BIODIVERSITY MANAGEMENT PLAN

STUBBO SOLAR

BLUE SPRINGS ROAD, STUBBO NSW

JULY 2023

Report prepared by

OzArk Environment & Heritage

for Accent Environmental & ACEN Australia

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Acknowledgement

OzArk acknowledge Traditional Owners of the area to which this plan applies and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

GLOSSARY AND ABBREVIATIONS

BAM	Biodiversity Assessment Method (BAM)
BC Act	*Biodiversity Conservation Act, 2016* (NSW)
BCS	Biodiversity Conservation Science Division
BDAR	Biodiversity Development Assessment Report
BMP	Biodiversity Management Plan
DPIE	Department of Planning, Industry and Environment
DPE	Department of Planning and Environment
DoEE	Department of the Environment and Energy
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
EPC	Engineering, Procurement and Construction
Habitat tree	A tree containing hollows or nests
HSE	Health, Safety and Environment
IFC	Issued for Construction
NPW Act	*National Parks and Wildlife Act 1974*
O&M	Operation and Maintenance
OEH	Office of Environment and Heritage
POEO Act	*Protection of the Environment Operations Act 1997*
SSD	State Significant Development

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1 INTRODUCTION

1.1 PREAMBLE

This Biodiversity Management Plan (BMP) provides biodiversity and land management measures in relation to the Stubbo Solar Project (the project). The project is located approximately 10 kilometres (km) northeast of Gulgong, NSW, within the Mid-Western Regional Council local government area (LGA) boundaries.

ACEN Australia Pty Ltd (ACEN Australia; formerly UPC/AC Renewables Australia), received development consent from the Minister for Planning and Public Spaces for the project, approved as State Significant Development (SSD) 10452, on 29 June 2021.

On 29 June 2021, the Executive Director, Energy, Resources and Industry Assessments granted consent to the development application for the Stubbo Solar Farm subject to conditions, under delegation from the Minister for Planning and Public Spaces and section 4.38 of the Environmental Planning and Assessment Act 1979 (the Act).

In a letter dated 24 August 2022, the Secretary approved the Applicant's proposal to develop the project in two stages, comprising:

Stage 1: Road upgrades including construction of the main site access; and

Stage 2: Construction of the solar farm.

In a subsequent letter dated 10 May 2023, the Secretary approved the Applicant's request dated 8 May 2023 seeking the Planning Secretary's approval to revise the staging of the Stubbo Solar Project under Condition 3 of Schedule 4 of SSD-10452, and to develop the project in four stages comprising:

- Stage 1: Road upgrades (Blue Springs Road) and construction of the main site access.
- Stage 2: Solar project construction and operation including:
- Stage 2a: Construction and commissioning of the solar facilities including solar array, substation and all ancillary infrastructure, including the switchyard and transmission line connection to be constructed by Transgrid.
- Stage 2b: Operation of the Stubbo Solar Project.
- Stage 3: Construction, commissioning and operation of the Battery Energy Storage System (BESS), including substation and switchyard expansion (within the development footprint).
- Stage 4: Decommissioning of the Stubbo Solar Project at end of life.

This management plan is for Stage 2a and 2b of Stubbo Solar, as approved by the Secretary in the letter dated 10 May 2023.

Key activities for Stage 2a include:

- Site compound
- Fencing works, including security fencing;
- Access roads including drainage and rehabilitation;
- Solar arrays that include:
- General site wide cut to fill earthworks
- Piling installation
- Tracker installation
- Above ground and below ground cable installation and termination
- Module installation
- Substation, Switchyard and control buildings works that includes:
- Earthworks
- Structures and Footings
- Gantries and HV Switchgear
- Transformer installation and connection (Substation only)
- Control building installations (both Substation and Switchyard)
- Operations & maintenance building, including warehouse facility;
- Cold Commissioning works;
- Hot Commissioning works including Hold Point testing for compliance to AEMO requirements;
- Site wide rehabilitation;
- All other associated infrastructure.

