment identified nine conservation significant invertebrate fauna species as potentially occurring within the SRE Desktop Study Area. These comprise six arachnids, one gastropod, one orthopteran insect and one hymenopteran insect. All nine of these species are listed under the BC Act, while one species of arachnid is also listed under the EPBC Act (Table 29).

Table 29 Likelihood of Occurrence for Conservation Significant Invertebrates

Higher Classification	Species	Conservation Status	Likelihood of Occurrence
High			
Arachnida: Araneae	*Idiosoma nigrum* (shield-backed trapdoor spider)	Vulnerable, EPBC Act Endangered, BC Act	One record of this species lies within the Targeted FSA. This is a historic record from 1987. The Basic FSA may provide suitable habitat to support this species.
Arachnida: Araneae	*Idiosoma kwongan* (Kwongan heath shield-backed trapdoor spider)	P1, DBCA	Records of this species lie within 20 km of the Basic FSA which may provide suitable habitat to support this species.
Gastropoda: Stylommatophora	*Bothriembryon Perobesus* (a bothriembryontid land snail (Moore River))	P1, DBCA	Records of this species lie within 20 km of the Basic FSA which may provide suitable habitat to support this species.
Arachnida: Araneae	*Idiosoma gardneri* (Mt Lesueur shield-backed trapdoor spider)	P2, DBCA	Records of this species lie within 20 km of the Basic FSA which may provide suitable habitat to support this species.
Insecta: Hymenoptera	*Hylaeus globuliferus* (woolybush bee)	P3, DBCA	Records of this species lie within 20 km of the Basic FSA which may provide suitable habitat to support this species.
Moderate			
Insecta: Orthoptera	*Hemisaga vepreculae* (thorny bush katydid (Moora))	P2, DBCA	One record of this species lies 20 km from the Basic FSA which may provide suitable habitat.

Higher Classification	Species	Conservation Status	Likelihood of Occurrence
Very Low			
Arachnida: Araneae	*Teyl 'MYG693'* (Minnivale trapdoor Spider)	Critically Endangered, BC Act	Records of this species are greater than 80 km from the Basic FSA.
Arachnida: Araneae	*Idiosoma dandaragan* (Dandaragan Plateau shield-backed trapdoor spider)	P2, DBCA	Records of this species are greater than 50 km from the Basic FSA.
Arachnida: Araneae	*Idiosoma arenaceum* (Geraldton Sandplain shield-backed trapdoor spider)	P3, DBCA	Records of this species are greater than 60 km from the Basic FSA.

7.3.4.2 Short Range Endemic (SRE) Fauna

SRE invertebrates are species that occur within a geographically limited area, typically defined in Western Australia as having a distribution of less than 10,000 km^2 (Harvey, 2002). Their restricted range is often a result of limited dispersal capacity, specialised life history traits, and dependence on isolated or unique habitat features—such as rocky outcrops, gullies, boulder fields, deep leaf litter, and springs. These ecological characteristics contribute to their high levels of endemism and make them highly vulnerable to habitat disturbance.

The SRE desktop assessment concluded that 48 species were considered to have a 'High' likelihood of occurrence, 29 'Moderate', one 'Low' and 80 'Very Low' within the DE.

One historic SRE record of *Idiosoma nigrum* (the Shield-backed Trapdoor Spider or Black Rugose Trapdoor Spider) (VU/EN) was identified within the DE. This was a trapped individual from 1987, although literature on this individual could not be found (DBCA, 2025b)The Shield-backed Trapdoor Spider typically inhabits clay soils of eucalypt woodlands and *Acacia* shrublands, with a habitat preference for leaf litter and twigs for burrowing (Department of Sustainability, 2013). In the wheatbelt, habitat critical to the species is identified as York gum (*Eucalyptus loxophleba*), Salmon gum (*E. salmonophloia*) and Wheatbelt Wandoo (*E. capillosa*) woodland (Department of Sustainability, 2013). Due to the one historic record and that the DE may provide suitable habitat for this species, particularly the Wandoo woodland community, the likelihood of occurrence of this species is High (Umwelt, 2025c) (Appendix H).

The main threats to the Shield-backed Trapdoor Spider include land clearing, habitat fragmentation, salinity and grazing of habitat by stock and feral animals (Department of Sustainability, 2013).

7.4 Potential Environmental Impacts

The following potential impacts to terrestrial fauna values from the Proposal have been identified:

- Loss of fauna habitat due to clearing, including clearing of:
    - 8.50 ha of fauna habitat types (which includes non-native vegetation) that may have significance to conservation significant fauna.
    - Less than 1 ha of moderate to high quality foraging habitat for Black Cockatoos (score of 4 or above) and 6.15 ha low quality foraging habitat (score 2 or 3).
    - Up to 97 potential breeding trees providing potential roosting and breeding habitat for Black Cockatoos, none of which have suitable hollows.
- Injury or death of fauna due to entrapment in open trenches or other excavations during construction.
- Injury or death of fauna due to vehicle strike.
- Injury or death of fauna due to WTG collision.
- Fragmentation of fauna habitat and loss of ecological connectivity.

Potential indirect impacts of the Proposal to terrestrial fauna have been identified as:

- Degradation of fauna habitat and habitat modification due to introduction or increase in feral animals, altered fire regime, introduction or ingress of weeds and/or disease, increased dust generation during construction and altered hydrological regime.
- Altered fauna behaviour due to the presence of WTG, noise, lighting and human presence.

The significance of these potential impacts is discussed in Section 7.6.

Cumulative impacts are considered in Section 12.0.

7.5 Mitigation

The mitigation hierarchy has been applied during design of the Proposal to avoid, mitigate and rehabilitate impacts to terrestrial fauna as far as practicable as described in Table 30.

Table 30 Application of the Mitigation Hierarchy for Potential Impacts to Terrestrial Fauna

Potential Impact	Avoidance	Minimisation	Rehabilitation	Residual Impact

Loss of fauna habitat types	• Maximises the use of existing disturbed areas, thereby minimising clearing of fauna habitat and avoids clearing of habitat with potential significance for conservation significant fauna.
	• Avoids siting WTGs in areas of high fauna habitat value, thereby reducing potential for injury of death through WTG collision.
	• Includes a Proposed Clearing Exclusion Area around the confirmed breeding tree (Figure 11).
	• Includes implementation of 'Exclusion Areas' that have been delineated to avoid impacts to significant fauna habitat as shown in Figure 11.
	• No clearing of suitable and potential breeding trees for Black Cockatoo.
	  o Avoidance of Category 1-3 potential breeding trees.
	  o Siting of WTGs greater than 100 m from major waterways.
	• Does not require clearing of mapped native vegetation to facilitate implementation of any of the bushfire mitigation measures.
		• Final layout utilises existing cleared areas as far as practicable with no clearing of native vegetation within the Clearing Exclusion Area.
		• To minimise potential impacts to bat species, a 100 m setback from major waterways has been applied to wind turbines.
		• Minimising the size of the swept paths associated with transport and site access points and internal access roads through the reduction in buffer distances.
		• Continue the quarterly bird and bat utilisation surveys to complete 2 years' worth of data collection.
		• A collision monitoring program will be undertaken at commencement of operations over a minimum of two years to monitor the impact of WTG operation to Carnaby's Black Cockatoo and other avifauna species.
		• Survey of the confirmed breeding tree to determine nesting activity or signs of abandonment will also be conducted during the breeding season prior to construction, during construction and for a minimum of two years from commencement of operations.
		• Locating all infrastructure, including but not limited to WTGs, to minimise native vegetation and significant fauna habitat including Category 3 Black Cockatoo trees.
		An Environmental Management Framework will be implemented to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal through the following:
		• Construction Environmental Management Plan (CEMP) requirements.
		• Weed and dieback hygiene management measures.
		• Waste management procedures and removal of waste offsite.
		• Feral animal control.
		• Prohibition of feeding fauna.
		• Limiting movements and utilising existing tracks where available and appropriate speed limits.
		• Consideration of type and use of lighting on infrastructure and construction hours.
		A Preliminary Bird and Bat Adaptive Management Plan (PBBAMP) will be implemented for the Proposal to minimise and mitigate potential impacts on bird and bat species at risk of collision with wind turbines due to their flying behaviour, habitat requirements, size or feeding strategies (Appendix N). The PBBAMP will be finalised
			Areas that are cleared for construction or operation will be rehabilitated during decommissioning in accordance with the finalised Decommissioning Management Plan. A Draft Decommissioning Management Plan is provided in Appendix A.	Based on the mitigation proposed the Proposal will result in clearing up to 8.50 ha of fauna habitat, including:
				• Less than 1 ha of high to moderate (Site Score 4 to 6) Carnaby BC foraging habitat
				• No Category 1 to 3 CBC breeding trees
				The assessment and significance of this residual impact detailed in Section 7.6.

Potential Impact	Avoidance	Minimisation	Rehabilitation	Residual Impact
		prior to operation of the windfarm and will be regulated via the Development Approval. It provides an adaptive management and monitoring program to document bird and bat mortalities to allow assessment of the effectiveness and implementation of controls.		
Injury or death of fauna due to vehicle strike	N/A	A EMP be implemented to manage the potential environmental impacts associated with construction and operation of the Proposal, through the following: • Limiting movements and utilising existing tracks where available, with appropriate speed limits. • The Framework for the EMP is provided in Appendix E, and will be finalised prior to Construction, as regulated by the Development Approval.	N/A	Based on the mitigation proposed the Proposal is not anticipated to cause injury or death of fauna due to vehicle strike. The assessment and significance of this residual impact detailed in Section 7.6.
Injury or death of fauna due to WTG collision	Avoids WTGs in areas of high fauna habitat value, thereby reducing potential for injury of death through WTG collision.	• Locating WTGs to minimise native vegetation and significant fauna habitat including Category 3 Black Cockatoo trees. • To minimise potential impacts to bat species, a 100 m setback from major waterways has been applied to wind turbines. EMPs will be implemented to manage the potential environmental impacts associated with construction and operation of the Proposal, through the following: • Consideration of type and use of lighting on infrastructure and construction hours. The Framework for the EMP is provided in Appendix E, and will be finalised prior to Construction, as regulated by the Development Approval. A BBAMP will be implemented for the Proposal to minimise and mitigate potential impacts on bird and bat species at risk of collision with wind turbines due to their flying behaviour, habitat requirements, size or feeding strategies. A PBBAMP is provided in Appendix N and will be updated prior to Operations, as regulated by the Development Approval. The PBBAMP provides an adaptive management and monitoring program to document bird and bat mortalities to allow assessment of the effectiveness and implementation of controls.	N/A	Based on the mitigation proposed the Proposal may cause injury or death of fauna due to WTG collision. The assessment and significance of this residual impact detailed in Section 7.6.
Fragmentation of fauna habitat and loss of ecologically connectivity	Avoidance of clearing fauna habitat within large native areas of remnant vegetation. The IDF has been designed to utilise existing tracks and disturbance as much as practicable	All temporary construction infrastructure will be located within areas of existing disturbance or cleared land, reducing clearing	N/A	Based on the mitigation proposed increase in fragmentation of fauna habitat is considered unlikely. The assessment and significance of this residual impact detailed in Section 7.6.

7.6 Assessment and Significance of Residual Impact

7.6.1 Direct Loss of Fauna Habitat

The Proposal has been designed to avoid areas of high value fauna habitat, by maximising the use of existing disturbed areas, thereby minimising clearing of fauna habitat and avoids clearing of habitat with potential significance for conservation significant fauna. The main fauna habitat type mapped across the DE, is Cleared Agricultural Land comprising 67.6% of the DE. Through careful design and by utilising cleared areas as much as possible, 99.1% of the IDF is located within fauna habitat types mapped as either Cleared Agricultural Areas or Cleared (Other) areas.

Direct loss of the remaining fauna habitat types as a result of clearing for the Proposal will be limited to 8.50 ha (0.53% of the IDF), of this 3.44 ha is native vegetation. The fauna habitat types have varying significance to conservation significant fauna (Umwelt, 2025c) (Appendix H), with the most significant fauna habitats considered to be the Wandoo Woodland on Sandy Soils, Eucalyptus Woodland on Stoney Substrate, Eucalyptus Woodland along Drainage Lines, Eucalyptus Woodland on Rocky Hills, and Planted habitat types as these habitats contain tree species which may produce suitable nest-hollows for Black Cockatoo (Umwelt, 2025c) (Appendix H). Although these habitats may provide nest-hollows for Black Cockatoo, within the DE, these habitat types are considered to be of marginal quality due to the recorded disturbance from weeds, rubbish, grazing and existing tracks

The potential impact on Carnaby's Black Cockatoo habitat is discussed separately in Section 7.6.1.1. Table 31 provides a breakdown of the potential direct impact on each fauna habitat type in relation to the extent of each habitat type present in the DE. Of the 8.50 ha of habitat proposed for clearing, 5.03 ha is Planted habitat, equating to 1.4% of Planted fauna habitat present in the DE. For the fauna habitats that comprise native vegetation, the greatest disturbance as a percentage of the habitat present in the DE is expected to be to the Low Shrubland on Gentle Slope habitat type with 0.1% of this habitat in the DE impacted. The next greatest percentage disturbance is expected to be to the Sparse to Open Eucalypt and Banksia Woodland on Plains and Slopes habitat type with clearing of 0.09% of this habitat type in the DE. Given the marginal quality of the habitat proposed for clearing and that the extent of clearing in each habitat type is small compared with the extent of each habitat type present in the DE, clearing for the Proposal is not considered to represent a significant loss at a local or regional scale.

Table 31 Potential Direct Impact to Fauna Habitat within the DE

Fauna Habitat	Development Envelope (ha)	Proposed Direct Impact	
		Hectares (ha)	Percentage (%) of Habitat Type in the DE
Sparse to Open Eucalypt and Banksia Woodland on Plains and Slopes Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Peregrine Falcon, Black-striped Burrowing Snake	1,957.27	1.70	0.09

Fauna Habitat	Development Envelope (ha)	Proposed Direct Impact	
		Hectares (ha)	Percentage (%) of Habitat Type in the DE
Wandoo Woodland on Sandy Soil Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Western Spiny-tailed Skink, Peregrine Falcon, Black-striped Burrowing Snake, Shield-backed Trapdoor Spider	423.60	0.00	0.00
Eucalyptus Woodland on Stoney Substrate Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Western Spiny-tailed Skink, Peregrine Falcon	712.20	0.29	0.04
Low Shrubland on Gentle Slope Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Peregrine Falcon, Black-striped Burrowing Snake	714.68	0.90	0.13
Tall Shrubland Associated with Dampland Conservation significant fauna potentially associated with this habitat include: Peregrine Falcon, Black-striped Burrowing Snake	630.70	0.50	0.08
Eucalyptus Woodland along Drainage Line Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Peregrine Falcon, Black-striped Burrowing Snake	92.32	0.08	0.09

Fauna Habitat	Development Envelope (ha)	Proposed Direct Impact	
		Hectares (ha)	Percentage (%) of Habitat Type in the DE
Eucalypt Woodland on Rocky Hills Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Western Spiny-tailed Skink, Peregrine Falcon	89.46	0.00	0.00
Planted Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Peregrine Falcon	366.52	5.03	1.37
Cleared Agricultural Land Conservation significant fauna potentially associated with this habitat include: Carnaby's Black-Cockatoo, Peregrine Falcon	10,718.02	1,580.28	14.74
Cleared (Other) Conservation significant fauna potentially associated with this habitat include: Peregrine Falcon	75.06	5.56	7.40
Unsurveyed	65.14	0.00	
TOTAL	**15,846.96**	**1,594.86**	
* Based on aerial imagery and the surrounding mapped vegetation, this area is associated with the Western Power Eneabba Terminal and likely to be either cleared agricultural land or cleared (other).			

7.6.1.1 Carnaby's Black Cockatoo habitat

The Black Cockatoo foraging habitat assessment mapped a majority of the DE as Negligible to Low foraging value (70.4%) with all cleared agricultural land, remnant and planted native vegetation considered to provide some foraging value to the species.

Within the Cleared Agricultural Land habitat type, crops such as Canola may provide foraging habitat and individual paddock trees may support breeding (Umwelt, 2025c) (Appendix H). The foraging value of these crops is higher during breeding season but temporary in nature due to the short period of time available for foraging given the landowners' need to harvest the crop.

Carnaby's Black-Cockatoo is known to have been breeding within the Wandoo Woodland on Sandy Soil habitat at the time of the first Bird and Bat Utilisation survey (October-November 2024). A breeding pair of Carnaby's Black-Cockatoo with a chick has been recorded nesting in a *Eucalyptus accedens* within the DE. Although no Carnaby's Black-Cockatoo were observed nesting in any trees during the Targeted FSA (Umwelt, 2025c) (Appendix H).

The IDF intersects a total of 7.46 ha foraging habitat, of which 1.31 ha is considered moderate and moderate-high quality. Through careful Proposal design in relation to Black Cockatoo habitat and the implementation of the proposed Clearing Exclusion Area shown on Figure 11, the Proposal will:

- Avoid clearing of any trees containing suitable and potentially suitable hollows (Category 1 to 3).
- Clear less than 1 ha of moderate-high quality foraging habitat (Site Score 4 and 5)
- Clear up to 97 trees with suitable diameter at breast height (DBH) but without suitable hollows (Category 4 and 5).

A summary of the potential direct habitat loss to Carnaby's Black Cockatoo habitat within the DE is presented in Table 32.

Table 32 Potential Direct Habitat Loss to Carnaby's Cockatoo within the DE

Habitat Value	Development Envelope	Proposed Direct Impact	
Potential nest trees			
With hollows of suitable size with visible chew marks (Category 1 & 2)	3	0	0%
Potentially suitable hollows but no evidence of chew marks (Category 3)	39	0	0%
Without suitable hollows (Category 4 & 5)	377	97	25.46%
Foraging Habitat Quality (Ha)			
High (Site Score 6)	0	0	0%
Moderate to High (Site Score 5)	2,751.93	0.76	0.03%
Moderate (Site Score 4)	1,435.75	0.55	0.04%
Low to Moderate (Site Score 3	432.78	1.89	0.44%
Negligible - Low (Site Score 1-2)	11.086.40	1,586.12	14.31%
No foraging value (Site Score 0)	75.68	5.55	7.33%

The Proponent assessed 18 site access points for transport of the turbines into the DE. Potential site access points were assessed for their suitability to safely accommodate transport of the turbines as well as the potential impacts to native vegetation and fauna habitat (particularly Black Cockatoo habitat) associated with the clearing at each location. Following assessment of the options, the Proponent has selected a base case comprising 9

site access points (numbers 1, 2, 3, 5, 6, 7, 8, 9, 10) which will require clearing of 0.88 ha of moderate to high quality foraging habitat to Carnaby's Cockatoo (habitat scored by Bamford method as 4 and 5). An alternative option is shown on Figure 9 that utilises number 4 (required clearing of 0.35 ha) instead of number 5 (required clearing of 0.44 ha) may be possible. Following detailed design, either number 4 or 5 will be selected. Both scenarios, result in less than 1 ha of moderate to high quality foraging habitat being cleared for the transport of turbines.

The significance of the potential direct habitat loss to Carnaby's Black Cockatoo has been considered in the context of the Referral Guideline for 3 WA Threatened Black Cockatoo Species: Carnaby's Cockatoo, Baudin's Cockatoo and Forest Red-tailed Black-cockatoo (DCCEEW, 2022) and Significant Impact Guidelines 1.1 - Matters of National Environmental Significance (DEWHA, 2013). Although the Proposal will result in the direct loss of foraging habitat, the residual impact to the species is unlikely to be significant due to:

- The proposed clearing predominately comprises Negligible to Low value foraging habitat.
- The layout of the Proposal and associated infrastructure has been sited to avoid surface water features. WTGs free buffer zones have also been established around surface water flow paths, particularly along Warradarge Creek, to minimise impacts to water.
- 1,591.67 ha (99.80%) in the IDF proposed to be cleared is considered Negligible to Low value foraging habitat or has no foraging value (Figure 7).
- No night roosting habitat was recorded in the DE.

7.6.2 Injury or Death of Fauna Due to Entrapment in Open Trenches or Excavations

Fauna may fall into and become trapped in open trenches or excavations during construction. Trenches and excavations will be required to facilitate construction and installation of underground infrastructure including underground electrical cabling and foundations. Appropriate egress points or fencing of deep excavations will be installed for deep excavations. Dedicated measures to mitigate the risk of fauna entrapment and death will be implemented, including minimising the number of open excavations and reducing the duration they remain open will be included in the finalised EMP. A framework is provided in Appendix E and will be finalised prior to construction as regulated by the Development Approval.

Given the localised and temporary nature of the risk during construction, and the application of appropriate management measures the overall impact on fauna species as a result of entrapment is not expected to have a significant.

7.6.3 Injury or Death of Fauna Due to Vehicle Strike

Vehicle movements during the construction and operation phases of the Project may result in fauna strike, causing injury or death of individuals. The highest traffic volumes will occur during the construction phase of the Project. Measures include limiting vehicle movements to the IDF, utilising existing tracks and implementation of speed limits, will be included in the finalised EMP. A framework is provided in Appendix E, which considers measures to minimise the potential for vehicle strike, along with vehicle movement at dawn, dusk and night during operation limited to emergency works, impacts from vehicle strike are unlikely to have a significant impact on fauna species.

7.6.4 Injury or Death of Fauna Due to WTG Collision

Operation of the WTGs may result in injury or death of bird or bat species due to blade strike. Bird and bat species of interest have been considered during the impact assessment and preparation of the PBBAMP. This includes conservation significant species, raptor species, and species recorded flying within the Rotor Swept Area (RSA) during the BBUS program thus placing them at risk of blade strike. Species of interest are discussed further in the following sections.

7.6.4.1 Conservation Significant Species

Carnaby's Black Cockatoo were recorded on 53 occasions during the 12 month BBUS program with flock sizes reaching up to 35 individuals. Flight heights for this species ranged from ground level to 120 m AGL. The majority of the recorded flight activity (74%) for this species occurred below the RSA height (that is, less than 30 m AGL). However, ten records (26% of sightings) involved individuals flying within the RSA height range of 30 m to 250 m AGL (Umwelt, 2025d) (Appendix I).

Advice provided by R.E. Johnstone (2025) across six locations including Warradarge Windfarm located immediately south of the Proposal, reports that a reduced probably of Cockatoos encountering and flying into for the following reasons (Johnstone, 2025):

- There is a low rate at which Carnaby's Cockatoos appear to visit open farmland in the Warradarge area.
- Given the DE is mostly cleared farmland with little feeding, roosting and breeding habitat, it is unlikely the species will utilise the habitat during their north-south migrations when they are likely to be most at risk. Although opportunistic foraging may occur on crops (i.e. Canola) within the Cleared Agricultural Land fauna habitat.
- Carnaby's Cockatoos generally fly below turbine height (5-15 m) with occasional occurrences at 15 – 100 m AGL.
- The species is typically very spatially aware, with minimal records of Carnaby's Black Cockatoos hitting power lines and substantial evidence of their ability to navigate a maze of power lines and buildings in Perth suburbs.
- No Carnaby's Black Cockatoos have been recorded during Bird Impact Mortality Monitoring at the nearby Warradarge Windfarm. There has also been no recorded wind farm mortality of Carnaby Black Cockatoo's in Australia

It should be noted that the Warradarge WTGs have an 84 m hub height, rotor diameter of 136 m and maximum blade tip height of 152m. This results in an RSA of 17 m AGL.

Monthly bird and bat mortality carcass searches have been conducted at Warradarge Wind Farm since January 2025. Surveys initially covered 17 WTGs for the first two years, increasing to 27 WTGs in the third year. Each survey uses a zoologist and a detector dog with handler and camera traps are deployed to monitor scavenging events. Monitoring data from January to May 2025 recorded no mortality of Carnaby's Black Cockatoo or other conservation significant species. However, four raptor and 12 bat mortalities were recorded including two Wedge-tailed eagles, one Nankeen Kestrel, one Brown Falcon and 12 White-striped free-tailed bat (Source: Ecologia Warradarge 2025 Monitoring).

Therefore, it is anticipated that the impacts to Carnaby's Black Cockatoos from the proposed Tathra Wind Farm will align with the results from the nearby Warradarge windfarm. Potential impacts to this species during operation will be mitigated through the implementation of an

adaptive management approach outlined in the PBBAMP including increased monitoring effort.

Peregrine Falcons were recorded on four occasions across three seasonal BBUS surveys, with flight altitudes ranging from 5 to 200 m AGL. Although sightings were infrequent, one observation included a potential breeding group, indicating possible local nesting activity. Notably, 75% of the highest flight altitudes occurred within the RSA, suggesting a moderate risk of collision (Umwelt, 2025d) (Appendix I). There is potential for loss of individuals, but unlikely to lead to a reduction in population in the region.

Pacific Swifts were observed once during the BBUS program, with a group of four individuals flying between 30 and 65 metres AGL, well within the RSA (Umwelt, 2025d) (Appendix I). Due to the limited data, exposure risk modelling was not conducted; however, the recorded flight height indicates potential exposure. There has been no mortality recorded of this species at Warradarge windfarm, directly south of the Proposal. There is potential for loss of individuals, but unlikely to lead to a detectable reduction of East Asian Australian Flyway population.

7.6.4.2 Raptors

At least ten raptor species were recorded during the BBUS program, with Wedge-tailed Eagle and Nankeen Kestrel observed most frequently (Umwelt, 2025d) (Appendix I). Flight height data confirmed that at least nine identified raptor species (plus three unidentified records) were flying within the RSA, indicating a broad potential for blade strike exposure. Wedge-tailed Eagle accounted for the highest number of RSA-height records (69), followed by Nankeen Kestrel (46) (Umwelt, 2025d) (Appendix I). There is potential for occasional loss of individual raptors, however they are widespread and abundant and therefore unlikely to lead to a reduction in overall population.

7.6.4.3 Bat Species

Of the six bat species identified during the first 12 months of utilisation surveys, three species have been recorded within the RSA. These three bat species are not conservation significant species but have been assessed as having a moderate or greater risk of being impacted by the WTGs, specifically the White-striped Free-tailed Bat (moderate risk), the Southern-western Free-tailed Bat (high risk) and Gould's Wattled Bat (high risk) (Umwelt, 2025d) (Appendix M). The Southern Forest Bat has been assessed as having a moderate likelihood of being impacted by the WTGs, however there were no records obtained within the RSA during the utilisation surveys.

Two call types were detected above ground level on the meteorological mast – the call type associated with Gould's Wattled Bat / South-western Free-tailed bat, and the call type associated with the White-striped Free-tailed Bat, noting Gould's Wattled Bat and the South-Western Free-tailed bat are associated with the same call type.

As previously discussed, monthly bird and bat mortality carcass searches over 9 months at Warradarge Wind Farm have recorded 12 mortalities of White-striped free-tailed bat (Ecologia, 2025). This species has been recorded during the first 12-month period of Bird and Bat Mortality Monitoring program. Loss of individuals is likely; however, all these bat species are widespread and abundant in the region, therefore the impact is unlikely to significantly reduce the population. Potential risks to bat species from operations will be managed through the implementation of an adaptive management approach outlined in the PBBAMP that will form a condition of the Development Approval.

7.6.5 Fragmentation of Fauna Habitat and Loss of Ecological Connectivity

Fragmentation of habitat occurs when clearing of vegetation leads to a reduction or loss of ecological connectivity between remnant patches of vegetation. The existing landscape is highly disturbed as a result of clearing for agricultural purposes, with the fauna habitats that comprise native vegetation already highly fragmented. Given the highly fragmented nature of the existing environment and the minimisation of clearing to ensure ecological linkages remain, it is unlikely the Proposal will result in a significant increase in fragmentation of fauna habitat.

7.6.6 Degradation of Fauna Habitat

Degradation of fauna habitat can occur as a result of introduction or an increase in feral animals or altered fire regime, introduction of weeds, increased dust or changes to the hydrological regime.

7.6.6.1 Introduction or Increase in Feral Animals

Feral animals are a known threat to fauna due to predation and competition for prey. Cat, Rabbit, Red Fox and Laughing Kookaburra have been recorded during the fauna surveys (Umwelt, 2025c) (Appendix H).

Clearing during construction of the Proposal may result in native fauna being flushed into cleared areas making them vulnerable to predation. Construction activities may also increase the availability of food and water in the DE such that feral animals are attracted into the DE potentially increasing competition with and/or predation on native fauna.

Given the Proposal will be located in an area that is already highly disturbed, clearing of native vegetation will be limited to 3.44 ha, waste will be managed and feral animal control will be implemented, through the EMP. A framework is provided in Appendix E. It is not considered that, increased competition or predation by feral animals will significantly impact native fauna species.

7.6.6.2 Altered Fire Regime

Operational activities that involve ignition sources e.g. vegetation clearing, hot works, BESS operations have potential to start fires that escape and burn beyond the boundary of the DE and subsequently impact fauna habitat or fauna populations in the region.

Inappropriate fire regimes, such as fires that occur too frequently or fires of increased intensity can have negative ecological impacts, through decreased cover resulting in increased predation, changes to habitat structure or reduction in food availability. Leaf litter that provides SRE habitat and nutrition can also be lost when fires are too frequent.

Several of the Proposals facilities are in bushfire prone areas. Post-development, all proposed bushfire prone assets within the DE, are anticipated to be subject to Bushfire Attack Level (BAL) ratings of ≤BAL-12.5. The Bushfire Management Plan (Appendix F) proposes measures to mitigate bushfire risk including Assets Protection Zones, firefighting water supply, fire detection and fire breaks.

The likelihood of extensive and intense fires occurring as a result of the Proposal is low given the proposed mitigation measures including the implementation of a Bushfire Management Plan.

7.6.6.3 Introduction or Ingress of Weeds or Dieback

There is potential that clearing and vehicle movements associated with the implementation of the Proposal may introduce or spread weeds or dieback, potentially resulting in degradation to fauna habitat.

Eight introduced flora species (weeds) were recorded in the DE during the flora reconnaissance survey. None of these species were WoNS, however one is listed as declared pest under BAM Act (Umwelt, 2025c) (Appendix H). No dieback was recorded within the DE, during the dieback survey and the majority of the DE was excluded from assessment due to the complete lack of natural vegetation (cleared agricultural land) (Glevan Consulting, 2025a).

The Proposal will develop implementation measures in accordance with the Environmental Management Framework (Appendix E), which will include standard weed management practices, such as control of identified infestations and hygiene checks on vehicles/equipment arriving at the DE. Given the highly disturbed nature of the DE and the proposed hygiene measures, implementation of the Proposal is unlikely to result in significant degradation of fauna habitat due to the introduction or ingress of weeds or dieback.

7.6.6.4 Increased Dust

Dust generation during construction has the potential to degrade fauna habitat due to increased dust deposition on vegetation. However, dust generation will be localised, low in intensity, temporary in nature and primarily limited to the construction period. The Proposal will develop implementation measures in accordance with the Environmental Management Framework (Appendix E), which will include measures to reduce dust during construction. Increased dust generation is, therefore, considered unlikely to result in significant impacts to fauna habitat.

7.6.6.5 Changes to Hydrological Regime

Siting of infrastructure, particularly construction of watercourse crossings, has the potential to alter surface water flows or increase erosion which may result in degradation of fauna habitat.

The Proposal avoids siting WTGs in proximity to watercourses by including a setback of 100 m for WTGs from watercourses shown in Figure 11. The Proposal also includes installation of appropriately designed culverts and drainage infrastructure. The Proposal will develop implementation measures in accordance with the Environmental Management Framework (Appendix E), including management of surface water flows.

Given the highly disturbed nature of the DE, the proposed setback of WTGs from watercourses and the installation of suitable drainage structures, changes to surface hydrology are unlikely to result in a significant degradation to fauna habitat.

7.6.7 Altered Fauna Behaviour Due to Presence of WTG, Noise, Lighting and Human Presence

Exposure to artificial light through implementation of the Proposal can affect resident bird, bat, reptile and mammal species by attracting invertebrates and altering the nocturnal species foraging behaviour. Any disruption to terrestrial fauna behaviour due to light, noise and vibration from the Proposal will be temporary and limited to the construction phase of the Proposal when vehicle movement and activity across the DE is at its highest. The Proposal will be implemented in accordance with the approved EMP (framework provided in

Appendix E), and will manage disturbances associated with light, noise and vibration during construction. All facilities will be designed to comply with the Environmental Protection (Noise) Regulations 1997 and once operational, artificial lighting will be limited to safety lighting within the substations, BESS facilities and at the turbine maintenance doors when personnel are present.

The nearest turbine to the confirmed Black Cockatoo breeding tree (Tree ID 1141) is approximately 1.5 km west. As shown on Figure 11, a Proposed Clearing Exclusion Area is proposed to be implemented around this confirmed breeding tree to mitigate potential impacts due to the presence of WTGs. To assess whether the Proposal would likely alter the use of this breeding tree by Carnaby's Cockatoo, consideration was given to the Cataby Breeding Area for Carnaby's Cockatoo, where breeding habitat is as close as 3.5 km to 4 km to the Yandin Wind Farm. As noted by Johnstone (2025), this small breeding population has been monitored for over 20 years and has been stable since the wind farm commenced operations in 2021.

Based on observations of Black Cockatoo roosting and breeding next to gravel extraction sites, live firing ranges and adjacent to highways, Johnstone (2025) notes Black Cockatoo appear to be able to tolerate noise and light emissions.

On this basis, the presence of turbines away from the breeding tree is not expected to alter the nesting behaviour of the Carnaby's Cockatoo at this location.

Given the highly disturbed nature of the DE and the above management measures, the Proposal is unlikely to result in significant altered fauna behaviour.

7.7 Environmental Outcomes

The EPA objective for terrestrial fauna is 'to protect terrestrial fauna so that biological diversity and ecological integrity are maintained'.

The mitigation hierarchy, including avoidance and minimisation, has been applied to the design of the Proposal such that direct impacts to terrestrial fauna will largely be avoided and where impacts cannot be avoided, measures are proposed to minimise impacts. With implementation of the proposed avoidance and mitigation measures, the predicted outcomes for identified terrestrial fauna values are:

- Loss of up to 8.50 ha of fauna habitat.
- Avoidance of all trees containing potentially suitable hollows either with or without Black Cockatoo chew marks (Category 1, 2 and 3).
- Clearing up to 97 trees without suitable hollows for Carnaby's Black Cockatoo (Category 4 and 5).
- Clearing less than 1 ha of moderate to high quality Black Cockatoo foraging habitat (Site Score 4 and 5).

The proposed loss of terrestrial fauna and potential indirect impacts to fauna habitat are not expected to cause a loss of biological diversity or to reduce ecological integrity at the local or regional scale and can be regulated through an NVCP under Part V of the EP Act and conditions for a EMP (framework for which is included in Appendix E) and BBAMP (Preliminary BBAMP is provided in Appendix N) under the Development Application. The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for Terrestrial Fauna. With the implementation of mitigation measures including adaptive management plans, the identified residual impacts are not considered to be significant.

8.0 Social Surroundings

8.1 EPA Environmental Factor and Objective

The EPA environmental objective for Social Surroundings is 'to protect social surroundings from significant harm' (EPA, 2023a). Within the context of EIA, the EPA defines social surroundings as 'a reference to aesthetic, cultural, economic and other social surroundings to the extent to which they directly affect or are affected by physical or biological surroundings' (EPA, 2023a).

8.2 Policy and Guidance

Relevant policy and guidance documents have been considered for assessment of Social Surroundings as summarised in Table 33.

Table 33 Policy and Guidance Documents Applicable to the Proposal for Social Surroundings

Policy and Guidance	Consideration for the Proposal
Statement of Environmental Principles, Factors and Objectives (EPA, 2023)	Referred to in the identification and assessment of Preliminary Key Environmental Factors.
Environmental Factor Guideline – Social Surroundings (EPA, 2023a)	Considered in the assessment of potential impacts as a result of the Proposal.
Technical Guidance: Environmental Impact Assessment of Social Surroundings – Aboriginal Cultural Heritage (EPA, 2023c)	Considered in the assessment of potential impacts to Aboriginal Cultural Heritage as a result of the Proposal.
Shire of Carnamah Local Planning Scheme No. 2 (DPLH, 2020)	Considered in the assessment of potential impacts as a result of the Proposal.
Local Planning Policy – Wind Farms and Turbines (Shire of Carnamah, 2024)	Considered in the assessment of potential impacts as a result of the Proposal.
State Planning Strategy 2050 (WAPC, 2021)	Considered in the assessment of potential impacts as a result of the Proposal.
State Planning Policy 2.0 – Environment and Natural Resources Policy	Considered in the assessment of potential impacts as a result of the Proposal.
Wind Farms Environmental Noise Guidelines (South Australia EPA, 2021)	Considered in the assessment of potential noise impacts as a result of the Proposal.
Environmental Protection (Noise) Regulations 1997 (EPA, 2025)	Considered in the assessment of potential noise impacts as a result of the Proposal.
Social Impact Assessment Guideline (DPHI, 2025)	Considered in the assessment of potential social impacts as a result of the Proposal.
Position Statement: Renewable Energy Facilities (WAPC, 2020)	Considered in the assessment of potential impacts as a result of the Proposal.
National Airports Safeguarding Framework: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/ Wind Monitoring Towers (NASF, 2012)	Referred to in the assessment of potential aviation impacts as a result of the Proposal
Civil Aviation Safety Regulations 1998 (DITRDCSA, 2024)	Considered in the assessment of potential aviation impacts as a result of the Proposal

Policy and Guidance	Consideration for the Proposal
Aboriginal Heritage Due Diligence Guidelines (DPLH, 2013)	Considered in the assessment of potential Aboriginal Cultural Heritage impacts as a result of the Proposal.
Draft National Wind Farm Development Guidelines (EPHC, 2010)	Referred to in the assessment of potential impacts as a result of the Proposal.
Visual Landscape Planning in Western Australia: A Manual for Evaluation, Assessment, Siting and Design (WAPC, 2007)	Referred to in the assessment of potential visual impacts as a result of the Proposal.
Visual Landscape Character Types of Western Australia (DBCA, n.d.)	Referred to in the assessment of potential visual impacts as a result of the Proposal.
Wind Energy Guideline (DPHI, 2024)	Considered in the assessment of potential impacts as a result of the Proposal.
Transport Impact Assessment Guidelines – Volume 4 – Individual Developments (WAPC, 2016)	Considered in the assessment of potential transport impacts as a result of the Proposal.

8.3 Receiving Environment

8.3.1 Studies and Investigations

Studies have been conducted to gain an understanding of the social values and potential social impacts within and surrounding the DE. Studies that are relevant to potential social impacts associated with the Proposal are outlined in Table 34.