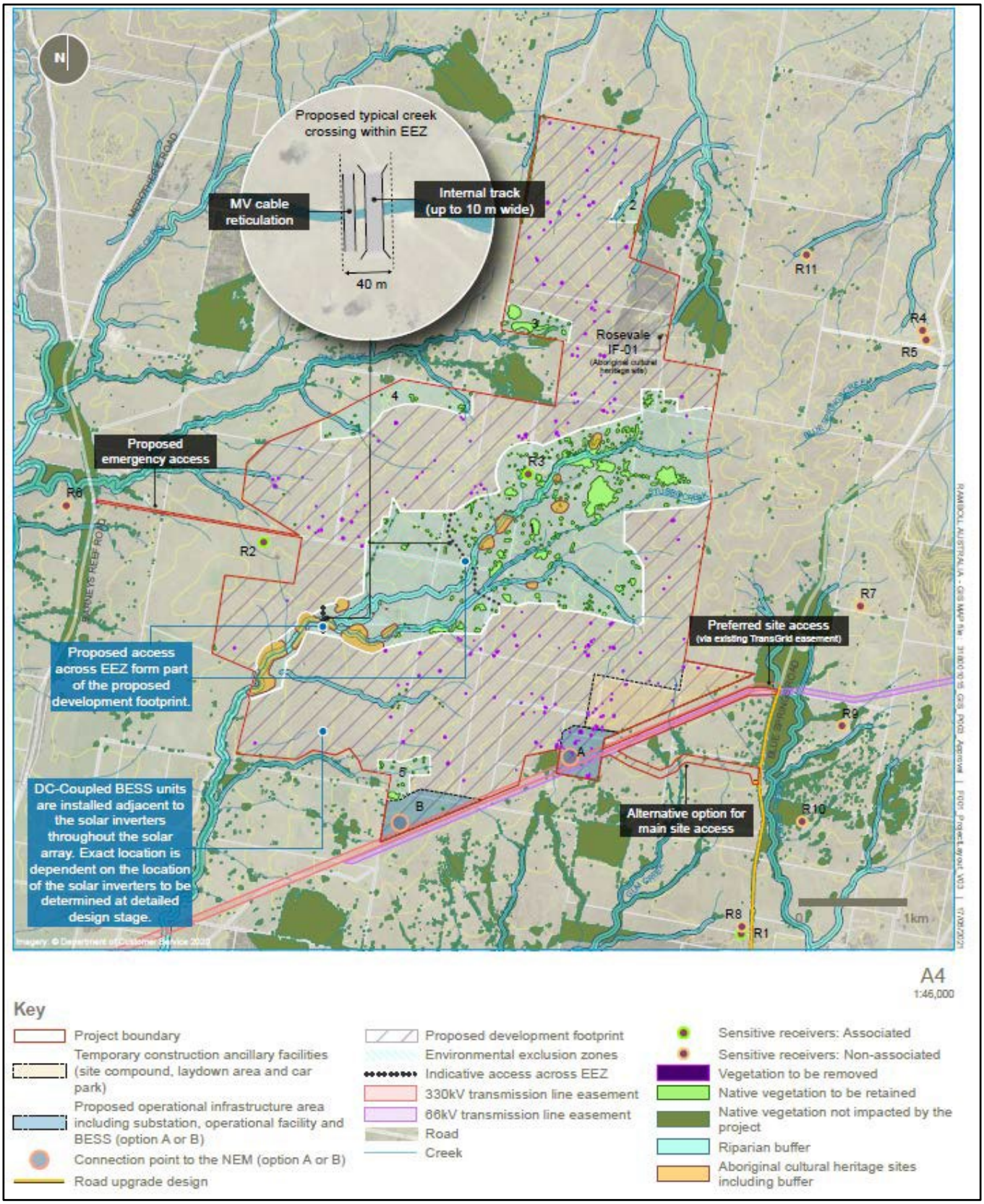
Key activities for Stage 2b include:

- Operation and Maintenance of the facility

Both PCL Pacific Rim (EPC Contractor) and Transgrid (Transmission line establishment) and ACEN will ensure PCL and Transgrid conform to the requirements of this BMP.