Table 34 Summary of Social Surroundings Studies Relevant to the Proposal

Report	Study Scope	Study Effort	Study Limitations
Heritage Due Diligence Analysis (Urbis Ltd, 2025c) (Appendix O)	Assessment of the potential impact to Aboriginal and historic (non-Indigenous) heritage places, located within the DE, and potential archaeological constraints in view of relevant heritage controls.	The due diligence assessment includes the following methods: • Summary of background information related to the Proposal. • Detailed desktop analysis of Aboriginal and historic (non-Indigenous) heritage within and around the Proposal. • Review of previous archaeological and ethnographic surveys conducted within and around the Proposal. • Analysis of the proposed footprint on areas of Aboriginal Cultural Heritage (ACH) risk. • Description of steps that have already been taken by SynergyRED to minimise impact to ACH. Recommendations for mitigating impacts on potential ACH.	No limitations were identified for the Heritage Due Diligence Analysis.
Aboriginal Cultural Heritage Survey	Aboriginal cultural heritage survey of the DE was completed in August 2025. The eight-day archaeological and ethnographic survey was completed with Traditional Owners and Heritage consultant nominated by Yamatji Southern Regional Corporation. The purpose of the survey was to inspect the area for the presence of Aboriginal sites as defined by the *Aboriginal Heritage Act 1972*, determine any other Aboriginal cultural heritage values that may be present and to consider Aboriginal heritage management measures that may be required.	An Aboriginal cultural heritage survey of the proposed IDF was conducted in August 2025.	Sections of the study area have historically been cleared and were at the time of the survey subject to growing crops.
Visual Impact Assessment (Urbis Ltd, 2025b) (Appendix P)	Assessment of whether the Proposal will result in an impact on views from its surrounding context. The objectives of this visual assessment were to: c) Identify locations from where the Proposal may be visible. d) Assess the potential visual impacts from the identified locations. Propose solutions to help mitigate any identified impacts upon those identified viewing locations.	22 locational points were selected within the visual impact assessment (VIA) study area. Of the 22 locational points 10 prominent locations were selected for photomontage review to compare any visual impacts demonstrated by the 3D model with the on-site photography. Additionally, to ensure concerns surrounding clarity are limited, photographic imagery was taken from each of the 22 viewing locations to ensure all impacts on the wider viewshed are taken into account.	Limitations of the VIA include: • The VIA is dated July 2025 and incorporates images, data, information up to that date only and excludes any information arising or event occurring after the date which may affect the results. • The VIA was prepared on judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment. The visual image in this VIA showing the proposed infrastructure *in situ* after construction is an estimate only of possible visual impact.
Noise and Vibration Impact Assessment (SLR Consulting Australia, 2025) (Appendix Q)	Identification of acoustic criteria, measurement of background noise levels and modelling of predicted noise levels for the Proposal at all potentially impacted receptors during the construction and operation phases.	Background noise monitoring was conducted at five reference receptor locations over the period 3 March to 1 May 2025. Noise levels for the Proposal were predicted at all relevant assessment receptors for the wind range from cut-in of the WTG to approximately 15 m/s (at hub height).	The accuracy of predicted noise levels is dependent on the modelling methodology and the accuracy of modelling inputs. Assumptions incorporated into the noise modelling include assumptions in relation to: • Air and ground absorption and topographic shielding. • Meteorological conditions. • Operational plant and equipment. • Operational hours.
Electromagnetic Interference (EMI) Assessment (Urbis Ltd, 2025a) (Appendix R)	Assessment of the potential EMI impacts associated with the development and operation of the Proposal.	Potential EMI impacts for the Proposal have been assessed in accordance with the Draft National Wind Farm Development Guidelines (EPHC, 2010). The methodology used in the study has been informed by these guidelines and various standard industry practices.	It is not possible to determine the potential EMI impacts on point-to-point multipoint links, emergency services and wireless internet services. However, consultation with organisations operating services that may be affected by the Proposal did not identify any concerns.

Report	Study Scope	Study Effort	Study Limitations
Shadow Flicker and Blade Glint Assessment (DNV Australia Pty Ltd, 2025) (Appendix S)	Assessment of the expected annual shadow flicker durations for the Proposal against limits specified in the Draft National Wind Farm Development Guidelines (EPHC, 2010).	The theoretical shadow flicker durations at dwellings in the vicinity of the Proposal have been determined using a purely geometric analysis. The actual shadow flicker duration likely to be experienced at each dwelling has also been predicted by estimating the possible reduction in shadow flicker due to turbine orientation and cloud cover.	Shadow flicker duration calculated as described overestimates the annual number of hours of shadow flicker experienced at a specific location for numerous reasons, including: • The WTG will not always be orientated such that its rotor is in the worst-case position. • Cloud cover can significantly reduce the number of hours of shadow flicker. • There will be no shadow flicker when the sun is positioned directly behind the wind turbine hub. • Vegetation or other physical barriers around a shadow receptor location may shield the view of WTG. Periods where the turbine is not in operation have not been taken into account.
Transport Impact Statement (Shawmac, 2025) (Appendix T)	Consideration of the potential impacts of the Proposal on transport and traffic in accordance with the WAPC *Transport Impact Assessment Guidelines*.	The Transport Impact Statement (TIS) considered the following key matters: • Details of the proposed development. • Vehicle access. • Provision of service vehicles. • Hours of operation. • Daily traffic volumes and vehicle types • Traffic management on frontage streets.	No limitations were identified for the TIS.
Aviation Impact Assessment (Aviation Projects, 2025) (Appendix U)	Review of potential impacts of the Proposal, provision of safety advice in relation to the relevant air safety regulations and procedures and provision of a technical report to support the planning and application process. General aviation activities that do not involve commercial air transport including agricultural work, instructional flying, recreational flying and other general aviation have been considered in this assessment, including the consideration of flight paths, aircraft flight heights and distance from aerodromes.	The Aviation Impact Assessment (AIA) was prepared in accordance with the following methodology: • Review of relevant regulatory and information sources. • Site visit to investigate aviation safety aspects of the Proposal. • Prepare a draft AIA with supporting technical data that provides evidence and analysis for the planning application to demonstrate appropriate risk mitigation strategies have been identified. • Identify risk mitigation strategies. • Consult with aviation regulators. • Consult with relevant Council(s) and aerodrome operators. • Consult with stakeholders. • Finalise AIA.	No limitations were identified for the AIA.
Social Impact Assessment (Umwelt, 2025g) (Appendix C)	Identification and assessment of potential social impacts of the Proposal on neighbouring local communities including identification of potential mitigation actions	Preparation of the Social Impact Assessment (SIA) report has followed the following key methodological steps: • Definition of the social locality. • Stakeholder analysis and mapping to ascertain those likely most affected by the Proposal. • Development of a social baseline profile. • Community and stakeholder consultation. • Impact identification and evaluation. • Project design refinements in response to social impacts.	The following points identify limitations of the SIA: • It is assumed that secondary data sources contain valid, representative data and have not misconstrued information. • Consultation has been undertaken by both SynergyRED and Umwelt. It should be noted that Umwelt has not engaged with all proximal landholders for the purposes of the SIA. • The views of the community stakeholders represented throughout the report are based on the sample of community members and stakeholders consulted and do not represent the views of the entire community.

Report	Study Scope	Study Effort	Study Limitations
		• Development of mitigation, enhancement and management measures. • Preparation of a social impact management framework.	• Not all stakeholders contacted have been successfully consulted due to either lack of stakeholder interest and/or inability to contact certain stakeholders. • The solar and BESS components of the Proposal were not specifically included in the initial round of SIA focused stakeholder engagement, however, was incorporated in the remaining rounds of stakeholder engagement and at community engagement sessions. • Publicly available sourced datasets contained within the SIA were current at the time of writing.

8.3.2 Cultural Heritage

A heritage Due Diligence Assessment (DDA) (Urbis Ltd, 2025c) (Appendix O) provided a detailed desktop analysis to identify the Aboriginal and historic (non-Indigenous) heritage potentially occurring in the DE.

8.3.2.1 Aboriginal Heritage

According to the Aboriginal Heritage Due Diligence Guidelines (2013), the DE is classified as a "significantly altered environment", which informs the level of risk and assessment required for ACH. Due to the lack of previous Aboriginal cultural heritage surveys within the DE, there is potential for unreported cultural heritage sites/places to be present. Pockets of remnant vegetation in proximity to natural water sources are considered to have high Aboriginal heritage potential.

The DE falls within the Yamatji Nation Southern Regional Agreement (YNSRA) area, governed by the Yamatji Nation Indigenous Land Use Agreement (ILUA), authorised on 9 December 2019. The Yamatji Southern Regional Corporation (YSRC) represents the cultural interests of the Yamatji people and has been actively engaged throughout the heritage assessment process.

An Aboriginal heritage survey of the DE was commissioned by SynergyRED in August 2025 in consultation with the YSRC (Appendix V). Once received, results and recommendations from the report of the completed survey will be recorded and incorporated into the Proposal design where necessary.

Key findings from the DDA for Aboriginal Heritage included:

- No Registered, Lodged, or Historic ACH sites within the DE.
- Low potential for unknown ACH based on findings of previous surveys, though subsurface values may still exist.
- ACH in surrounding areas is often associated with water sources and creeklines.

8.3.2.2 Historic Heritage

The Eneabba Springs area has been used since the 1870s for grazing and horse trapping. The Statement of Significance for the Heritage Place 6179 is presented below:

"*The sites around Eneabba Springs have local significance for homestead and outbuildings and the representation of the horse trapping industry since c.1870 for grazing and the trapping of horses that were broken-in at these yards before being sent to India for use by the Indian Army. The area has high historic significance for its association with the early settlement of the area*" (DPLH, 2024).

The DE overlaps one site included on the Shire of Carnamah Local Heritage Survey – Original Eneabba Springs – site (Homestead, Horse Yards and House). This heritage site is listed as a Category D heritage site that has been deemed as having little cultural heritage significance to the Shire and therefore has no statutory constraints that apply to its retention. The Heritage Due Diligence Assessment has confirmed that the heritage site does not cover the entire mapped lot and instead consists of a single built form within the lot. Therefore, through careful Proposal design, the IDF can entirely avoid the built heritage fabric of the site and a direct impact on the Original Eneabba Springs – site (Homestead, Horse Yards and House) due to the Proposal will be avoided (Urbis Ltd, 2025c) (Appendix O).

8.3.3 Amenity

8.3.3.1 Landscape and Visual

The Proposal is located within a rural landscape in the Shire of Carnamah, characterised by gently undulating terrain, open farmland, nature reserves, and road corridors. The site is zoned ‘Rural’ under Local Planning Scheme No. 2 (LPS2), which seeks to preserve rural character and amenity while supporting compatible land uses.

A VIA (Urbis Ltd, 2025b) (Appendix P) was undertaken in accordance with the WA Planning Commission’s Visual Landscape Planning Manual (WAPC, 2007), the Clean Energy Council’s wind energy guidelines (2018), and relevant state and local planning policies.

The surrounding landscape has been assessed as having low to moderate sensitivity to visual change, based on its existing condition and land use. The area is predominantly rural, with extensive agricultural activity and some existing wind energy infrastructure, which contributes to its capacity to accommodate additional development (Urbis Ltd, 2025b) (Appendix P).

Six Landscape Character Types were identified and assessed in the VIA study area for their visual quality, landscape setting and sensitivity to change. Table 35 provides a summary of each identified Landscape Character Unit (LCU) and representative photographs.

Table 35 Landscape Character Unit Relevant to the Proposal (Urbis Ltd, 2025b)

Landscape Character Unit	Description	Representative Photographs
Rural Farmland	Characterised by expansive open fields primarily used for cropping and grazing, interspersed with patches of remnant bushland that provide visual and ecological variation across the broad plains.	
Remnant Bushland and Natural Reserve	Characterised by dense native shrubs, groundcovers, and trees, which offer important habitat for local fauna and contribute significantly to the biodiversity of the region.	

Landscape Character Unit	Description	Representative Photographs
Salt Lake/ Seasonal Wetland	Includes the following reserves: • Yarra Yarra Lakes – comprises a diverse landscape, including salt flats, wetlands and areas of remnant bushland. • Lake Longue Nature Reserve – the reserve is centred on Lake Longue, a seasonal wetland that typically fills during the wetter months and may dry out during the dry season.	
Residential Community	Built form within the Eneabba townsite predominantly comprises single-storey dwellings.	No photo available

Landscape Character Unit	Description	Representative Photographs
Road Corridor	The regional road network plays on important role in shaping the visual experience of the landscape, providing key viewpoints to the proposed development.	
Wind Farm	The wind farms in Eneabba stand as prominent and transformative feature of the landscape.	

The natural landform within the DE and broader landscape is characterised by gentle undulations and varied topography. Elevation ranges from 26 m to 350 m AHD, with elevation generally increasing from the west towards the middle of the DE where hills and ridges are located before gradually decreasing near Yarra Yarra Lake and surrounding inland areas. Elevation across the IDF ranges from 172 m to 320 m from west to east (Urbis Ltd, 2025b) (Appendix P).

8.3.3.2 Noise and Vibration

A noise and vibration impact assessment (SLR, 2025) (Appendix Q) was conducted using methodologies and criteria aligned with the Western Australian *Environmental Protection (Noise) Regulations 1997* (the WA Noise Regulations), the *Environmental Noise Guidelines for Wind Farms* (South Australia EPA, 2021) (SA Noise Guidelines), and World Health Organisation (WHO) limits (SLR, 2025) (Appendix Q).

The receiving environment surrounding the DE is sparsely populated and predominantly rural, with some residential receptors located within 5 km of WTGs. The ambient background noise environment for receptors surrounding the IDF is largely influenced by natural sources, including those which are wind influenced, such as wind noise in vegetation (SLR, 2025) (Appendix Q). There are three residential receptors (Figure 16, R_17, R_43/44 and R_59) within the DE that have commercial agreements with the Proponent where the assigned noise levels within the WA Noise Regulations do not apply (SLR, 2025) (Appendix Q). Two additional noise receptors are within the DE (Figure 16, R_22 and R_56) are non-residential.

The Warradarge Wind Farm is located immediately south of the DE. According to the SA Noise Guidelines, background noise by definition must exclude wind farm generated noise (SLR, 2025) (Appendix Q). Whereas, under the WA Noise Regulations, cumulative noise emissions must be assessed (SLR, 2025) (Appendix Q). Due to the proximity of the operating Warradarge Wind Farm, background noise near southern receptors cannot be measured without WTG interference. Baseline data measured prior to commencement of operation of the Warradarge Wind Farm were, therefore, adopted and mapped to reflect Tathra's 150 m hub height wind speeds for the purpose of assessment against the SA Noise Guidelines.

Background noise monitoring was conducted at five reference locations (M1-M5) for a period of approximately 8 weeks between March and May 2025, with most measurements falling below 30 dB(A) (Figure 15).

The activities and equipment with the potential to generate the highest levels of ground vibration are the operation of vibratory rollers during construction of access roads and the operation of any rock breakers during establishment of turbine tower foundations. Both preferred and maximum vibration limits are defined for various locations and are shown in Table 36 with the preferred nighttime Peak Particle Velocity (PPV) criteria of 0.22 mm/s being the most relevant to the project (SLR, 2025) (Appendix Q).

Table 36 Preferred and Maximum Values for Continuous and Impulsive Vibration

Location	Assessment Period[1]	Preferred Values RMS Acceleration m/s^2		Maximum Values		Peak Velocity PPV mm/s	
		z-axis	x and y-axes	z-axis	x and y-axes	Preferred	Maximum
Continuous Vibration							
Critical areas[2]	Day-or-nighttime	0.0050	0.0036	0.010	0.0072	0.14	0.28

Location	Assessment Period[1]	Preferred Values RMS Acceleration m/s²		Maximum Values		Peak Velocity PPV mm/s	
		z-axis	x and y-axes	z-axis	x and y-axes	Preferred	Maximum
Residences	Daytime	0.010	0.0071	0.020	0.014	0.28	0.56
	Night-time	0.007	0.005	0.014	0.010	0.20	0.40
Offices, schools, educational institutions and places of worship	Day-or-nighttime	0.020	0.014	0.040	0.028	0.56	1.1
Workshops	Day-or-nighttime	0.04	0.029	0.080	0.58	1.1	2.2
Impulsive Vibration							
Critical areas[2]	Day-or-nighttime	0.0050	0.0036	0.010	0.0072	0.14	0.28
Residences	Daytime	0.30	0.21	0.60	0.42	8.6	17.0
	Night-time	0.010	0.0071	0.020	0.014	2.8	5.6
Offices, schools, educational institutions and places of worship	Day-or-nighttime	0.64	0.46	1.28	0.92	18.0	36.0
Workshops	Day-or-nighttime	0.64	0.46	1.28	0.92	18.0	36.0

Note 1: Daytime is 7:00 am to 10:00 pm and nighttime is 10:00 pm to 7:00 am

Note 2: Examples include hospital operating theatres and precision laboratories where sensitive operations are occurring. There may be cases where sensitive equipment or delicate tasks require more stringent criteria than the human comfort criteria specified above. Stipulation of such criteria is outside the scope of this policy, and other guidance documents (e.g. relevant standards) should be referred to. Source: BS 6472-1992

Vibration impacts from key construction activities have been assessed and the ‘worst case’ scenarios modelled were found to be acceptable (SLR, 2025) (Appendix Q).

Nebru Rd
Bunney Rd
Arrino South Rd
Second North Rd
First North Rd
Reserve Rd
Three Springs - Eneabba Rd
Brimson Rd
Carnamah - Eneabba Rd
Brand Mudge Rd
Eneabba Coolimba Rd
Mineral Sands Rd
Brand Hwy
Garibaldi Willis Rd
Rose Thomson Rd
Coorow - Green Head Rd

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

M1 M2 M3 M4 M5

6,000,000

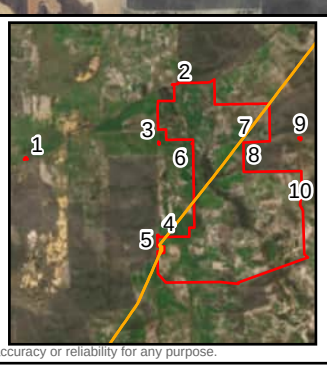
Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 2.5 5 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:185,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- Viewpoints
- Noise Monitoring Locations



Note: Numbers represent site access point ID's

SLR

TATHRA WIND FARM EP ACT REFERRAL

SOCIAL SURROUNDINGS SURVEY EFFORT

FIGURE 15

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F15_Social Surroundings Survey Effort

8.3.3.3 Electromagnetic Interference, Shadow Flicker and Blade Glint

Wind farms have the potential to interfere with radiocommunication services with the two services most likely to be affected being television broadcast signals and fixed point-to-point signals (DNV Australia, 2025) (Appendix R).

An EMI assessment was conducted in 2025 by DNV in accordance with the Draft National Wind Farm Development Guidelines (EPHC, 2010), supported by standard industry practices (DNV Australia, 2025) (Appendix R).

Shadow flicker occurs when rotating turbine blades cast moving shadows that may be perceived at nearby dwellings whereas blade glint involves the regular reflection of the sun off the rotating turbine blades and depends on the orientation of the nacelle, angle of the blade and angle of the sun (DNV Australia, 2025) (Appendix S).

The accepted shadow flicker duration limits under the Draft National Wind Farm Development Guidelines include:

- Limit of 30 hrs per year and 30 minutes per day theoretical (modelled) duration.
- Limit of 10 hrs per year and 30 minutes per day realistic (modelled) or actual (measured) duration.

A Shadow Flicker Assessment was undertaken by DNV in 2025 (DNV Australia, 2025) (Appendix S). This assessment considered the impact of shadow flicker on nearby sensitive receptors (Figure 16).

R_18
First North Rd
2
Three Springs - Eneabba Rd
Reserve Rd
R_16
Brimson Rd
R_17
ID 6179
Carnamah - Eneabba Rd
3
6
7
8
9
R_68
R_20
R_44
R_43
Garibaldi Wills Rd
R_56
10
R_21
Rose Thomson Rd
4
R_22
5
R_59
R_74
R_62
R_63
R_19
R_33
R_34
R_35
R_69
R_36
R_73
R_37

Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 1 2 km

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:74,400 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

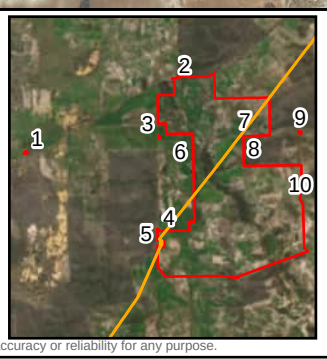
LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads

Sensitive Receptors

- Non-Involved Landowner
- Involved Landowner

- Radio Communication Towers
- Point-to-point Links
- 3nm of Uncertified Aerodrome
- European Heritage
- Uncertified Aerodrome



Note: Numbers represent site access point ID's

TATHRA WIND FARM EP ACT REFERRAL

SENSITIVE RECEPTORS

FIGURE 16

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F16_Sensitive Receptors

8.3.4 Social-Economic

A Social Impact Assessment (SIA) was completed by Umwelt which was designed to identify, assess and address potential social impacts of the Proposal on neighbouring local communities (Umwelt, 2025c) (Appendix C). The SIA has compiled a social baseline based on the Proposal's social locality, i.e., the area considered to be impacted by a Proposal, based on a range of tangible and intangible impacts (Umwelt, 2025c) (Appendix C). The social locality is outlined in Table 37.

Table 37 Social Locality (Umwelt, 2025c) (Appendix C)

Aspect	Locations	Reason for Inclusion
Host landholders (involved Landowners)	Nine host landholders within the DE	Host landholders are likely to experience both positive and negative impacts due to close proximity to development.
Proximal neighbours (non-involved Landowner)	Fourteen landholders adjacent to the DE	Included as they often share a property boundary with the DE and therefore are likely to experience impacts.
Closest locality	Eneabba	Given Eneabba is the closest township it is likely to experience impacts as a result of the Proposal, including provision of services.
Native Title area	Yamatji Nation Indigenous Land Use Agreement Boundary	The Southern Yamatji people of Yamatji Nation are the Traditional Owners of the region.
Roads intersection the DE	Carnamah-Eneabba Rd	The Proposal may impact users of this road in terms of increased traffic and/ or road closures during construction.
Likely transport routes and landholders along these routes	Metropolitan roads, including Tonkin Hwy	The Proposal may impact users of these roads in terms of increased traffic during construction.
Locally adjacent communities	Carnamah, Three Springs, Kadathinni, Arrowsmith East, Warradarge, Leeman, Coorow	Included due to their physical proximity to the Proposal and potential to provide services.
Host LGA	Shire of Carnamah	Residents in the Carnamah LGA are likely to experience the most social impacts.
Adjacent LGA	Shire of Coorow, Shire of Three Springs	As neighbouring LGAs, residents in Coorow and Three Springs are also likely to experience social impacts.
Regional LGAs	Shire of Irwin, Shire of Dandaragan, Shire of Moora and Shire of Greater Geraldton	Given their proximity, these LGAs may provide employment and accommodation for the Proposal.
Mid West region	Mid-West	This boundary has been utilised to provide a broader understanding of the region and as a comparison point.
Natural features	Tathra National Park, Wotto Nature Reserve, White Gums Nature Reserve, Depot Hill	Key natural features and areas within the social locality that are likely to be valued by both its residents and visitors to the area.

Aspect	Locations	Reason for Inclusion
	Nature Reserve, Yarra Yarra Lakes	
Proximal projects	Refer to Section 12.0	Many proximal projects have been identified as having potential to contribute to cumulative impact.

Consultation activities have been undertaken with the social locality, including a variety of stakeholders (as identified in Section 3.0) via a number of mechanisms. The engagement process has assisted in identifying a range of perceived social impacts, both positive and negative, associated with the Proposal.

8.3.4.1 Employment and livelihood

The DE is located within the Shire of Carnamah. The Shire has a medium age of 46, which is notably higher than the average of 38 years old with population projections suggesting that the older age group cohorts of 65-74 years and 75-84 years will increase (Umwelt, 2025c) (Appendix C). The adjacent Shire of Coorow and Three Springs also consist of an aging population. The total population of Carnamah is estimated to decrease by 150 people between 2016 and 2031, representing an annual average change of 1.76% and decrease of 145 people in the working age population (aged 15 – 64 years) (Umwelt, 2025c) (Appendix C).

The Shire of Carnamah and its community have identified that this declining and aging population may have implications on services, housing and where the workforce will be sourced (Umwelt, 2025c) (Appendix C).

The SIA reports low rental stock within the Shire of Carnamah and neighbouring shires of Coorow and Three Springs (Umwelt, 2025c) (Appendix C). However, these shires recorded moderate to low occupancy rates of between 75% within in the Shire of Carnamah and 49% for Coorow indicating the housing stock was vacant or unoccupied on the night of the census. Engagement activities conducted as part of the SIA reported that a significant proportion of vacant housing is owned by elderly individuals who utilise these properties as a home base while travelling (Umwelt, 2025c) (Appendix C).

8.3.4.2 Land use and agricultural practices

The Shire of Carnamah is predominately rural with land use centred around broadacre agriculture with the area known for its grain production, particularly wheat, and livestock farming (Umwelt, 2025c) (Appendix C).

The local economy primarily driven by agriculture with mining also contributing to the economic landscape, around Eneabba (Umwelt, 2025c) (Appendix C). Tourism is an emerging sector, driven by the natural beauty of the area particularly the wildflower displays during the Spring. The area is a popular destination for nature lovers, bird watchers, and wildflower enthusiasts, especially during the wildflower season, attracts visitors and boosts the local tourism industry (Umwelt, 2025c) (Appendix C).

8.3.4.3 Traffic

A Transport Impact Statement (TIS) was completed by Shawmac in 2025 to consider potential impacts of the proposed Tathra Wind Farm development on traffic matters (Shawmac, 2025) (Appendix T).

Vehicle access to the site is proposed via Eneabba–Three Springs Road, Carnamah–Eneabba Road, Rose Thomson Road, and Garibaldi Willis Road (Figure 16). These roads

form part of the regional transport network and are capable of supporting construction-related traffic volumes.

Key characteristics of the receiving environment include (Shawmac, 2025) (Appendix T):

- Adequate sight distances at all proposed access points, meeting minimum safety requirements.
- Low crash history across the assessed road network, with no indication of major safety concerns.
- Existing road capacity sufficient to accommodate the projected traffic volumes during construction.

The assessment also considered oversize, over mass (OSOM) vehicle movements, which will require special permits and escort arrangements approved by Main Roads WA. A separate OSOM route study (ARES, 2025) has been undertaken to inform access planning.

8.3.4.4 Aviation

The Proposal is located within Class G airspace, the lowest level of uncontrolled airspace in the Shire of Carnamah, WA. Aviation Projects conducted a comprehensive Aviation Impact Assessment (AIA) (Aviation Projects, 2025a) (Appendix U), supported by technical studies including Obstacle Limitation Surface (OLS) analysis, airspace classification review, radar surveillance assessment, and a qualitative risk evaluation for obstacle lighting.

The assessment was undertaken in accordance with Civil Aviation Safety Regulations 1998 (CASR), NASF Guideline D, Airservices Australia protocols, and relevant state and local planning policies.

There are no certified aerodromes located within 30 nm of the proposed site. The closest airport is Morawa Airport (YMRW), approximately 43 nm (81 km) northeast of the DE (Aviation Projects, 2025a) (Appendix U).

The site’s highest turbine tip elevation is 564 m AHD, with Judeen Aerodrome, an uncertified aerodrome, identified within 3 nm (1.4 km) south (Figure 16), prompting further analysis of potential wake turbulence and circuit interference.

Key characteristics of the receiving environment include (Aviation Projects, 2025a) (Appendix U):

- Strategic Site Selection: The project is located within Class G airspace and outside all controlled, prohibited, restricted, and danger zones. It is also located more than 30 nm of any certified aerodrome.
- Radar and Facility Clearance: The site lies outside the area of interest for key radar installations, including Perth primary surveillance radar/secondary surveillance radar and Kalamunda route surveillance radar, and does not penetrate any aviation facility protection zones.
- OLS Compliance: The wind farm is located beyond the horizontal extent of certified aerodrome OLS boundaries.
- Airspace Compatibility: Turbine elevations have been assessed to ensure compliance with CASR and relevant air navigation thresholds.

8.4 Potential Environmental Impacts

The following potential impacts to social surroundings values from the Proposal have been identified:

- Disturbance to cultural heritage values due to ground disturbance.
- Reduced amenity as a result of:
    - Visual impacts resulting from alteration of landscape character due to the presence of WTGs.
    - Noise emissions due to operation of WTGs.
    - Noise and vibration emissions due to construction activities.
    - Disruption to electromagnetic services due EMI as a result of operation of WTGs.
    - Blade shadow or flicker effects due to operation of WTGs.
- Changes to socio-economic outcomes for the local community including:
    - Impacts on tourism and livelihood
    - Changes in land use and disruption to agricultural practices
    - Increase in traffic volumes due to light, heavy and oversized vehicles using the transport route during construction of the Proposal.
    - Disruption to recreational aircraft flight paths and potential risks to aviation activities due to the presence of WTGs.

The significance of these potential impacts is discussed in Section 8.6.

Cumulative impacts are considered in Section 12.0.

8.5 Mitigation

The mitigation hierarchy has been applied during design of the Proposal to avoid and, mitigate potential impacts to social surroundings as far as practicable as described in Table 38.

Table 38 Application of the Mitigation Hierarchy for Potential Impacts to Social Surroundings

Potential Impact	Avoidance	Minimisation	Rehabilitation	Residual Impact
Cultural Heritage – Aboriginal Heritage	Site WTGs at least 100 m from wetlands and major waterways, reducing risk to potentially culturally sensitive areas.	• A EMP will be implemented to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal including delineation of Exclusion Areas. • The implementation of an Aboriginal Heritage Management Plan that will incorporate recommendations from the heritage survey report once available.	N/A	No significant heritage impacts. Assessment of the residual impact is detailed in Section 8.6.
Cultural Heritage – Historic Heritage	Avoid direct impacts to the Original Eneabba Springs site.	• A EMP will be implemented to provide a framework to manage the potential environmental impacts associated with construction and operation of the Proposal including delineation of Exclusion Areas.	N/A	
Amenity – Landscape and Visual	Avoids visibility related hazards at access locations by ensuring minimum sight distances are achieved in both directions.	• Retention of existing vegetation, as far as possible, to reduce visual impacts from public roads and neighbouring residences. • Siting WTGs in areas of cleared and altered landscapes.	N/A	Altered landscape and visual amenity from sensitive receptors. Assessment of the residual impact is detailed in Section 8.6.
Amenity – Noise and Vibration	N/A	• Ongoing consultation with neighbouring landowners including seeking formal agreements prior to construction to provide certainty of compliance. • Compliance with the WA Noise Regulations. • Noise mitigation modes will currently be applied to selected wind turbines in the south-western corner of the project site to ensure compliance with the LA10 35 dB night-time limit for non-involved receptors under the WA Noise Regulations. Consideration will be given to siting these WTGs in final design to minimise this impact. Implementation of a EMP (refer draft framework in Appendix E), including measures to: • For construction activities, where noise emissions are predicted to exceed LA10 35 dB for night works, or LA10 40 dB for evening, Sunday or Public Holiday work, a separate Noise Management Plan will be prepared for approval by the Shire. • Comply with Regulation 13 of the WA Noise Regulations.	N/A	Minor increase in noise levels. Assessment of the residual impact is detailed in Section 8.6.
Amenity – Electromagnetic Interference, Shadow Flicker and Blade Glint	Ongoing stakeholder engagement with affected point-to-point links, critical communication corridors and radar interference zones. As required, implementing mitigations including, siting WTGs outside of interference zones, rerouting affected links, installation of additional towers and replacement of affected links with alternative technologies, or installation of additional weather monitoring equipment or radar.	• An adaptive management approach will be adopted if EMI is experienced, technical remedies such as signal boosters, antenna adjustments, or alternative service provision may be implemented. • Siting of WTGs and/or selection of WTG parameters to minimise shadow flicker impacts to affected dwelling. • Turbines will be painted in a low-reflective off-white colour to prevent blade glint, in line with Draft National Guidelines (DNV Australia, 2025) (Appendix S).	N/A	Altered EMI and shadow flicker amenity from sensitive receptors. Assessment of the residual impact is detailed in Section 8.6.
Socio-Economic – tourism and livelihood	The Proponent will consider contributions to existing health services and/ or provision of First Aid qualified staff on site to ensure additional stress on local services is avoided.	• Encouragement of employees and contractors to spend and be housed locally. • Targeted procurement of local businesses and services. • Establishing a permanent workforce within the locality during operation. • Funding for local infrastructure and programs. • Sponsorship of community events.		

Potential Impact	Avoidance	Minimisation	Rehabilitation	Residual Impact
		• To reduce the stress on the limited short-term accommodation and rental availability within the local community, the Proponent will continue to investigate staff housing options. • Implementation of a Bushfire Management Plan.		
Socio-Economic – land use and agriculture		• Site layout has been designed to minimise impact on existing agricultural practices. • Construction activities are temporary and expected to take approximately 18-24 months for each stage. • Groundwater abstraction licences to minimise potential impact on existing groundwater licence holders.	Implementation of a Decommissioning Management Plan.	
Socio-Economic – Traffic	Prioritises a transport route with sufficient capacity and low crash history to avoid congestion and safety risks.	Construction of the assets will be delivered over multiple stages. Each stage expected to take approximately 18-24 months to minimise impacts on traffic.	N/A	Minor increase in traffic during construction. Assessment of the residual impact is detailed in Section 8.6.
Socio-Economic - Aviation	Adjustment to the Grid LSALT and air route Z41 to be raised by 100 ft to maintain safe flight levels.	• Notification of the details of the WTGs to relevant authorities, landowners and local and regional aircraft operators prior to construction to enable hazard information to be recorded. • Implementation of emergency operations protocols.	N/A	No significant aviation impacts. Assessment of the residual impact is detailed in Section 8.6.

8.6 Assessment and Significance of Residual Impact

8.6.1 Disturbance to Cultural Heritage Values

The proposed development involves ground-disturbing activities that present varying degrees of risk to cultural heritage values, particularly people's shared beliefs and values, as well as the local culture, heritage and ability to access cultural places (Umwelt, 2025c) (Appendix O). While the DE has been heavily modified, the potential for unrecorded Aboriginal heritage remains, particularly in unsurveyed zones and near watercourses.

The Aboriginal Cultural Heritage Inquiry System (ACHIS) contains no registered or lodged ACH sites within the DE (DPLH, 2025). However, there is potential for heritage surveys within the DE, to record previously unreported cultural heritage sites/places.

An Aboriginal cultural heritage survey has been undertaken for the Proposal to determine the impacts on Aboriginal cultural heritage with the results of the survey pending. A Heritage Due Diligence Analysis (Umwelt, 2025c) (Appendix O) determined there is a low to medium likelihood of Aboriginal cultural heritage existing within the DE.

Through careful Proposal design, the IDF will entirely avoid the built heritage fabric of the site and a direct impact on the Original Eneabba Springs – site (Homestead, Horse Yards and House). The implementation of a 10 m buffer avoidance area around the Original Eneabba Springs - site (Homestead, Horse Yards and House heritage) protects the site from indirect impact including from ground vibrations and accumulation of dust during the construction phase of the Proposal.

8.6.2 Amenity

The development of the Proposal has the potential to significantly alter the surroundings for local communities, particularly through disruptions to amenity via visual impacts, noise, dust, vibration, potential risks to intergenerational equity and loss of natural environmental values.

The VIA undertaken for the Proposal has determined that the Proposal will have low to moderate visual impacts from local road networks (Urbis Ltd, 2025b) (Appendix P). The noise and vibration assessment confirms compliance with relevant noise regulations and key construction activities have also been assessed and the 'worst case' scenarios modelled were identified to be acceptable (SLR, 2025) (Appendix Q).

The loss of natural environmental values, including local flora and fauna as a result of construction and operation is something of value to the community. Particular concern was raised by the community for wedge tailed eagles and black cockatoos (Umwelt, 2025c) (Appendix C). The potential impacts from the Proposal to these values are discussed in Section 6 and 7.

8.6.2.1 Visual Impacts

The Proposal is located in an area that is considered to have low to moderate sensitivity to visual change due to the existing extensive modification of the environment for agricultural purposes and the presence of the Warradarge windfarm which consists of 51 turbines (in operation) and 30 turbines (at the time of writing, under construction). The Warradarge windfarm is a prominent feature in the landscape and is an existing landscape character unit within the VIA study area.

The Proposal will introduce a prominent infrastructure element into a rural landscape characterised by open farmland, nature reserves, and gently undulating terrain. Due to the open terrain, limited tall vegetation, and the height of the proposed turbines (up to 250 m),

the Proposal will have a broad visual catchment, particularly from nearby roads and rural properties (Urbis Ltd, 2025b) (Appendix P).

Ten photomontages were analysed to assess visual sensitivity, which are summarised in Table 39 Summary of Visual Impact Assessment (Urbis Ltd, 2025b) (Appendix P). Four locations showed open views with limited screening. The remaining six viewpoints, the WTGs are likely to be partially screened (Urbis Ltd, 2025b) (Appendix P). Three view locations were assessed as having low visual impact, four as low/moderate, and three as moderate. Impacts have been assessed as Moderate where WTGs are visible in the foreground or mid-ground, especially near nature reserves and residential boundaries. While WTG visibility diminishes with distance, terrain screening, and intervening vegetation, the scale, verticality, and rotational movement of the WTGs will be most apparent in close proximity (Urbis Ltd, 2025b) (Appendix P).

Public perception of visual change will vary, influenced by individual attitudes toward renewable energy and expectations of landscape integrity. Overall, the landscape is considered capable of accommodating the proposed change, though targeted mitigation is recommended at sensitive viewpoints to reduce potential impacts and maintain rural amenity (Urbis Ltd, 2025b) (Appendix P).

Table 39 Summary of Visual Impact Assessment (Urbis Ltd, 2025b) (Appendix P)

Viewpoint	Title	Visual Effect	Visual Sensitivity	Visual Impact	Summary of Impact	Representative Photo
2	Intersection of Three Springs-Eneabba Rd and Brand Hwy	Low	Negligible	Low	The introduction of the proposed wind turbines would result in a minor change to the key characteristics of the existing landscape as the turbines will be predominantly screened by the vegetation and landform within a background viewing distance. In this instance, the low visual effect combined with a negligible level of visual sensitivity will result in a low potential visual impact.	Plate 4
3	Intersection of Three Springs-Eneabba Rd and Second North Rd	Low/ Moderate	Negligible	Low	The introduction of the proposed wind turbines would result in a minor component change to the key characteristics of the existing landscape. In this instance, the low/moderate visual effect combined with a low/moderate level of visual sensitivity will result in a low potential visual impact.	Plate 5
4	Entrance to White Gums Nature Reserve	Moderate/ High	Low/ Moderate	Moderate	The introduction of the proposed wind turbines would result in a major change to key characteristics of the existing landscape. In this instance, the moderate/high visual effect combined with a low/moderate level of visual sensitivity will result in a moderate potential visual impact.	Plate 6
8	Boundary of Lot 10487 AND Lot 10890 on Carnamah-Eneabba Rd	Moderate/ High	Low/ Moderate	Moderate	The introduction of the proposed wind turbines would result in a major change to the key characteristics of the existing landscape and will potentially dominant the visual prominence. In this instance, the moderate/high visual effect combined with a low/moderate level of visual sensitivity will result in a moderate potential visual impact.	Plate 7

Viewpoint	Title	Visual Effect	Visual Sensitivity	Visual Impact	Summary of Impact	Representative Photo
9	Intersection of Carnamah-Eneabba Rd and Reserve Rd	Moderate/ High	Low/ Moderate	Moderate	The introduction of the proposed wind turbines would result in a major change to the key characteristics of the existing landscape. In this instance, the moderate/high visual effect combined with a low/moderate level of visual sensitivity will result in a moderate potential visual impact.	Plate 8
11	Entrance to Tathra National Park on Carnamah-Eneabba Rd	Low/ Moderate	Low/ Moderate	Low/ Moderate	The introduction of the proposed wind turbines would result in a limited change of the overall landscape scene outside the national park. In this instance, the low/moderate visual effect combined with a low/moderate level of visual sensitivity will result in a low/moderate potential visual impact.	Plate 9
12	Entrance to Lot 10246 on Rose Thomson Rd	Moderate/ High	Negligible	Low/ Moderate	The introduction of the proposed wind turbines would result in a noticeable change of the overall landscape scene. In this instance, the moderate/high visual effect combined with a negligible level of visual sensitivity will result in a low/moderate potential visual impact.	Plate 10
13	Entrance to Lot 10848 on Rose Thomson Rd	Moderate	Low	Low/ Moderate	The introduction of the proposed wind turbines would result in a noticeable change of the overall landscape scene. In this instance, the moderate visual effect combined with a low level of visual sensitivity will result in a low/moderate potential visual impact.	Plate 11
16	Entrance to Lot 10878 on Garibaldi Willis Rd	Moderate	Low	Low/ Moderate	The introduction of the proposed wind turbines would result in a noticeable change of the overall landscape scene within a middle ground viewing distance. In this instance, the moderate visual effect combined with a low level of visual sensitivity will result in a moderate potential visual impact.	Plate 12

Viewpoint	Title	Visual Effect	Visual Sensitivity	Visual Impact	Summary of Impact	Representative Photo
20	South to Warradarge Wind Farm Entrance on Garibaldi Willis Rd	Moderate	Negligible	Low	The introduction of the proposed wind turbines would result in a minor change of the overall landscape scene. In this instance, the low/moderate visual effect combined with a negligible level of visual sensitivity will result in a low potential visual impact.	Plate 13

Plate 4 Predicted View from Viewpoint 2

Plate 5 Predicted View from Viewpoint 3

Plate 6 Predicted View from Viewpoint 4

Plate 7 Predicted View from Viewpoint 8

Plate 8 Predicted View from Viewpoint 9

Plate 9 Predicted View from Viewpoint 11

Plate 10 Predicted View from Viewpoint 12

Plate 11 Predicted View from Viewpoint 13

Plate 12 Predicted View from Viewpoint 16

Plate 13 Predicted View from Viewpoint 20

8.6.2.2 Disruption to Electromagnetic Services

To understand the potential licences and services in the DE, DNV considered information from the Australian Communications and Media Authority (ACMA) Register of Radiocommunications Licences and consultation with the relevant operator. A summary of the licences and services that may experience EMI- related impacts from the Proposal is provided in Table 40 (DNV Australia, 2025) (Appendix R).