The BMP for stage 1 has been approved by the DPE. As such, this BMP applies only to Stage 2 of the project. The BMP boundary relevant to Stage 2 is shown on Figure **11**. There will be no impacts outside this boundary.

Figure 1-1: General layout of development (source: Development Consent, Appendix 1).



1.2 SCOPE

This BMP has been prepared as a tool to give consideration to and manage biodiversity related issues during the construction and operation of the Project. This BMP does not cover the decommission phase of the Project. The BMP will be revised prior to the commencement of decommissioning to incorporate this phase. This BMP will be used by all Project employees, contractors, sub-contractors and visitors as the first point of reference for biodiversity related issues. This BMP also serves to inform the public on how matters relating to biodiversity will be dealt with on the Project site in compliance with the conditions of Development Consent.

1.3 PURPOSE

The purpose of this BMP is to document the strategies to be employed for the management of remnant vegetation, fauna and their habitat on the Project site and ensure compliance with the Conditions of Consent for SSD 10452.

In accordance with Schedule 2, Condition 1, ACEN Australia, as the Applicant, commits to meeting the specific environmental performance criteria established under SSD 10452, and will implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, upgrading or decommissioning of the development.

ACEN has engaged PCL Construction Pacific Rim Pty Ltd (PCL) as the engineering, procurement and construction (EPC) contractor to manage the works for the 400 MW AC solar project, solar project substation and ancillary operational facilities.

ACEN has also engaged Transgrid to connect the Project to the transmission network used by Transgrid to provide transmission services, which includes certain works that need to be completed by Transgrid to enable Transgrid to connect the Project to the transmission network.

The BMP has been prepared to meet the requirements of Condition 12 (Land Management) and Condition 15 (Biodiversity) in Schedule 3 of the Development Consent SSD 10452 (**Appendix 1**). **Table 2-2** identifies where each requirement is addressed in this BMP.

Additionally, Conditions 13 (Vegetation Clearance) and Condition 14 (Biodiversity Offsets) are also referenced within this document but are sourced in **Appendix 1**.

1.4 PROJECT OVERVIEW

The Project, approved as SSD-10452, comprises a utility scale renewable energy project which aims to generate up to 400 MW of electricity (enough to power approximately 185,000 homes) through a new solar project. Depending upon the final installation capacity, up to one million megawatt hours of electricity are expected per year. The project also includes provision for a 200 MWh battery energy storage system, meaning it can provide energy during peak hours and improve grid stability.

The solar project will consist of ground mounted solar photovoltaic (PV) modules, known more commonly as PV modules or solar panels. The panels will be mounted in rows on a single axis tracking system that follows the path of the sun and installed between 5 and 12 metres apart. This will allow for safe access for maintenance and provide grassfire protection. Development of associated infrastructure, including a grid connection, future battery storage facilities and temporary construction facilities (such as material storage yards and a site compound) are also proposed within the site. Stubbo Solar will connect to the existing 330 kV transmission line operated by Transgrid.

1.5 THE APPLICANT

The Applicant (proponent) for the Stubbo Solar project is ACEN Australia. ACEN has engaged PCL Constructors Pacific Rim (PCL) as the Engineering, Procurement and Construction (EPC) contractor to construct the Project.

ACEN has also engaged Transgrid to connect the Project to the transmission network used by Transgrid to provide transmission services, which includes certain works that need to be completed by Transgrid to enable Transgrid to connect the Project to the transmission network.

1.6 PCL'S ENVIRONMENTAL MANAGEMENT DOCUMENTATION

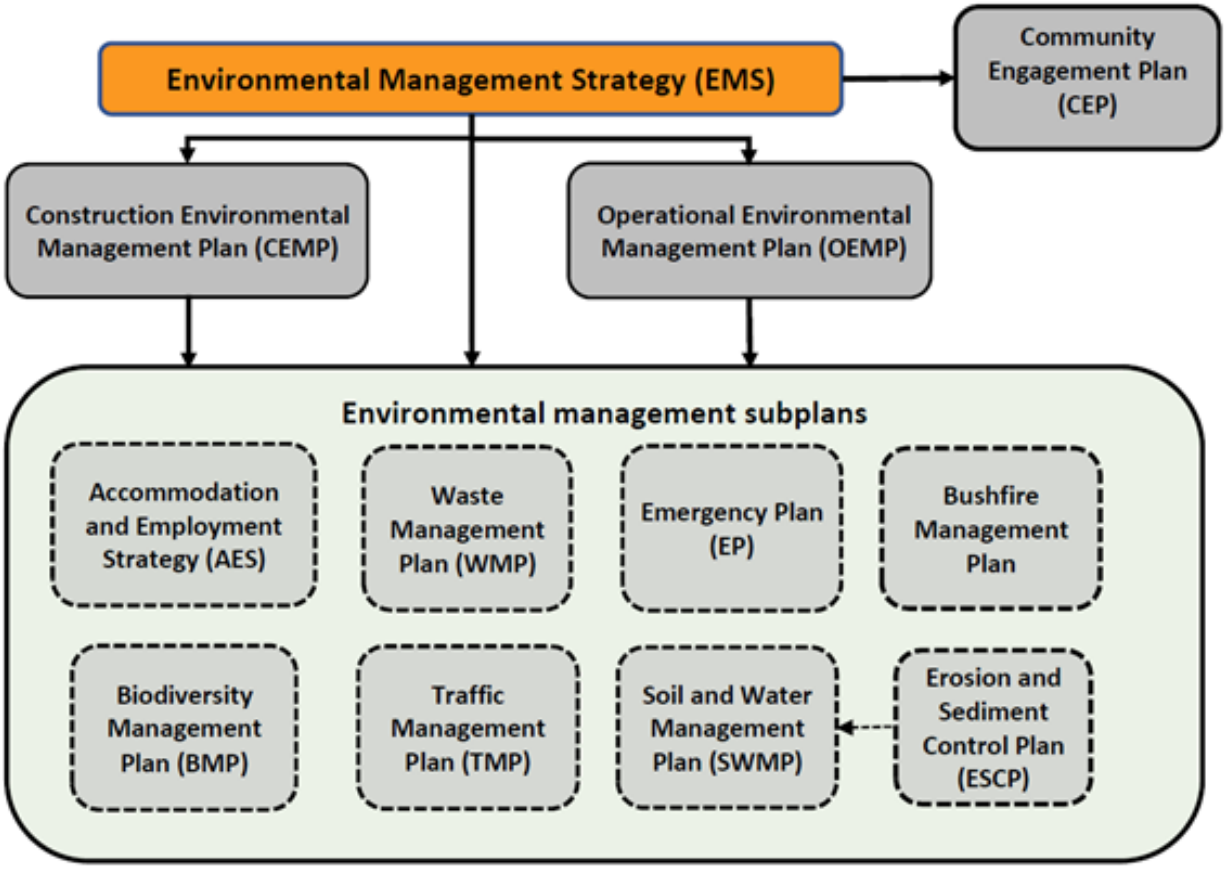
ACEN is the Proponent and ultimately takes responsibility for compliance with SSD-10452. This responsibility is reflected in the management plans, programs and strategies developed for the project.

As both PCL and Transgrid have been contracted by ACEN to undertake construction of the Stubbo Solar Project, the PCL and TransGrid adopted environmental and related policies/standards will comply with, and where possible exceed, the minimum standards set by ACEN in the EMS.

The purpose of the EMS is to provide a framework for compliance with the Conditions of Consent and the management of environmental issues associated with the Project. The EMS includes a number of plans and strategies that have been put in place to manage environmental impacts that

may arise from the construction and/or operation of the project – including this BMP – as shown in **Figure 1-2.**

Figure 1-2: Flowchart of the environmental management system.