Table 40 Summary of EMI Assessment

Licence or Service Type	Results of EMI assessment	Potential impact
Radio communication towers	No towers within 2 km of proposed turbine locations	None
Fixed point-to-point links	2 links crossing the DE operated by DBCA and Western Power	Likely to cause interference
Fixed point-to-multipoint links	54 assignments within 75 km of DE 3 base stations within 20 km of DE operated by Water Corporation, Western Power and Iluka Resources	Potential for interference if linked paths cross the DE near turbines
Emergency services	Point to area style communications unlikely to be affected	Unlikely to cause interference
Meteorological radar	Nearest radar is 90 km from the DE	Likely to cause interference with Watheroo radar
Trigonometrical stations	Trigonometrical stations: unlikely to be affected Survey marks: unlikely to be affected	None
Citizen's band radio	Unlikely to be affected	Unlikely to cause interference
Mobile phones	Unlikely to be affected in areas with good coverage, may experience interference in areas with marginal coverage	Unlikely to cause interference
Wireless internet	Wireless broadband service providers: Mobile phone networks, NBN Co NBN available as a satellite service only	Refer to mobile phones None
Satellite television and internet	Geostationary satellites: no signals intercepted by turbines Low Earth orbit (LEO) satellites: Starlink signals unlikely to be affected.	Unlikely to cause interference

WTGs as part of the Proposal have the potential to interfere with point-to-area style services such as mobile phone, signals and radio broadcasting, particularly in areas with poor or marginal signal coverage. If any dwellings are currently receiving signals from these transmitters there may be potential for those dwellings to receive a stronger reflected signal from a turbine and therefore to experience interference (DNV Australia, 2025) (Appendix R). If interference to these types of services is experience, a range of options are available to rectify difficulties (DNV Australia, 2025) (Appendix R).

As identified in Figure 16 the wind farm could interfere with the following electromagnetic licences or services (DNV Australia, 2025) (Appendix R):

- Fixed point-to-point links operated by DBCA and Western Power.
- Fixed point-to-multipoint links operated by Water Corporation, Western Power and Iluka Resources.
- Watheroo meteorological radar.

Disruption can be caused to point-to-point links and point-to-multipoint links through diffraction or obstruction, reflection or scattering, or near field effects. Interference caused by diffraction occurs through the interference to a fixed point-to-point link through obstruction of the signal. These interferences can be avoided through the placement of turbines outside of the Fresnel zones for the link. There are seven turbines located within the Fresnel zones for the point-to-point link operated by DBCA and three turbines located within the Fresnel zones for the link operated by Western Power (DNV Australia, 2025) (Appendix R). Consultation with DBCA and Western Power has been conducted as part of the EMI assessment with no response being received from DBCA and Western Power raising no concerns regarding their point-to-point links crossing the DE (DNV Australia, 2025) (Appendix R).

Interference to fixed point-to-point communication links can occur when signals from the transmitting antenna are reflected, scattered, or redirected by objects in the environment e.g. turbines. These altered signals may then reach the receiving antenna, potentially affecting the quality and reliability of the connection. The EMI assessment determined that the transmission towers for all the point-to-point links crossing the DE are sufficiently far from the turbines to avoid reflection or scattering effects and near-field effects (DNV Australia, 2025) (Appendix R).

The World Meteorological Organisation (WMO) currently state that turbines should not be located within 5 km of a meteorological radar site due to the high potential for complete or partial obstruction of the radar signal and therefore loss of weather data. Significant impacts are generally not expected for wind farms located more than 45 km from a meteorological radar, since in most cases the turbine will be below the radar scan line of sight (DNV Australia, 2025) (Appendix R). The implications for interruption with the operation of meteorological radars relate to their role in the information they provide to indicate severe storms, tropical cyclones and flooding events (DNV Australia, 2025) (Appendix R). The EMI assessment has identified that the BoM operates six weather radars within 250 nm of the Proposal, with the closest radar approximately 90 km southeast of the DE. The Draft National Wind Farm Development Guidelines recommends that operators of weather radars within 250 nm (463 km) of a Proposal should be consulted. Through consultation, the BoM has raised concerns about the potential for the Proposal to interfere with their meteorological radar at Watheroo. The Proponent will continue to engage with the BoM to understand the potential impacts and how these might be mitigated during detailed design.

Further consultation with operators of the links is required to obtain sufficient information about the locations of each station in the network and therefore understand the potential for interference. As part of the EMI assessment, feedback was sought from the relevant operators, however not all operators could be reached (DNV Australia, 2025) (Appendix R). Consultation with BoM for the Proposal has indicated that signals from the Watheroo radar may be impacted and a detailed assessment is likely to be required. It is noted that mitigation options can be implemented during operation of the Proposal to manage the disruption to an electromagnetic service including the re-routing of the affected links via an existing or new tower, installing additional towers, or replacing the links with alternative

communications technologies, or installation of additional weather monitoring equipment or radar.

8.6.2.3 Blade Shadow or Flicker

The Draft National Wind Farm Development Guidelines (EPHC, 2010) recommend a maximum of 30 hours per year for theoretical shadow flicker and 10 hours per year for actual shadow flicker. The Shadow Flicker Assessment assumed that shadow flicker above a moderate level of intensity occurs up to a distance of 10 rotor diameters from the turbines.

Based on geometric modelling and adjustments for cloud cover and turbine orientation, one of the 44 dwellings assessed, (Figure 16, involved dwelling R_17) is predicted to exceed the recommended 10 hours per year within 50 m of the dwelling. Beyond the 10 rotor diameters distance limit, the shadow flicker is expected to be below a moderate level of intensity and unlikely to cause annoyance.

An additional four dwellings (Figure 16, R_19, R_20, R_43, R_59) may have the potential to be exposed to low intensity shadow flicker (DNV Australia, 2025 (Appendix S). Shadow flicker assessment has been undertaken on a conservative, worst-case, assuming no mitigation measures are in place. Adherence to the guideline thresholds will be achieved in the detailed design phase through the final selection of WTG locations and parameters and/ or implementation of additional mitigation strategies, in consultation with the landowners. An updated Shadow Flicker Assessment based on the final WTG locations and parameters will be provided to the local government prior to construction, as committed to in the Development Application.

Once these measures are agreed and implemented, it is expected that shadow flicker impacts will be significantly reduced and therefore the Proposal is not expected to result in significant impacts on local dwellings.

Blade glint, a visual phenomenon caused by sunlight reflecting off turbine blades, was not quantified in the assessment due to the absence of a defined methodology in the Draft National Guidelines. However, the potential for blade glint remains a consideration in the context of visual impacts on nearby receptors. The coating of the blades with a non-reflective paint will avoid the occurrence of blade glint from the turbines (DNV Australia, 2025 (Appendix S).

8.6.2.4 Noise and Vibration Emissions

Noise modelling completed in adherence with requirements of the WA Noise Regulations and the SA Noise Guidelines indicates that during operation of WTGs and other infrastructure including sub-stations and BESS, the Proposal will be compliant once noise mitigation measures are applied, specifically (SLR, 2025) (Appendix Q):

- Non-involved receptors: Compliant with an L_{A10} of 35 dB during the Night period under the WA Noise Regulations, which also ensures compliance at other times. The application of noise mitigation modes for selected wind turbines at the south-western corner of the DE is incorporated to achieve this compliant outcome.
- Involved receptors: Dwellings of participating landowners (within DE). Compliant with predicted emissions below the minimum L_{A10} 40 dB criteria accepted by DWER.
- Beyond the DE: Predicted noise emissions exceeding 35 dB extend beyond the DE at some locations. There are no existing residences in these areas, so as proposed the noise emissions are compliant. Should a new residence be constructed within these areas, mitigation through modified operation of relevant WTGs may be

required to remain compliant with the WA Noise Regulations, although neighbour agreements will be sought prior to construction to minimise this risk.

It is noted that without noise mitigation measures implemented, modelled noise levels at receptor R19 exceed the WA Noise Regulations and the SA Noise Guidelines by 1 dB (SLR, 2025) (Appendix Q). Modelled noise levels at R69 are expected to be 3 dB over the nighttime assigned levels, however, this is due to the cumulative impacts experienced alongside the nearby Warradarge Wind Farm. Considering this, the contribution from the Tathra Wind Farm is less than 5 dB below the assigned level and therefore the Proposal is compliant. Modelling of Warradarge Wind Farm in the assessment does not include application of noise mitigation strategies and therefore, the cumulative impacts is likely overpredicted.

These criteria, along with mapped background noise data, form the basis for assessing compliance across varying wind speeds and receptor locations. This approach ensures predicated noise emissions exceeding 35 dB(A) do not occur at neighbouring existing residences, thereby avoiding non-compliances.

During normal operation, there are no vibration impacts expected. The highest levels of ground vibration are anticipated to come from the substation transformers. Vibration effects from the transformers will not be noticeable beyond 50 m from the substation (SLR, 2025) (Appendix Q).

Construction Noise and Vibration

If noise levels exceed L_{A10} 35 dB during night works or L_{A10} 40 dB during evenings, Sundays or public holidays, a Construction Noise Management Plan will be prepared and submitted to the Shire for approval. Predicted maximum footprint noise emissions indicate that some construction locations may require a Construction Noise Management Plan (SLR, 2025) (Appendix Q). An EMP (framework provided in Appendix E) will be developed and implemented; this will include the requirement for noise management.

Vibration impacts from key construction activities have been assessed and the ‘worst case’ scenarios modelled were found to be acceptable (SLR, 2025) (Appendix Q). Following the implementation of mitigation measures and management plans, the Proposal is not anticipated to result in significant impacts to local noise receptors.

8.6.3 Socio-Economic

8.6.3.1 Employment and livelihood

The potential impact of the effect on people’s capacity to sustain themselves through employment or business activities, and the economic viability that the Proposal may have on the local community was considered in the SIA (Umwelt, 2025c) (Appendix C).

The Proposal is anticipated to create approximately 200 FTE jobs during construction and 30 during its operational phase, with local employment and procurement opportunities associated with these roles considered a key benefit of the Proposal (Umwelt, 2025c) (Appendix C). However, local communities placed emphasis on the importance to undertake local procurement in a considered way, to ensure that opportunities are maximised (Umwelt, 2025c) (Appendix C). To ensure benefits are maximised, the Proponent will consider developing a social procurement strategy to ensure that opportunities for local and regional businesses are appropriately considered (Umwelt, 2025c) (Appendix C).

The Proponent will strive to ensure that education programs are put in place within the local community to assist with developing skills and training local residents to encourage local employment and procurement where possible (Umwelt, 2025) (Appendix C). For the

operational period, a local employment target of 100% has been proposed (30 FTE roles), with a recommended 50% of these employees be females (15 FTEs) and 2% First Nations residents (1 FTE) (Umwelt, 2025c) (Appendix C).

The Proposal has the opportunity to positively contribute to the local employment and training opportunities and is likely to have a positive social impact on the community (Umwelt, 2025c) (Appendix C).

During construction of the Proposal, the incoming workforce will likely provide a significant injection into the local economy as workers are housed and spend wages on local businesses (Umwelt, 2025c) (Appendix C). However, this increased demand during construction has the potential to place an increased demand on local services, housing and accommodation.

A portion of the DE and surrounding area is designated bushfire prone, with State Planning Policy 3.7 – Planning in Bushfire Prone Areas, directing how land uses should address bushfire risk management in Western Australia. The SIA has identified that the bushfire risk, both personal safety and property safety was raised as a concern by members of the community given the potential for flammability of Proposal components and a history of fires in the area (Umwelt, 2025b) (Appendix C). A Bushfire Assessment has determined that bushfire-prone assets within the DE are anticipated to achieve a Bushfire Attack Level (BAL) rating of BAL-12.5 or lower, indicating minimal bushfire risk.

To ensure continued economic enhancement for small towns surrounding the Proposal, mitigation measures outlined in Table 38 and the Proponent considers that the Proposal will positively contribute to the local economy.

8.6.3.2 Changes in land use and disruption to agricultural practices

The Proposal has sited infrastructure to use existing tracks and reduced the IDF to avoid significant impact to production potential for existing farmland (Umwelt, 2025c) (Appendix C). Through the development of the Proposal, upgrades to many internal access roads will occur, which will benefit the relevant landholders. Renewable developments have historic success in coexisting with agricultural practices and are often considered compatible land uses that offer a sustainable dual use of land (Umwelt, 2025c) (Appendix C).

The introduction of weeds and diseases including Paterson's Curse and Phytophthora dieback to the DE has the potential to impact productivity by affecting the vegetation and soils within the DE. However, through the implementation of weed and disease management control measures such as vehicle restrictions, hygiene protocols it is anticipated that the Proposal will not result in the introduction of weeds or diseases into the DE.

There will be some temporary land access disruptions during construction, the Proponent will communicate with affected landowners and stakeholders to ensure these disruptions are minimised and that alternative access arrangements can be made available. The construction of turbine foundations and cable trenches can be managed to minimise the impact of livestock becoming trapped through the implementation fauna egress ramps and bunding.

No dewatering is required for the Proposal and groundwater abstraction will be temporary during the construction phase from an aquifer that has sufficient availability and therefore unlikely to significantly impact the availability of water available for existing groundwater abstraction bores.

At the end of operation, the Proponent will implement a Decommissioning Management Plan. A Draft Decommissioning Management Plan has been provided in Appendix A that includes requirements for meaningful community and stakeholder consultation to occur

throughout the life of the Proposal to inform post-closure land use, establish measurable completion criteria and formalise agreements for infrastructure retention (where applicable). At decommissioning, it is proposed that land within the IDF will be returned to a condition acceptable to key stakeholders and aligned to the proposed post closure land use that is broad-hectare agriculture unless otherwise agreed.

Based on the above, it is anticipated that the Proposal will have limited negative impacts to existing agricultural activities and may provide a benefit in terms of financial sustainability for farming operations.

8.6.3.3 Traffic and accessibility

The highest traffic volumes will occur during the construction phase of the Proposal. During this phase the wind farm is expected to generate temporary increases in traffic volumes and different vehicle types including light, heavy and over-size over-mass vehicles on the roads to transport workers and large infrastructure components to the DE via road from Fremantle Port. During the peak construction periods, it is estimated there will be a maximum of 205 vehicle movements per day comprising a maximum of 133 light vehicles and 72 heavy vehicles movements per day.

The Traffic Impact Assessment (Shawmac 2025) (Appendix T) found that despite the increase in the vehicle movements, the proposed roads have adequate capacity to accommodate the projected volumes without significant disruption or increased crash risk.

8.6.3.4 Disruption to Aviation Activities

The DE is utilised for recreational flying; there are no certified airports located within 30 nm (56 km) and one uncertified aerodrome identified within 3 nm of the DE. Approximately 27 turbines are proposed to be located within 3 nm of the uncertified aerodrome that presents aviation-related risks including obstacle intrusion near the uncertified aerodrome where wake turbulence extends into aircraft circuits during times of north, northwest or northeast wind events (Aviation Projects, 2025b) (Appendix U).

While no certified airports or radar facilities will be impacted by the Proposal, emergency aviation operations, including aerial firefighting or aerial application operations including fertiliser, pest and crop spraying may be constrained by turbine structures. These operations are generally conducted under day Visual Flight Rules below 500 ft AGL: usually between 6.5 ft and 100 ft AGL (Aviation Projects, 2025b) (Appendix U).

Aerial firefighting organisations typically have formal risk management programs in place to identify and assess operational risks (Aviation Projects, 2025b) (Appendix U). These programs help ensure that appropriate safety measures are implemented, allowing operations to be conducted at an acceptable level of safety.

Due to the nature of aerial application operations, pilots are subject to rigorous training and assessment requirements to obtain and maintain their licence to operate under these conditions.

There is one air route (LSALT-Z41) where the flight path will need to be modified to maintain a safe flight height (Aviation Projects, 2025b) (Appendix U).

The Aviation Impact Assessment found that implementation of the Proposal would not impact aviation navigations, communication facilities and surveillance installations. With the implementation of appropriate mitigation measures, safe aerial application operations would be possible on properties within and neighbouring the DE (Aviation Projects, 2025b) (Appendix U).

8.7 Environmental Outcomes

The EPA objective for social surroundings is '*to protect social surroundings from significant harm*' (EPA, 2023a). No significant impacts to social surrounding values are expected as a result of this Proposal. With implementation of the proposed avoidance and minimisation measures applied to the design, the predicted outcomes for identified social surrounding values are:

- No impact to known Aboriginal cultural heritage values.
- No impact to European heritage values.
- WTGs will be visible from multiple vantage points, particularly near the site. Three viewpoints are expected to experience moderate levels of visual change these impacts are considered acceptable within the context of a highly disturbed landscape that has capacity to absorb such infrastructure (Urbis Ltd, 2025b).
- No significant impact to electromagnetic services.
- Five dwellings potentially exposed to low intensity shadow flicker.
- Compliance with the noise limits specified by the WA Noise Regulations and SA Noise Guidelines at all existing non-involved sensitive receptors.
- Minor and temporary impact to increased traffic, as there is adequate capacity along the proposed roads to accommodate the projected vehicle movements without significant disruption or increased crash risk.
- Possible minor adjustment to air route to maintain safe flight level, with no impact to aviation navigational facilities, ATC surveillance radars or certified airports.

The potential impact to electromagnetic services and potential impacts to existing involved dwellings from shadow flicker are not expected to cause significant harm at the local or regional scale and can be mitigated through the final selection and siting of WTGs and ongoing consultation with stakeholders. The potentially required change to the air route is also considered to be readily manageable. The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for social surroundings. The identified residual impacts are not considered to be significant.

9.0 Other Environmental Factors or Matters

Table 41 describes the receiving environment, impacts, mitigations, and outcomes for the other environmental factors of:

- Inland Waters

Table 41 Inland Waters

EPA Objective	To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.
Policy and Guidance	Statement of Environmental Principles, Factors and Objectives (EPA, 2018) Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2000) State-wide Policy No 5: Environmental water provisions policy for Western Australia (Water and Rivers Commission 2000) Environmental Factor Guideline – Inland Waters (EPA, 2018)

Receiving Environment	**Catchment** The DE is located within the Hill River and Tributaries Catchment, between the Namburg River system in the South and the Arrowsmith River to the North and the Eneabba Creek and Tributaries Catchment (Eco Logical Australia, 2025) (Appendix B). The surface water drainage features within the DE generally flow from northeast to southwest, with the exception of a tributary that flows from southeast to northwest, which is consistent with the topography of the DE (Eco Logical Australia, 2025) (Appendix B). As shown on Figure 3, two significant streams intersect the DE: • Warradarge Creek and tributaries flowing from east to west through the central and south-eastern portions of the DE then south through the western portion of the DE. • Eneabba Creek flowing west from the north-western portion of the DE. **Flood Risk** A review of the Soil landscape land quality – Flood Risk Map (DPIRD, 2025a) suggests that the majority of the DE is classified as L1 (<3% of map unit has a moderate to high flood risk), while the northwest corner of the DE between the Warradarge Creek and upper Eneabba Creek has a slightly higher flood risk at L2 (3-10% of map unit has a moderate to high flood risk) (Figure 3) (Eco Logical Australia, 2025) (Appendix B). The area immediately surrounding Warradarge Creek tributaries in the central and southeast portion of the DE is classified as either M2 (30-50% of map unit has a moderate to high flood risk) or H2 (>70% of map unit has a moderate to high flood risk) (Figure 3) (Eco Logical Australia, 2025) (Appendix B). A portion of the Warradarge Creek drainage line in the southwest corner of the DE is classified as H1 (50-70% of map unit has a moderate to high flood risk) (Figure 3) (Eco Logical Australia, 2025) (Appendix B). Notably, the proposed IDF is generally located within areas classified as low to moderate flood risk, however, one WTG located in the northwest of the DE is within an area classified as L2 (Eco Logical Australia, 2025) (Appendix B). **Surface Water** There are two streamflow gauges within a 50 km radius of the DE, Arrowsmith River – Robb Crossing (Gauge 701005) and Hill River Springs (Gauge 617002). Hydrographic data dating from 1972 has recorded maximum daily flows as 35 m^3/s and 31 m^3/s at the Arrowsmith and Hill River sites respectively (Eco Logical Australia, 2025) (Appendix B). As these sites have comparable catchment areas to Warradarge Creek at the downstream DE boundary, it is expected surface water flows may be similar to streamflow observations (up to 35 m^3/s and 25,000 ML per year) (Eco Logical Australia, 2025) (Appendix B). Daily water quality monitoring records for the Hill River Springs (Gauge 617002) from 2010 to 2024 indicated average annual electrical conductivity ranging from 2.65 mS/cm (2024) to 6.06 mS/cm (2017) with an overall average of 4.54 mS/cm, indicative of freshwater (Eco Logical Australia, 2025) (Appendix B). **Groundwater** The DE is not located within a proclaimed Public Drinking Water Source Areas (PDWSA). The DE is located within the Arrowsmith groundwater area, which is proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act) (DWER, 2025b). This area includes Eneabba and was established to regulate groundwater abstraction and ensure sustainable use (DWER, 2025b).

The DE is located above the following primary aquifers:

a) The Surficial (Upper) aquifer, forming part of the extensive palaeodrainage systems of the Dandaragan Plateau.
b) Leederville-Parmelia aquifers in the Dandaragan Plateau landscape zone covering the majority of the DE including eastern and central portions.
c) Yarragadee aquifer in the Arrowsmith landscape zone covering the southwestern and northwestern portions of the DE.

Groundwater flow in the DE is predominantly in a southeasterly direction for the Upper aquifer, an easterly direction for the Leederville-Parmelia aquifer and northwestern direction for the Yarrgadee aquifer (Eco Logical Australia, 2025) (Appendix B). The groundwater elevation across the DE varies between the intersecting aquifers, with the groundwater elevation for the Parmelia aquifer ranging from 223 to 238 mAHD and the Yarragadee aquifer ranging from 96 to 208 mAHD (Eco Logical Australia, 2025) (Appendix B). The Leederville-Parmelia aquifers, in the eastern portion of the DE are underlain by the Yarragadee aquifer (Eco Logical Australia, 2025) (Appendix B). The Otorowiri formation, a fine-grained aquitard, separates the Leederville-Parmelia aquifer in the east from the Yarragadee aquifer below and in the western portion of the DE where the Yarragadee formation outcrops (Eco Logical Australia, 2025) (Appendix B).

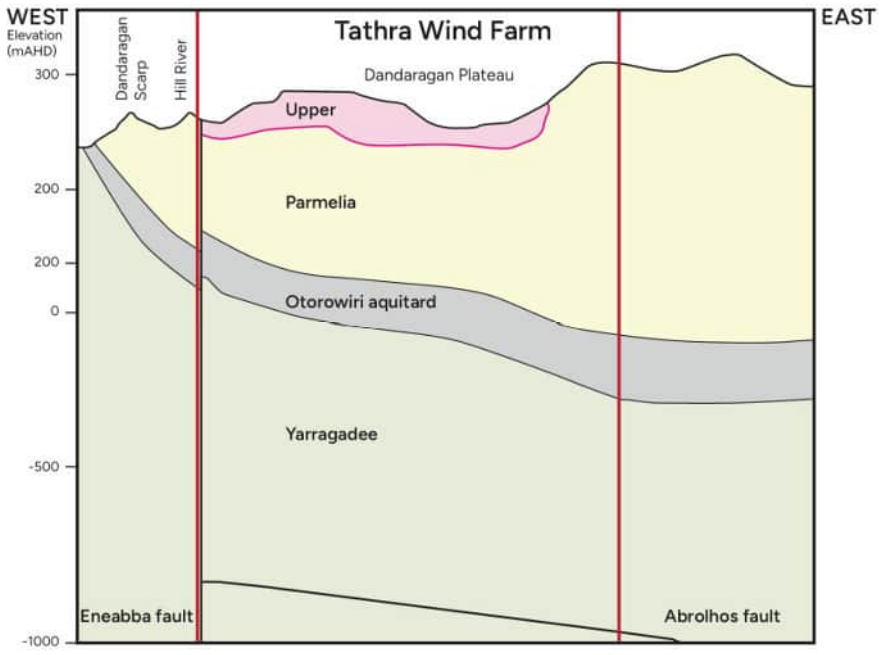


Plate 14 Primary Aquifer Cross Section (Eco Logical Australia, 2025) (Appendix B)

The groundwater elevation across the DE varies between the two intersecting aquifers, with the groundwater elevation for the Parmelia aquifer ranging from 223 to 238 mAHD and the Yarragadee aquifer ranging from 96 to 208 mAHD.

The Surficial (Upper) and Parmelia aquifers have a salinity, which is fresh to generally fresh, with the Groundwater Salinity Statewide DWER-026 (DWER, 2018a) mapping indicating a regional salinity (Total Dissolved Solids) for the DE of 500-1,000 mg/L (Eco Logical Australia, 2025) (Appendix B).

	A review by Eco Logical (2025) of the groundwater allocation limits and water available for licencing recommended that the Parmelia and Yarragadee aquifers offer a reliable quality and quantity of groundwater with abstraction of groundwater from these aquifers unlikely to impact terrestrial and aquatic GDEs. Due to the variability of recharge in the Surficial (Upper) aquifer, it is expected to be low yielding with a small groundwater supply, whereas the Parmelia and Yarragadee aquifers have the potential to supply much larger volumes due to their large size. However, the DWER have noted that groundwater in the Parmelia aquifer in the Tathra Groundwater Management Subarea is fully allocated and requires an alternative trade or agreement. Therefore, the Yarragadee aquifer is considered the most appropriate potential groundwater source for the Proposal, with 490,000 kL per annum currently available, with an additional 210,000 kL per annum available from the Yamatji Water (Strategic Aboriginal Water Source) component. The proposed uptake is considered to be very minor in comparison to the size of the Yarragadee aquifer, suggesting minimal impacts are expected to occur. Aquifers that lie below the Parmelia and Yarragadee formations are unlikely to be encountered or impacted by the Proposal due to the depth of the underlying aquifers in relation to the construction and operational requirements of the Proposal (Eco Logical Australia, 2025) (Appendix B). The deepest excavations will be associated with the WTG foundations which are anticipated to be up to 5 m bgl. There will be no dewatering is proposed during construction or operations.
Potential Environmental Impacts	• Changes to groundwater levels as a result of groundwater abstraction of approximately 500,000 KL/annum for 18-24 months of construction. • Alteration of surface water flows due to design and siting of project infrastructure. • Contamination of surface and/or groundwater due to accidental fuel/chemical spills • Contamination of surface water due to contamination of stormwater runoff with sediment and/or nutrients.
Mitigation	**Avoid** • Impacts to surface water features will be avoided through Proposal design, including: • Siting of wind turbines no closer than 100 m from a wetland and major waterways and 30 m for all significant infrastructure.to Warradarge Creek. • Limiting crossings of Warradarge Creek and tributaries as shown in Figure 3 to four crossings. **Minimise** • Alteration of surface water flows will be minimised through installation of appropriately sized drainage infrastructure where proposed access tracks intersect existing drainage features. • Potential for contamination of surface and/or groundwater will be minimised through implementation of an EMP (framework provided in Appendix E), that includes: o Requirements to store hydrocarbons and other chemicals appropriately. o Requirement for spill kits to be available onsite. • Requirements for construction activities to include appropriate sediment and erosion control measures.

	• Requirements for construction activities to include appropriate stormwater and wastewater management. • Groundwater abstraction will be conducted in accordance with the 5C Licence issued under the RIWI Act. • Due to the location and allocation requirements, groundwater will likely be sourced from the Parmelia aquifer, Yarragadee aquifer and the Yamatji Water (Strategic Aboriginal Water Source). This approach is informed by the current availability of groundwater within these aquifers. • Monitoring of groundwater levels and water quality will be conducted if abstraction of groundwater is required.
Assessment and Outcome	Groundwater abstraction from the Parmelia and Yarragadee aquifers will be approximately 500,000 KL/annum during construction and no abstraction during operation and will be regulated under the RIWI Act through either a 26D for any new wells (or modification of an existing well) and 5C licence for abstraction of groundwater. Given the extensive nature of these aquifers, limited groundwater abstraction proposed and regulation under the RIWI Act, implementation of the Proposal is unlikely to result in a significant change to the groundwater level beyond the immediate vicinity of the abstraction bores. There are six instances where the DE overlaps with surface water features, including Warradarge Creek or its tributaries and the floodplain associated with a geomorphic wetland (UFI 550). However, these six instances are associated with proposed access tracks, with no large infrastructure proposed in these areas, therefore, impacts to the wetland are anticipated to be minimal and drainage infrastructure will be incorporated. This wetland is not listed under the Directory of Important Wetlands and is not considered a Ramsar wetland. With appropriately sized drainage infrastructure, the impacts on the surface water regime are not expected to be significant. Given hydrocarbons and other chemicals will be stored and handled appropriately, contamination of surface water or groundwater due to spills is unlikely. With the implementation of the proposed mitigation measures, the hydrological regimes and quality of groundwater and surface water within the DE will be maintained. The Proposal can, therefore, be implemented in a manner that is consistent with the EPA objective for Inland Waters.

10.0 Matters of National Environmental Significance

As part of environmental assessment of the Proposal, consideration of potential impacts to MNES was completed.

Relevant MNES were identified from a review of the PMST search results (refer to Section 7.3) for the proposed DE. A likelihood of occurrence assessment was conducted for all relevant MNES identified in the review and those with medium to high likelihood of occurrence were assessed further using the Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (DEWHA, 2013).

No world heritage or national heritage areas, wetlands of international importance or Commonwealth listed TECs are known to occur or expected to occur and thus were not considered further as part of the significance assessment.

The review revealed thirty-one Commonwealth listed threatened species and eight migratory species with potential to occur within the DE. Based on the results from the PMST and their

likelihood of occurrence as assessed by Umwelt (Umwelt, 2025c) (Appendix H), the threatened flora and fauna species listed in Table 42 are either known to occur in the DE or are considered likely to occur in the DE.

Table 42 Relevant MNES

Scientific Name	Common Name	Conservation Status	Post-Survey Likelihood of Occurrence
Flora			
Acacia wilsonii	Wilson's Wattle	Endangered	Recorded during the 2024 surveys in the DE.
Daviesia speciosa	Beautiful Daviesia	Endangered	Recorded during the 2024 surveys in the DE.
Hakea megalosperma	Lesueur hakea	Vulnerable	Recorded during the 2024 surveys in the DE.
Paracaleana dixonii	Sandplain Duck Orchid	Endangered	Recorded during 2024 surveys in the DE.
Fauna			
Zanda latirostris	Carnaby's Black Cockatoo	Endangered	Recorded during 2024 survey. Breeding and foraging habitat present in the DE.
Egernia stokesii badia	Western Spiny-tailed Skink	Endangered	Suitable habitat may be present to support species, particularly Wandoo Woodland on Sandy Soil, Eucalyptus Woodland on Stoney Substrate, and Eucalyptus Woodland on Rocky Hills.
Idiosoma nigrum	Shield-backed Trapdoor Spider	Endangered	One historic record of species within the IDF from 1987. Suitable habitat may be present in the DE to support the species.
Apus pacificus	Fork-tailed Swift	Migratory	Species was recorded once during the BBUS. Species may occupy the airspace above the DE.

The MNES assessment identified activities with potential to impact MNES, including clearing of fauna habitat and potential collision with WTGs. However, the MNES assessment considered the Proposal unlikely to impact on these species if the appropriate controls were implemented during construction and operation. These controls include design of the Proposal to avoid clearing of native vegetation/fauna habitat and designation of exclusion areas around environmentally sensitive areas. These measures are outlined in the Environmental Management Framework (Appendix E).

Even though the potential impacts on MNES are likely to be low, the Proponent will refer to DCCEEW under the EPBC Act. This is to provide certainty and transparency and to ensure any potential impacts to MNES are appropriately assessed and suitable avoidance and mitigation measures are included in the Proposal to ensure the environmental objectives will be met.

11.0 Holistic Impact Assessment

In addition to the impacts and mitigation strategies assessed in relation to individual environmental factors, the EPA requires Proponents to evaluate the interconnection across multiple factors in order to consider impacts on the environment as a whole. The EPA's (EPA, 2024) definition of 'holistic impact assessment' is:

'*the connections and interactions between impacts, and the overall impact of the proposal on the environment as a whole'.*

A holistic assessment of the Tathra Wind Farm proposal has been undertaken to identify the potential environmental impacts and interactions between the key environmental factors identified, these being Flora and Vegetation, Terrestrial Fauna, and Social Surroundings.

The assessment considers the findings from individual factor assessments (Sections 6 to 8) to evaluate combined effects, mitigation measures, residual impacts, and overall environmental outcomes.

11.1 Interaction Mapping

The environment consists of a series of connections and interactions between a variety of different factors, that once combined forms a single complex system. While the impacts associated with the Proposal have been considered individually for each environmental factor triggered, this holistic impact assessment considers the interactions and connections between these factors to address the overarching complexity of the whole environment.

Plate 15 illustrates the interactions between key environmental factors and how impacts to one may influence others and/or compound impacts.

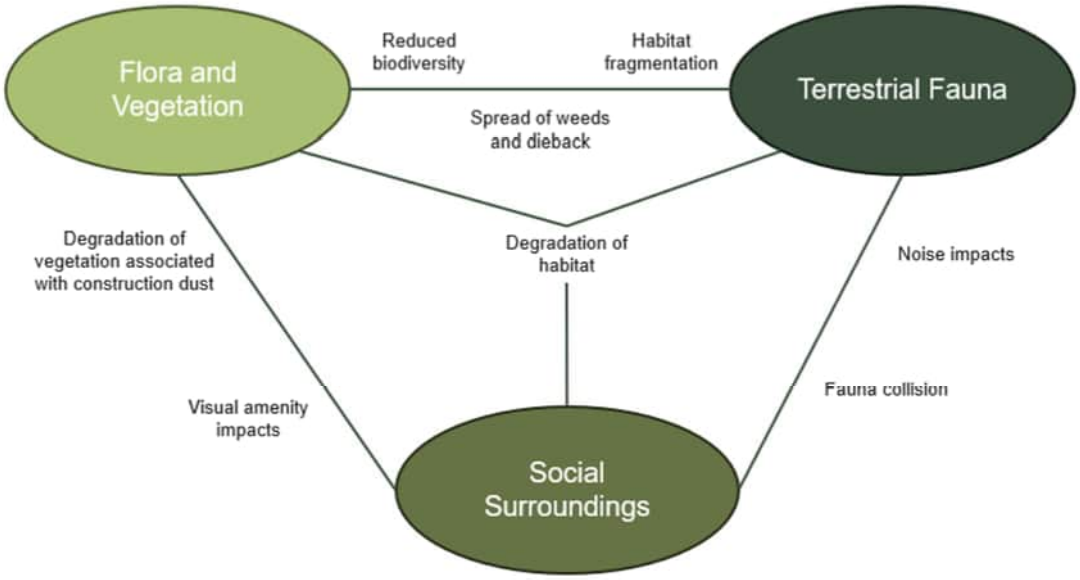


Plate 15 Conceptual Model of Interactions Between Key Environmental Factors

11.2 Management of Combined Effects

Table 43 presents the combined effects across the interconnected factors and sets out the mitigation measures, expected outcomes, residual impacts and an overall significance assessment for each combined effect.

Table 43 Summary of Combined Effects, Outcomes and Residual Impacts

Combined Effect	Potential Impact	Mitigation Strategy	Expected Outcome	Significance
Degradation and fragmentation of habitat and Reduced Biodiversity	**Flora and Vegetation** • Direct loss and fragmentation of native flora and vegetation. • Potential introduction of weeds and/ or dieback. • Possible indirect degradation of native vegetation condition. **Terrestrial Fauna** • Direct habitat loss and fragmentation and potential loss of terrestrial fauna individuals. • Possible indirect degradation of fauna habitat. **Social Surroundings** • Loss of amenity. • Socio-economic loss for local community through reduction to agricultural land use.	The iterative IDF design process has resulted in a design that: • Maximises the use of existing disturbed areas. • Includes the implementation of 'Exclusion Areas' as shown in Figure 11. • No clearing required of native vegetation for bushfire management. • Avoiding clearing of VTs associated with GDEs along the route of transmission lines. • Utilises an existing track through the buffer vegetation of likely 'Assemblages of organic mound springs of the Three Springs' TEC. • Avoiding clearing of recorded Threatened flora. An EMP (refer Appendix E for framework) will be implemented that will minimise impacts by: • Implementing weed management. • Utilising spotters when working near VTs considered to be potentially analogous with TECs (PFE, PM, CAM and WM) and GDEs. • Implementing hygiene protocols during clearing and construction. • Implementing contractual obligations to ensure compliance with Regulation 13 of the Noise Regulations.	• Loss of up to 3.44 ha of native vegetation. • Loss of up to 8.50 ha of fauna habitat. • Avoidance of recorded Threatened flora and vegetation types associated with GDEs along the route of transmission lines. • Avoidance of all Category 1-3 potential breeding trees. • Clearing up to 97 trees without suitable hollows for Carnaby's Black Cockatoo. • Clearing of less than 1 ha of moderate-high quality Black Cockatoo foraging habitat. • Disturbance of recorded Priority flora species limited to 501 recorded individuals. • Disturbance of up to 0.33 ha of VTs that are buffer vegetation of likely 'Assemblages of organic mound springs of the Three Springs' TEC.	Through the iterative design process, the Proposal has significantly reduced the potential impacts on habitat and is therefore not expected to cause a significant loss of biological diversity or ecological integrity. Through implementation of management measures that address impacts for each environmental factor, it is expected that degradation of habitat will not result in significant combined impact when considered holistically. Therefore, holistic impacts due to degradation of habitat are not considered further.
Degradation of vegetation associated with construction dust emissions	**Flora and Vegetation** Degradation of native vegetation from deposition of dust. **Social Surroundings** Reduction in amenity as a result of degraded vegetation.	An EMP (refer Appendix E for framework) will be implemented that will minimise impacts by: • Limiting vehicle movements within the IDF, utilising existing tracks where available. • Scheduling activities to avoid days/times when weather conditions may increase dust generation for high dust generating activities. • Maintaining a low-speed site traffic environment. • Construction of the assets over multiple stages (each stage expected to take 18-24 months) to minimise disruptions.	Localised temporary increase in dust emissions during construction.	Through implementation of the proposed management measures, it is expected that increases in dust emissions during construction will be temporary and localised. The Proposal is, therefore, unlikely to result in a significant decline in the health of vegetation due to dust deposition or a significant loss of amenity either due to dust plumes or due to degraded vegetation. Dust emissions are, therefore, not expected to result in a significant combined impact when considered holistically. Therefore, holistic impacts due to dust emissions are not considered further.