1.7 OTHER REFERENCE DOCUMENTS

The Biodiversity Development Assessment Report (BDAR) (Eco Logical Australia Pty Ltd 2020) was used substantially in the development of this BMP.

1.8 ROLES AND RESPONSIBILITIES

1.8.1 Construction Phase

Whilst the construction of the Project is occurring, the following roles and responsibilities will apply:

Table 1-1: Construction roles and responsibilities

Role	Responsibility	Contact details of staff (to be updated regularly)
ACEN Project Manager	• Overall accountability for the compliance with the Development Consent conditions • Overall accountability for ensuring ACEN, PCL and Transgrid comply with the Development Consent conditions and the Management Protocols • Responsible for external reporting of incidents, non-compliances and complaints • Protocols 1,2,3,4,5,6,7,8,13,14,15	• Michael Yeo • 0427 776 873 • Michael.yeo@acenrenewables.com.au
PCL Lead Project Manager	• Overall accountability for the implementation of the BMP • Ensure that all works on site are undertaken in compliance with the BMP • Implementing the procedures and protocols contained in the BMP • Provide induction education and contact with all employees and contractors on issues. • Analysis of monitoring results and inclusion in reporting. • Timely reporting of environmental monitoring data. • Organise revisions of the plan as necessary. • Ensure that all training, auditing, reporting and incident management requirements are met. • Protocols 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	• Behzad Farzipour • 0499 495 455 • bfarzipour@pcl.com
PCL Lead Construction Manager	• Ensure all site personnel (including contractors and sub-contractors) have received the appropriate inductions and training for their responsibilities. • Ensure controls provided in the Management Protocols of the BMP are implemented. • Report any incidences or complaints immediately to the PCL Lead Project Manager. • Provide feedback on the adequacy and effectiveness of the BMP. • Protocols 1,2,3,4,5,6,7,9,12,13,14	• Mark Wintle • 0475 824 441 • mwintle@pcl.com
PCL Health, Safety and Environment (HSE) Manager	• Organise pre-clearance surveys by the Subcontractor - Project Ecologist to identify habitat trees and evidence of fauna use. • Organise Subcontractor - Project Ecologist to supervise habitat tree clearing. • Organise Subcontractor - Project Ecologist to manage fauna impacted by habitat tree clearing • Identify if the BMP needs to be reviewed and updated. • Conduct regular inspections of the work area to monitor compliance with the BMP. • Coordinate the review of the BMP. • Oversee monitoring requirements as per Table 4-2. • Protocols 1,2,3,4,5,6,7,9,12,13,14	• Jennifer Klease • 0488 754 667 • jklease@pcl.com

Subcontractor - Project Ecologist	• Conduct pre-clearance surveys to identify habitat trees actively being used by fauna • Attend habitat tree clearing events to detect and capture any disturbed wildlife. • Relocate displaced fauna as appropriate • Provide advice on vertebrate pest management • Conduct fence monitoring during construction and post-construction if required. • Pre-clearance weeds identification and mapping • Participate in review of BMP • Protocols 1,2,3,4,5,6,7,9 • Provide formal "sign off" prior to clearing or ground disturbance activities to ensure that all relevant protocols are followed	• Subcontractor to be determined and engaged prior to construction
All PCL contractors and sub-contractors	• Ensure the implementation of the BMP with respect to their specific work practices. • Act in accordance with the management procedures or protocols outlined in the BMP. • Ensure any potential or actual issues, including environmental incidents and non-compliances, are reported to the immediate supervisor.	• Compliance at all times
Transgrid HSE Advisor (or equivalent)	• Ensure all Transgrid personnel (and sub-contractors) have received the appropriate inductions and training for their responsibilities. • Ensure controls provided in the Management Protocols of the BMP are implemented. • Report any incidences or complaints immediately to the PCL Lead Project Manager. • Provide feedback on the adequacy and effectiveness of the BMP. • Protocols 1,2,3,4,5,6,7,9,12,13,14	• To be provided

Transgrid's extent of work is confined to the substation site and a short length of overhead powerline within a defined easement. Once initial clearing of the site and easement have occurred Transgrid's impact on biodiversity will be minimal. However, they will manage biodiversity issues relating to their component of work, including vegetation clearance and weed pest animal management, in accordance with relevant procedures in this BMP and in accordance with relevant Conditions of Consent. The Transgrid HSE or equivalent will be responsible for monitoring the BMP and liaising with the PCL HSE to identify and deficiencies, opportunities for improvement and potential revisions.