Combined Effect	Potential Impact	Mitigation Strategy	Expected Outcome	Significance
Reduction in visual amenity	**Flora and Vegetation** Direct loss and fragmentation of native flora and vegetation. **Social Surroundings** • Reduction in amenity as a result of introduction of distinct new elements. • Reduction in amenity as a result of dust plumes (see above for mitigation strategy, outcome and significance)	• Ensuring all infrastructure for the Proposal is installed within the DE. • Utilising areas of existing disturbance where possible. • Siting of infrastructure to avoid direct alignment with key viewpoints, nature reserves and residential clusters where possible. • Siting of infrastructure to utilise natural landforms and existing vegetation to screen potential visual impacts from public roads and existing residences where possible. • Turbines will be painted in a low-reflective off-white colour to prevent blade glint. • Avoiding visibility related hazards at access locations by ensuring minimum sight distances are achieved in both directions. • Limiting vehicle movements within the IDF, utilising existing tracks where available. • Maintaining a low-speed site traffic environment. • Construction of the assets over multiple stages.	WTGs visible from multiple vantage points, particularly in close proximity to the site.	Visual impacts as a result of the Proposal are considered acceptable within the context of a highly disturbed landscape that has capacity to absorb such infrastructure. The implementation of management measures that address impacts associated with multiple environmental factors, suggests the Proposal will not result in significant combined impacts when considered holistically. Therefore, holistic impacts due to visual amenity are not considered further.
Fauna collision and entrapment	**Terrestrial Fauna** Direct loss or injury to fauna from collision with turbines and machinery or entrapment in excavations. **Social Surroundings** Reduction in amenity as a result of fauna collision. Social loss for local community through the reduction in native fauna species.	• Avoid siting WTGs in areas of high fauna habitat value, thereby reducing potential for injury or death through WTG collision. • Limiting movements within the IDF, utilising existing tracks where available, with appropriate speed limits, to reduce habitat fragmentation and reduce impact on fauna corridors • To minimise potential impacts to bat species, a 100 m setback from major waterways has been applied to WTGs. • Construction activities will be undertaken in multiple stages. • A PBBAMP (Appendix N) will be finalised prior to operations and implemented during operation of the Proposal. This will include measures to minimise the loss or injury to birds and bats. • Excavations will either include fencing to reduce the potential for fauna entrapment, include ramps and/or will be regularly checked for fauna as detailed in Appendix E.	No significant impact on fauna species due to due to entrapment in open trenches or other excavations, vehicle strike or WTG collision that results in population decline is expected.	The potential impacts on terrestrial fauna as a result of the Proposal are not expected to cause a loss of biological diversity or reduce ecological integrity or to significantly reduce amenity. Given implementation of the proposed management measures, it is anticipated there is minimal potential for fauna collision to have significant combined impacts when considered holistically. Therefore, holistic impacts due to fauna collision are not considered further.
Spread of weeds and dieback	**Flora and Vegetation** • Direct loss and fragmentation of native flora and vegetation. • Potential introduction of weeds and/ or dieback. • Possible indirect degradation of native vegetation condition. **Terrestrial Fauna** • Direct habitat loss and fragmentation and potential loss of terrestrial fauna individuals. • Possible indirect degradation of fauna habitat.	An EMP (refer Appendix E for framework) will be implemented that will minimise impacts by: • Implementing weed management. • Limiting movements within the IDF, utilising existing tracks where available. • Implementing hygiene protocols during clearing and construction, including: • Minimising clearing and earthworks during wet conditions. • Ensuring vehicles, machinery and personnel are free from mud/soil and plant material upon entering the site and prior to works commencing.	No spread of weeds and dieback are as a result of the Proposal.	Management measures to control the spread of weeds and dieback will be implemented via the EMP (refer Appendix E for framework). Measures include hygiene procedures, monitoring and control. Therefore, weeds and dieback are not expected to result in a significant combined impact to vegetation or fauna habitat when considered holistically. Therefore, holistic impacts due to habitat fragmentation are not considered further.

11.3 Environmental Outcomes

The holistic assessment indicates that the Proposal includes robust mitigation strategies and, while some residual impacts remain, the residual impacts are not considered significant and can be regulated under Part V of the EP Act (including under a Native Vegetation Clearing Permit and under the Noise Regulations).

The project is expected to contribute positively to renewable energy targets and climate change mitigation. The proposed adaptive management and monitoring program in the PBBAMP allows the effectiveness and implementation of controls to be reviewed.

12.0 Cumulative Environmental Impact Assessment

The EPA's (EPA, 2024) definition of 'cumulative environmental impacts' is:

'*the successive, incremental and interactive impacts on the environment of a proposal with one or more past, present and reasonably foreseeable future activities*'.

There is potential for cumulative impacts on environmental values such as Flora and Vegetation, Terrestrial Fauna, and Social Surroundings from implementation of the Proposal and the activities of adjacent operations. This section outlines the cumulative impact assessment (CIA) for the Proposal, considering the impacts of past and existing projects in the area, as well as reasonably foreseeable projects that have not yet commenced.

Projects that have been considered in the CIA include those referred under the EP Act and EPBC Act within a 50 km radius of the Proposal and any granted or amended clearing permits within a 15 km radius of the Proposal, all of which are represented in Figure 17. The cumulative impact assessment is provided in Table 44.

Mingenew Morawa
Wubin Mullewa
Wubin Mullewa
West Erregulla Seismic Survey
Dongara Titanium Minerals Project, Shire of Irwin
West Erregulla Field Development Program
Arrowsmith Hydrogen Project
Dampier to Bunbury Natural Gas Pipeline Stage 5 Expansion
South Erregulla Conventional Gas Development
Mt Gibson Iron Ore Mine and Infrastructure Project
Three Springs Solar Farm
Mt Gibson Iron Ore Mine and Infrastructure Project
Mt Gibson Iron Ore Mine and Infrastructure Project
Project Haber
Arrowsmith North Silica Sand Project
Zemira 3D Seismic Survey
Midlands
Brand Hwy
Eneabba Rare Earth Refinery
Indian Ocean Dr
Warradarge Wind Farm
Clearing of Native Vegetation on Victoria Location 10598 Cockleshell Gully Road, Shire of Dandaragan
Jurien Gypsum Mining Operation ML70/1161
Dampier to Bunbury Natural Gas Pipeline Stage 5 Expansion
Jurien East Road Upgrade
Development of the Badgingarra Wind Farm
Parron Wind Farm

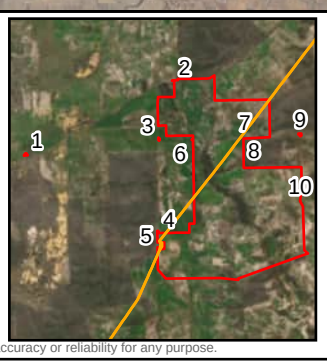
Service Layer Credits: Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Landgate / SLIP, Esri, USGS

0 5 10 Kilometers

Coordinate System:	GDA2020 MGA Zone 50
Scale:	1:480,000 at A3
Project Number:	675.072927.00002
Date Drawn:	24/11/2025
Drawn by:	JH

LEGEND

- Development Envelope
- Indicative Disturbance Footprint
- Existing Western Power Transmission Line
- Major Roads
- 50 km Buffer Applied
- 15 km Buffer Applied
- Significant Projects Assessed
- Significant Linear Projects Assessed



Note: Numbers represent site access point ID's

SLR

TATHRA WIND FARM EP ACT REFERRAL

CUMULATIVE IMPACT ASSESSMENT

FIGURE 17

Path: H:\Projects-SLR\675-PER\675-PER\675.072927.00001 Tathra Wind Farm EIA\06 SLR Data\01 GIS\GIS\675072927 Tathra WF s38 EP act IV referral mapping\675072927 Tathra WF s38 EP act IV referral mapping.aprx\675.072927_A3_P_Tathra s38_F18_Cumulative Impact Assessment

Table 44 Cumulative Environmental Impact Assessment

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
Warradarge Wind Farm located immediately south of the DE	Construction of 100 wind turbines each up to 152 m high, with a capacity of up to 400 MW and all associated infrastructure: electricity transformers; underground cabling; access tracks, all weather access to Garibaldi Willis Road; crane hardstands; a substation compound including a metering building, site office and workshop and a communication mast.	Operational Currently 51 turbines are operational and an additional 30 will become operational in 2027.	**Flora and Vegetation** • Clearing up to 0.7 ha (less than 1% of the total 82.5 ha footprint of the wind farm). • Clearing of native vegetation for turbine pads, access tracks, and transmission infrastructure. • Risk of weed invasion, dieback spread, and habitat fragmentation. • Loss of habitat for Priority (22 species) and Threatened flora (four). **Terrestrial Fauna** • Habitat loss and disturbance for Carnaby's Black Cockatoo and potential presence of Malleefowl, Western Spiny-tailed Skink, and White-striped Freetail Bat from vegetation clearing and construction for habitat. • Bird strike risk from turbine blades — monitored post-construction. • Most strikes involved nankeen kestrels and wedge-tailed eagles, with no conservation-listed species impacted to date. • Noise and vibration may affect sensitive species during breeding seasons. **Social Surroundings** • Visual intrusion from turbines and transmission lines — mitigated by strategic siting and use of existing cleared land. • Noise and shadow flicker concerns addressed through compliance with planning guidelines. • Cultural heritage protection via consultation and exclusion zones.	Through the implementation of the Proposal clearing of 3.44 ha of native vegetation is anticipated, with 501 Priority species and 0.33 ha of VTs potentially analogous with the 'Assemblages of organic mound springs of the Three Springs' TEC to be disturbed. The Proposal will result in the clearing of 8.50 ha of fauna habitat (including non-native vegetation), up to 97 potential breeding trees for Black Cockatoos and less than 1 ha of moderate-high quality Black Cockatoo foraging habitat. When considering the Proposal in conjunction with the Warradarge Wind Farm, due to the proximity of the projects, it is anticipated that similar habitats, species and local communities will be impacted. However, when considering the combined total clearing (4.14 ha), it is not considered to be locally or regionally significant. Existing bird strike data for the Warradarge Wind Farm, indicates no conservation significant fauna collisions have been observed since operation started (including with a lower minimum RSA of 17 metres). Impacts to social surroundings including generation of noise, dust emissions, traffic and visual amenity for both projects have been appropriately mitigated and avoided, consideration of the cumulative impacts between the two wind farms has been covered in the respective technical reports. Both proposals have been designed to avoid clearing of native vegetation and fauna habitat the proposed extent of clearing is small compared with the extent of native vegetation in the vicinity of the Proposal. In addition, both proposals will implement management measures to reduce potential impacts to flora and vegetation and terrestrial fauna Given the avoidance and management strategy, it is considered unlikely that implementation of these projects will result in a significant cumulative impact to native vegetation and fauna habitat.
Dampier to Bunbury Natural Gas Pipeline (DBNGP) Stage 5 Expansion located 3 km west of the DE	DBNGP expansion project to increase gas haulage capacity. There are eleven separate looping sections proposed within the existing DBNGP corridor.	Operational since January 2010.	**Flora and Vegetation** • Clearing of less than 1,000 ha and an additional 100 ha outside of the pipeline corridor for infrastructure (construction camp, turkey nests and turnarounds). • Clearing of previously rehabilitated and remnant native vegetation.	The DBNGP is a large linear project. Given the proximity of a section of the project to the DE, it is anticipated that the habitat, species and local community impacts will be similar to those in the DE for that section. The similarities in habitat, species and community

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
			• Removal of individuals of Declared Rare and Priority Flora. **Terrestrial Fauna** • Disturbance of approximately 2,200 ha of habitat. • 66 species of conservation significant vertebrate fauna likely to be encountered along the pipeline route, dominantly ground dwelling marsupials and reptile species. **Social Surroundings** Not a key environmental factor for this project.	impacts are expected to reduce with distance from the DE meaning that impacts from the majority of the DBNGP project area are not relevant to the cumulative impact assessment. Therefore, it is anticipated that only a small portion of the clearing undertaken for the DBNGP will be of similar habitat to that to be undertaken for the Proposal. Given the minimal overlap of clearing, it is anticipated that the cumulative impacts on flora and fauna for these projects will be minimal. Due to the low disturbance to social surroundings associated with the DBNGP due to its operational nature and quiet, low-lying design, it is anticipated that no cumulative impacts to social surroundings will occur when considering the combined impacts for these projects. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Eneabba Rare Earth Refinery located 9 km west of the DE	Construction and operation of a new rare earth refinery at Iluka Eneabba Mine Site. The proposal will utilise the existing Eneabba monazite concentrate, future Iluka feedstocks and third party feedstocks.	Construction underway since November 2022. Commissioning is scheduled for 2026.	**Flora and Vegetation** • Clearing of 5.4 ha of native and rehabilitated vegetation. • Presence of three threatened flora, 20 Priority Flora, two TEC and one PEC in within 20km, eight potential significant FCTs, one high potential GDE. • Two DBCA conservation reserves. • Potential loss of habitat for Priority flora and TEC. • Risk of dieback spread and weed invasion. **Terrestrial Fauna** • Loss of foraging habitat for Carnaby's Cockatoo and other species. • Disturbance from noise, vibration, and vehicle movement during construction. • Presence of six habitats, three threatened species, one migratory species, nine Priority species, one locally significant species. **Social Surroundings** • Community concerns addressed through stakeholder engagement, with general support for the project. • Temporary impacts from construction noise, dust and vibration. • Potential disturbance to Indigenous heritage values—managed via consultation and exclusion zones. • Community concerns addressed through stakeholder engagement, with general support for the project.	Given the proximity between the Eneabba Rare Earth Refinery and the Proposal, it is anticipated that similar habitat, species and local communities will be impacted. However, when considering the cumulative clearing (8.84 ha) and disturbance, it is anticipated that the impacts will not be locally or regionally significant. Both proposals have been designed to avoid clearing of native vegetation and the proposed extent of clearing is small compared with the extent of native vegetation in the vicinity of the Proposal. In addition, both proposals will implement management measures to reduce potential impacts to flora and vegetation and fauna habitat. Given the avoidance and management strategy, it is considered unlikely that implementation of these projects will result in a significant cumulative impact to flora, vegetation and fauna habitat. With commissioning scheduled for 2026, it is anticipated that localised noise, dust and traffic impacts associated with the Eneabba Rare Earth Refinery will be completed prior to construction of the Proposal. This suggests that no cumulative impacts associated with construction will occur for these projects. It is unlikely that the Proposal and the Rare Earth Refinery will be located within the same view and due to the rarity of this occurrence, it is anticipated the cumulative visual impacts

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
				will not be significant. Therefore, it is anticipated that cumulative impacts to social surroundings will be minimal. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Clearing of Native Vegetation on Victoria Location 10598 Cockleshell Gully Road, Shire of Dandaragan located 41 km to the southwest	Clear 870 hectares of native vegetation on Victoria Location 10598 Cockleshell Gully Road, Shire of Dandaragan to plant tagasaste.	Construction commenced in 2022. Commissioning expected in 2027.	**Flora and Vegetation** • Clearing of 870 ha of native vegetation. • The winter damp areas and *Banksia prionotes* species should be retained to meet biodiversity requirement and should be included in the buffer associated with the wetlands areas. • There is no significant impact on the declared area flora and Priority species identified within the disturbance footprints. • Potential risk of dieback spread due to soil disturbance. **Terrestrial Fauna** • Potential impact on Calyptorhynchus latirostris, Cacatua pastinator and Morelia spilota imbricata. • Concerns raised about impacts on aquatic cave fauna in Old River Cave, including amphipods and cave-adapted spiders. • Potential changes to groundwater levels that sustain cave ecosystems. **Social Surroundings** Not a key environmental factor for this project.	Due to the distance between the Victoria Location 10598 and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. However, when considering the impacts associated with the Proposal against the clearing on Victoria Location 10598, the Proposal clearing is very minor in comparison, suggesting cumulative impacts will not result in significant amplification of impacts. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
South Erregulla Conventional Gas Development located 31 km to the north	Construct and operate the South Erregulla Conventional Gas Development (gas-fired peaking power plant), located approximately 280 km north of Perth and 45 km southeast of Dongara in the Shire of Three Springs and the Shire of Irwin.	Construction scheduled to begin in April 2025. Commissioning expected by October 2026.	**Flora and Vegetation** The development envelope is 283.46 ha with a disturbance footprint of 111.82 ha. No native vegetation clearing is associated with the proposal. **Terrestrial Fauna** • No clearing, therefore, no fauna impact. • Possible disturbance to fauna from noise, light, and vehicle movement during construction and operation. • Low likelihood of impacting Threatened or Priority fauna, given the agricultural setting. **Social Surroundings** • Potential impact for local amenity through noise, dust, and visual change. • Greenhouse gas emissions from operations are estimated at 63,040 tonnes CO_2-e annually, contributing to regional emissions.	Due to the distance between the South Erregulla Conventional Gas Development and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. Given the South Erregulla Conventional Gas project does not include clearing of native vegetation, the potential for cumulative impacts on vegetation and fauna habitat is negligible. Due to the distance and differing construction periods, it is anticipated that no cumulative impacts to Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Project Haber located 32 km north of the DE	Construction and operation of a urea production facility on the Mid West Low Carbon Manufacturing Precinct, approximately 280 km north of Perth	Backed by Strike Energy, progressing toward final investment decision. On hold since mid-2024 due to limited gas resources.	**Flora and Vegetation** • Clearing of up to 1 ha of native vegetation within a 478ha development envelope.	Due to the distance between the Project Haber and the Proposal, it is anticipated that most habitat, and some species and local communities to be impacted will differ between projects. Given the minimal clearing of native

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
	CBD and 45 km south-east of Dongara.	Focus shifted to building a gas-fired peaking power station at the same site instead.	• Vegetation includes Banksia scrub-heath, Kwongan shrublands, and lateritic sandplain mosaics—some of which are considered to be TEC. • Risk of dieback spread and weed invasion due to soil disturbance. **Terrestrial Fauna** • Potential direct impact to Carnaby's Black Cockatoos, Malleefowl, and short-range endemic invertebrates through loss of less than 1 ha of potential non-breeding foraging habitat. • Indirect impacts with noise, light pollution and vehicle strikes. • No significant habitat fragmentation due to use of previously cleared agricultural land. **Social Surroundings** • Potential impacts on local amenity, air quality, and noise levels. • Estimated greenhouse gas emissions of 761,000 tonnes CO_2-e annually, primarily from urea production and power generation. • No direct impact on Aboriginal heritage sites, but cultural values were considered in planning.	vegetation and fauna habitat that will occur across both projects, when considering these projects cumulatively, it is anticipated that the combined impacts will be minor. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Three Springs - Solar Farm located 39 km northeast of the DE	Construction of a 100 MW solar photovoltaic power station on cleared farmland to support the delivery of low carbon ammonia from the Mid West Clean Energy Project.	Not constructed yet. Early 2024: Undergoing development approval. Late 2024: EDP Renewables APAC offered a non-binding offer to acquire 100% ownership.	**Flora and Vegetation** • Predominately cleared farmland, no vegetation clearing is proposed. • Minor vegetation removal may occur for infrastructure like access roads and fencing. • Potential risks include: • Weed spread from vehicle movement and soil disturbance. • Microclimate changes under solar panels affecting soil moisture and plant dynamics. **Terrestrial Fauna** • The cleared farmland had limited habitat value, so direct fauna displacement was minimal. • Potential indirect impacts include: • Noise and vibration during construction • Disruption of movement corridors for small mammals and reptiles • Bird strike risk from reflective surfaces and fencing. **Social Surroundings** Temporary impacts during construction may include increased traffic, noise, and visual changes along local roads.	Due to the distance between the Three Springs - Solar Farm and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. Given no native vegetation clearing is proposed for the Three Springs – Solar Farm, when considering these projects cumulatively, it is anticipated that the potential for cumulative impacts to native vegetation and fauna habitat is negligible. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Mt Gibson Iron Ore Mine and Infrastructure Project located 45 km northeast of the DE	Mine and process iron ore from Extension Hill and Extension Hill North, including pipeline to Geraldton Port	Mining ceased in December 2020 Status: Care and maintenance	**Flora and Vegetation** • Clearing of 44.76 ha of native vegetation, including habitat for DRF and PECs.	Due to the distance between the Mt Gibson Iron Ore Mine and Infrastructure Project and the Proposal, it is anticipated that most habitat, species and local communities to be impacted

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
			• Direct impact on up to 1,327 individuals of *Darwinia masonii* and 863 of *Lepidosperma gibsonii*. • Risk of weed invasion, dust deposition, and altered hydrology. **Terrestrial Fauna** • Habitat loss and fragmentation from vegetation clearing and infrastructure. • Increased risk of vehicle strikes, noise disturbance, and predation by feral animals. • Potential disruption to breeding and movement corridors. **Social Surroundings** • Visual intrusion from open-cut mining and infrastructure. • Noise, dust, and light pollution affecting nearby communities and amenity. • Potential impacts on Aboriginal heritage sites and community values.	will differ between projects. However, when considering the impacts associated with the Proposal against the clearing at Mt Gibson Iron Ore Mine and Infrastructure, the extent of clearing for the Proposal is very minor in comparison, suggesting cumulative impacts (if any) will not result in significant amplification of impacts. Given the mine is currently in the care and maintenance stage, it is anticipated that noise, dust and light pollution will be minimal. Given the distance between the projects, it is anticipated that combined visual impacts will not occur. Therefore, it is anticipated that cumulative impacts on Social Surroundings are not expected to be significant. On the basis of the above, these projects are not expected to result in significant cumulative impacts.

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
Arrowsmith Hydrogen Project located 40 km northwest of the DE	Construct and operate a green energy wind and solar powered hydrogen production facility within freehold lots 3, 4, 100 and 6110 located in Arrowsmith 30km south of Dongara, within the Shire of Irwin.	IGE entered administration, but approvals for Arrowsmith Hydrogen Project are still progressing.	**Flora and Vegetation** • Clearing of 139 ha of vegetation with condition varying from excellent to degraded, with avoidance of clearing of better condition vegetation. • The site lies within the Geraldton Sandplains and Avon Wheatbelt bioregions. • Presence of Banksia woodlands, Acacia shrublands, and Eucalyptus open forests. • Some areas contain PECs and TECs. • Surveys identified several Priority-listed species, including Banksia nivea subsp. *Uliginosa, Grevillea triloba and Acacia lasiocarpa var. sedifolia*. • Loss of habitat for rare and threatened plant species. • Fragmentation of vegetation communities • Spread of invasive species due to soil disturbance. **Terrestrial Fauna** • Habitat fragmentation and disturbance to nesting and foraging areas of Carnaby's Black Cockatoo, Western Spiny-tailed Skink, and Rainbow Bee-eater • Noise and vibration impacts. • Barrier effects from fencing and roads. • Risks to vehicle strikes, and disturbance during construction. **Social Surroundings** • Located near Beekeepers Nature Reserve and ~30 km south of Dongara, WA. • Potential effects include: • Visual changes from turbines and solar arrays. • Traffic and noise during construction. • Cultural heritage concerns, especially for Traditional Owners.	Due to the distance between the Arrowsmith Hydrogen Project and the Proposal, it is anticipated that habitat, some species and local communities to be impacted will differ between projects. However, when considering the impacts associated with the Proposal against the clearing at the Arrowsmith Hydrogen Project, the extent of clearing for the Proposal clearing is very minor in comparison, suggesting cumulative impacts (if any) will not result in significant amplification of impacts. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Parron Wind Farm located 49 km to the south of the DE	Construct and operate the Parron Wind Farm in Badgingarra, Western Australia, approximately 180 km north of Perth.	Environmental assessments are underway at both State and Commonwealth levels. Financial close expected in early 2026, with construction starting later that year. Operations anticipated by late 2028	**Flora and Vegetation** • Located on an 8,400 ha agricultural property, with 491.54 ha of disturbance footprint (~5% of land disturbed) and 2.93 ha of remnant native vegetation cleared for infrastructure. • Most of the vegetation is considered degraded. • 23 Priority-listed species were recorded. • 13 threatened and 84 additional priority species may occur nearby. **Terrestrial Fauna** • 10 distinct habitat types supporting 56 native fauna species and 51 bird species, including the Carnaby's Black	Due to the distance between the Parron Wind Farm and the Proposal, it is anticipated that habitat, some species and local communities to be impacted will differ between projects. However, when considering the cumulative clearing (6.37 ha) of native vegetation and disturbance, it is anticipated that the impacts will not be locally or regionally significant. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur.

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
			Cockatoo (foraging evidence found) and the Pacific Swift, Peregrine Falcon (likely to occur), 3 bat species (Gould's Wattled Bat, Southern Forest Bat, Long-eared Bats). **Social Surroundings** • Located near Badgingarra, WA, with turbines spaced >500 m apart to reduce visual and noise impacts. • Potential concerns include: • Noise and shadow flicker. • Visual changes to landscape. • Traffic and dust during construction. • Cultural heritage considerations for Yued Traditional Owners.	On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Development of the Badgingarra Wind Farm located 47 km south of the DE	Development and operation of the Badgingarra Wind Farm capable of generating an energy output of 130MW.	Operational since 2019.	**Flora and Vegetation** • ~4.5 ha of native vegetation to be cleared, with condition ranging from degraded to very good. • Only 0.04 ha of vegetation in 'good' or better condition was cleared. • 23 Priority flora species were recorded, but no Threatened flora or ecological communities were found within the development envelope **Terrestrial Fauna** The site supports Carnaby's Black Cockatoo foraging habitat and potentially Pacific Swift, Peregrine Falcon habitat. **Social Surroundings** • Located near Badgingarra, WA, with turbines spaced >500 m apart to reduce visual and noise impacts. • Potential concerns include: • Noise and shadow flicker. • Visual changes to landscape. • Traffic and dust during construction. • Electromagnetic interference.	Due to the distance between the Badgingarra Wind Farm and the Proposal, it is anticipated that habitat, some species and local communities to be impacted will differ between projects. However, when considering the cumulative clearing (7.94 ha) of native vegetation and disturbance, it is anticipated that the impacts will not be locally or regionally significant. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
West Erregulla Field Development Program located 39 km north of the DE	To clear vegetation for the establishment of new infrastructure for gas transportation as part of the West Erregulla Field Development Program, approximately 40 km south-east of Dongara, Western Australia.	Stage 1 development active.	**Flora and Vegetation** • Up to 38.46 ha of native vegetation will be cleared within a 93.97 ha development envelope. • The area includes habitat for Threatened and Priority flora, such as *Paracaleana dixonii* (Sandplain Duck Orchid). • Vegetation communities are regionally significant, and some are in pristine to excellent condition, making them ecologically valuable. • Implementing a Construction Environmental Management Plan and a Rehabilitation and Offset Management Plan for the life of the project. **Terrestrial fauna** • Impacts include loss and fragmentation of fauna habitat, including the Carnaby's Black Cockatoo foraging habitat,	Due to the distance between the West Erregulla Field Development Program and the Proposal, it is anticipated that habitat, some species and local communities to be impacted will differ between projects. However, when considering the impacts associated with the Proposal against the clearing at the West Erregulla Field Development Program, the extent of clearing for the Proposal is very minor in comparison, suggesting cumulative impacts will not result in significant amplification of impacts. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur.

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
			and potentially the Malleefowl, Western Carpet Python, and Australian Bustard. • Potential for noise, light, and dust disturbance, groundwater drawdown. • Additional regional pressures from other gas developments, increasing the risk of habitat degradation, weed spread, and dieback introduction. **Social Surroundings** • Located ~50 km southeast of Dongara, WA, with low population density nearby. • Nearest sensitive receptor is ~4.6 km from the closest well site. • Impacts include amenity and visual landscape, rural landscape character alteration, noise, light and air quality including GHG, traffic access, bushfire risks and cumulative impact with noise, light and air quality.	On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Zemira 3D Seismic Survey located 20 km northwest of the DE	Clear native vegetation to undertake an onshore 3D seismic survey, near Eneabba, Western Australia.	There are no records indicating if the survey has been completed after the Commonwealth approvals.	**Flora and Vegetation** • Clearing of up to 1,000 ha of native vegetation. • The area includes conservation-significant flora, such as *Paracaleana dixonii* (Sandplain Duck Orchid). • Vegetation types range from Kwongan heathlands to lateritic shrublands, with some in excellent condition. **Terrestrial Fauna** • Potential impacts from clearing, noise, light, collision vehicle and plant movement. • Risks to fragmentation and increased predation. **Social Surroundings** Construction and operational noise, dust and vibration.	Given the proximity of the Zemira 3D Seismic Survey to the Proposal, it is anticipated that the habitats, species and local communities impacts will be similar. However, when considering the impacts associated with the Proposal against the clearing at the Zemira 3D Seismic Survey, the extent of clearing for the Proposal clearing is very minor in comparison, suggesting cumulative impacts will not result in significant amplification of impacts. Given the light, temporary operational disturbance associated with 3D Seismic Surveys, it is anticipated that cumulative impacts on social surroundings will be minor. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Jurien Gypsum Mining Operation MI70/1161 located 48 km southwest of the DE	Mining of a 53-hectare area and processing of approximately 1.3 million tonnes of gypsum recovered from Mining Lease 70/1161 using the facilities currently employed for operations in the adjacent Mining Lease 70/750.	Operational	**Flora and Vegetation** • Up to 53 ha proposed for mining, but approvals limited disturbance to 12.7 ha to protect sensitive ecosystems. • Potential loss of fringing vegetation. • Alteration of algal mat formation, which supports lake ecology. • Weed invasion and dieback spread from soil disturbance. • Potential for disturbance or degradation due to dredging and hypersaline water body formation. • Mining could affect waterbird feeding and nesting areas **Terrestrial Fauna** • Gypsum Lake is classified as a Conservation Category Wetland and is critical for local and migratory bords species.	Due to the distance between the Jurien Gypsum Mining Operation and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. Both proposals have been designed to avoid clearing of native vegetation, particularly sensitive ecosystems. In addition, both proposals will implement management measures to reduce potential impacts to flora and vegetation, Given the avoidance and management strategy and the distance between the two projects, it is considered unlikely that implementation of these projects will result in a significant cumulative impact to flora, vegetation and fauna habitat.

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
			• Indirect impacts (e.g. noise, vibration, dust) are considered low risk due to the intermittent nature of operations. • Changes to lake hydrology and algal mat formation could affect feeding and nesting patterns of waterbirds. However, monitoring has shown no significant adverse effects to date. **Social Surroundings** • Potential for visual and noise impacts. • Hydrological changes to Gypsum Lake. • Cultural heritage values linked to the reserve. • The project is part of a broader land-use mosaic, and cumulative impacts are managed through environmental offsets and rehabilitation planning.	Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Dongara Titanium Minerals Project located 45 km northwest of the DE	Develop and operate a mineral sands mine approximately 25 kilometres south-east of the township of Dongara in the Midwest Region of Western Australia.	Mining approvals secured, progressing toward construction	**Flora and Vegetation** • Native vegetation, terrestrial and GDEs clearing up to 1,200 ha. • Habitat for Priority Flora species and the Declared Rare Flora (DRF) species *Paracaleana dixonii* (Sandplain Duck Orchid). • Vegetation types include Banksia woodlands, scrub-heath, and wetland-associated communities. • Potential impacts include loss of habitat and fragmentation of vegetation units and potential reduction in regional connectivity, Groundwater drawdown. • Risks of dieback spread. • Existing pressures from agriculture and other mining in the Mid West region, potentially compounding biodiversity loss. • As part of MS 953, Tronox committed to land acquisition and habitat improvement over 2,600 ha to offset residual impacts. • A Wetland Research and Management Plan and vegetation monitoring program are in place to track and mitigate impacts. **Terrestrial Fauna** • Loss of habitat for Carnaby's Black-Cockatoo, a threatened species that forages in the area. • Potential disturbance to other fauna including Western Ground Parrot, Malleefowl, and Woma python. • Impacts include habitat loss, groundwater drawdown and vegetation structure changes, habitat corridors fragmentation, noise, dust and light during operations. **Social Surroundings** • The project supports local employment, contracting opportunities, and regional infrastructure through its supply chain. • It contributes to the Mid West economy, particularly in mining services and transport.	Due to the distance between the Dongara Titanium Minerals Project and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. However, when considering the impacts associated with the Proposal against the clearing at the Dongara Titanium Minerals Project, the extent of clearing for the Proposal clearing is very minor in comparison, suggesting cumulative impacts will not result in significant amplification of impacts. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
			• Impacts include amenity and visual landscape, noise and dust, traffic and access.	
Jurien East Road Upgrade located 42 km southwest of the DE	To clear vegetation for the upgrade of approximately 11.2 km of Jurien East Road, between Cockleshell Gully Road and Indian Ocean Drive, in the Wheatbelt Region of Western Australia	April 2025: substantially completed, but final status updates are still pending.	**Flora and Vegetation** • Clearing up to 2.4 ha of native vegetation, including Banksia Woodlands of the Swan Coastal Plain. • Loss of habitat for Priority Flora species, including *Stylidium maritimum* (Priority 3) and *Banksia nivea subsp. uliginosa* (Priority 4). • Risks for vegetation fragmentation, spread of dieback, weed invasion from soil disturbance. **Terrestrial Fauna** • Clearing affecting Carnaby's Black-Cockatoo foraging habitat. • Potential impacts with noise and vibration, vehicle movement, habitat loss. **Social Surroundings** • Impacts include visual and landscape, amenity and noise. • Surveys were conducted to avoid disturbance and heritage. • Community engagement led to offset requirements included acquisition of 15.71 ha of conservation land to be added to Nambung National Park.	Due to the distance between the Jurien East Road Upgrade and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. However, when considering the cumulative clearing (5.84 ha) of native vegetation and disturbance in comparison to the extent of native vegetation in the vicinity of the Proposal, it is anticipated that the impacts will not be locally or regionally significant. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.
Arrowsmith North Silica Sand Project located 39 km northwest of the DE	To clear native vegetation to develop a high-grade silica sand mine and associated infrastructure in the Geraldton Sandplain bioregion in the Arrowsmith area, Western Australia.	Expected to commence late 2025.	**Flora and vegetation** • Clearing of 299.1 ha of native vegetation. • Loss of individuals of Priority flora including *Paracaleana dixonii* (potential habitat) and potential habitat for significant species. • Loss of pristine native vegetation (rated >95% condition). • Risk of dieback spread due to soil disturbance. • Rehabilitation challenges due to fragile sandplain ecosystems. **Terrestrial Fauna** • Loss of foraging habitat for Carnaby's Cockatoo. • Displacement of fauna due to clearing and noise. • Risk to short-range endemic species from habitat fragmentation. • Rehabilitation may take up to 10 years to restore partial habitat value. **Social Surroundings** • Potential disturbance to Aboriginal heritage sites. • Visual impacts from mining infrastructure. • Increased traffic and noise during construction and operations. • Community concerns addressed through consultation and engagement.	Due to the distance between the Arrowsmith North Silica Sand Project and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. However, when considering the impacts associated with the Proposal against the clearing at the Arrowsmith North Silica Sand Project, the extent of clearing for the Proposal is minor in comparison, suggesting cumulative impacts will not result in significant amplification of impacts. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.

Project Title and Distance from Proposal DE	Project Description	Project Status	Relevant Neighbouring Project Impacts	Cumulative Assessment
West Erregulla 3D onshore seismic survey located 40 km north of the DE	A 3D onshore seismic survey (West Erregulla 3D Seismic Survey) and appraisal well (the West Erregulla-2 Appraisal Well) in the West Erregulla Field.	Survey completed. Rehabilitation and offset implementation on-going.	**Flora and vegetation** • Clearing of 70 ha of native vegetation. • Loss of habitat for 44 ha of threatened flora. • Fragmentation of intact vegetation corridors. • Risk of weed invasion and dieback spread. **Terrestrial Fauna** • Loss of 70 ha of foraging habitat for Carnaby's Cockatoo. • Increased risk of vehicle strikes, noise disturbance, and habitat fragmentation. • Potential disruption to breeding and movement corridors. **Social Surroundings** • Region used for agriculture, conservation, tourism, and mineral exploration. • Nearest sensitive receptor: ~4.6 km from well sites. • Cultural and community interest in maintaining landscape integrity.	Due to the distance between the West Erregulla 3D onshore seismic survey and the Proposal, it is anticipated that most habitat, species and local communities to be impacted will differ between projects. However, when considering the impacts associated with the Proposal against the clearing at the West Erregulla 3D onshore seismic survey, the extent of clearing for the Proposal is minor in comparison, suggesting cumulative impacts will not result in significant amplification of impacts. Due to the distance, it is anticipated that no cumulative Social Surroundings impacts will occur. On the basis of the above, these projects are not expected to result in significant cumulative impacts.

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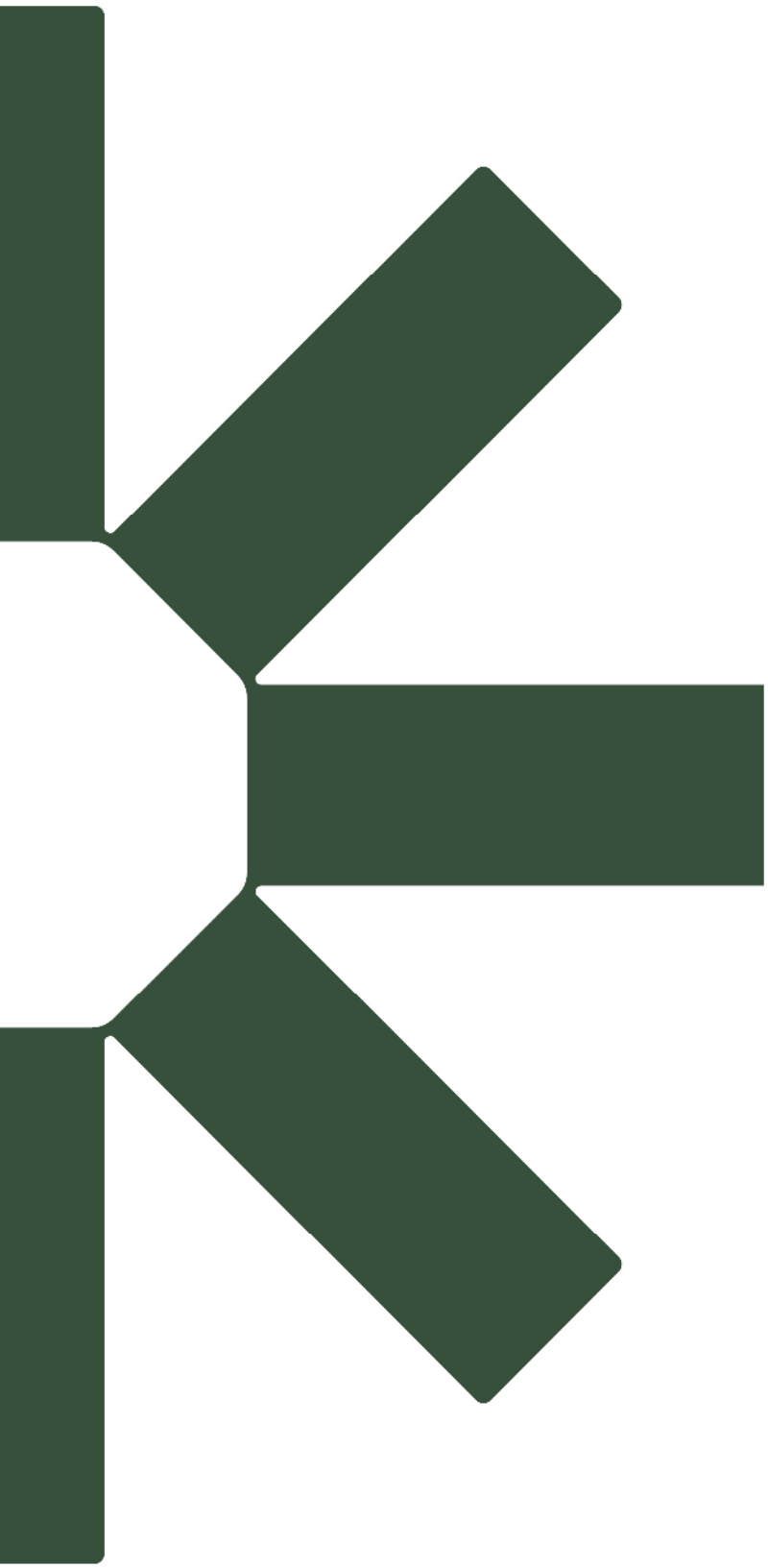

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