1.8.2 Operational Phase

During the operational phase, the following roles and responsibilities as shown in **Table 1-2** will apply. The contact details of the O&M staff will be provided closer to O&M phase commencing.

Table 1-2: Operation roles and responsibilities.

Role	Responsibility	Contact details of staff (to be updated regularly)
ACEN Site Manager	• Overall accountability for the compliance with the Development Consent conditions • Overall accountability for ensuring ACEN, PCL and Transgrid comply with the with the Development Consent conditions and the Management Protocols • Responsible for external reporting of incidents, non-compliances and complaints • **Note: Non-compliances which have been notified as an incident do not need to also be notified as a non-compliance.**	• Name: • Number: • Email:
O&M Supervisor	• Overall accountability for the implementation of the BMP • Ensure that all works on site are undertaken in compliance with the BMP. • Ensure monitoring responsibilities in accordance with the BMP. • Undertake consultation with relevant organisations or the Subcontractor - Project Ecologist regarding operational activities which may impact biodiversity values (e.g. weed control, tree trimming). • Ensure that all training, auditing, reporting and incident management requirements are met. • Organise fence monitoring • Coordinate review of the BMP • Protocols 3,5,6,7,8,9,10,11,12,13,14	• Name: • Number: Email:
O&M Contractors	• Ensure the implementation of the BMP with respect to their specific work practices. • Act in accordance with the management procedures or protocols outlined in the BMP. • Ensure any potential or actual issues, including environmental incidents, are reported to the immediate supervisor.	• To be managed by O&M Supervisor
Subcontractor - Project Ecologist	• Partake in fence monitoring • Monitor fauna mortality • Monitor remnant vegetation • BMP review in consultation with O&M Supervisor and ACEN • Protocols 3,5,6,	• To be engaged separately or activities completed by O&M Supervisor when required

1.8.3 Document Review

The BMP will be reviewed three years after operation of the Stubbo Solar Project commences, as required under Condition 2 of Schedule 4 of the development consent SSD 10452. This will be undertaken by the Project Ecologist, O&M Operator and ACEN.

The BMP will be:

(a) updated to the satisfaction of the Planning Secretary prior to carrying out any upgrading or decommissioning activities on site; and

(b) reviewed and, if necessary, revised to the satisfaction of the Secretary within 1 month of the:

- submission of an incident report under Condition 7 of Schedule 4 of the development consent SSD 10452;
- submission of an audit report under Condition 9 of Schedule 4 of the development consent SSD 10452; or
- any modification to the conditions of this consent.

Any modification to the BMP triggered by Condition 2 Schedule 4 during construction will be undertake by the Project Ecologist, PCL HSE Manager and TransGrid HSE Manager. Following commencement of operations if required any reviews will be undertaken by the Project Ecologist, O&M Manager and ACEN.

1.9 BCS (DPE) CONSULTATION

In accordance with Condition 15 of Schedule 3 of Development Consent SSD 10452, the Biodiversity Conservation and Science Directorate (BCS) of the Department of Planning and Environment (DPE) was consulted in January 2023 by the subcontractor OzArk Environment & Heritage on behalf of PCL in regard to the required contents for this BMP. OzArk provided DPE with a copy of proposed maps of vegetation clearance for their review on 2 February 2023 (see section 3.3). DPE received a draft of the BMP to review on 8 February 2023. OzArk Environment & Heritage has incorporated the BCS review comments into the BMP (**Appendix 3**).

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2 LEGAL AND OTHER REGULATORY REQUIREMENTS

2.1 PROJECT CONSENT CONDITIONS

As stated in Section 1, this BMP is a condition of the Development Consent SSD 10452 granted on 29 June 2021. Conditions of Development Consent relevant to the BMP are provided in **Appendix 1**.

Table 2-1 details the biodiversity conditions relevant to SSD 10452, with condition 15 listing the requirements for the Biodiversity Management Plan.

Table 2-1: Relevant consent conditions.

Condition of Approval	Requirements	BMP Section
Schedule 2 Condition 1	**OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT** In meeting the specific environmental performance criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, upgrading or decommissioning of the development.	Section 1.3
Schedule 2 Condition 2	**TERMS OF CONSENT** The applicant must carry out the development: a. generally in accordance with the EIS; and b. in accordance with the conditions of this consent [SSD 10452]; *Note: The general layout of the development is shown in in Appendix 1* [of SSD 10452].	Section 2.2
Schedule 3 Condition 12	**LAND MANAGEMENT** The Applicant must maintain the agricultural land capability of the site, including: (a) establishing the ground cover of the site within 3 months following completion of any construction or upgrading; (b) properly maintaining the ground cover with appropriate perennial species and weed management; and (c) maintaining grazing within the development footprint, where practicable, unless the Planning Secretary agrees otherwise.	Section 1.4 Section 3.1 Section 4.5 Section 4.10 Section 6.5
Schedule 3 Condition 13	**BIODIVERSITY** ***Vegetation Clearance*** The Applicant must not clear any native vegetation or fauna habitat located outside the approved disturbance areas described in the EIS.	Section 2.2 Protocol 1 Protocol 2 Protocol 13
Schedule 3 Condition 14	**BIODIVERSITY** ***Biodiversity Offsets*** In accordance with the timing in Table 1, the Applicant must retire biodiversity credits of a number and class specified in Table 2 and Table 3 below, unless the Planning Secretary agrees otherwise. The retirement	Section 5

	of these credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme and can be achieved by: (a) acquiring or retiring 'biodiversity credits' within the meaning of the Biodiversity Conservation Act 2016; (b) making payments into an offset fund that has been developed by the NSW Government; or (c) funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the biodiversity offset scheme ***Table 1:*** *Timing for retirement of biodiversity credits* ***Project element*** / ***Timing*** Road Upgrades / Prior to commencing road upgrades Project Site / Prior to commencing construction ***Table 2:*** *Ecosystem Credit Requirements* ***Vegetation Community*** / ***PCT ID*** / ***Credits Required*** (***Road Upgrades*** / ***Project Site***) Western Grey Box – cypress pine shrub grass shrub tall woodland / 81 / 40 / - White Box grassy woodland / 266 / 1 / - Rough-Barked Apple – Red gum – Yellow box woodland / 281 / 89 / 354 Slaty Gum woodland (Moderate – good) / 1177 / 19 / - Narrow-leaved Ironbark – Red Stringybark – Black pine woodland / 1770 / - / 2 ***Table 3:*** *Species Credit Requirements* ***Species Credit Species*** / ***Credits Required*** (***Road Upgrades*** / ***Project Site***) Acacia ausfeldii (*Ausfeld's Wattle*) / 152 / - Diuris tricolor (*Pine Donkey Orchid*) / 114 / - Grevillea wilkinsonii (*Tumut Grevillea*) / 229 / - Small Purple-pea (*Swainsona recta*) / 152 / - Silky Swainson-pea (*Swainsona sericea*) / 152 / - Major Mitchell's Cockatoo (*Lophochroa leadbeateri*) / 152 / - Gang-gang Cockatoo (*Callocephalon fimbriatum*) / 152 / - Glossy Black-Cockatoo (*Calyptorhynchus lathami*) / 152 / - Sloane's Froglet (*Crinia sloanei*) / 114 / - Brush-tailed Phascogale (*Phascogale tapoatafa*) / 152 / - Powerful Owl (*Ninox strenua*) / 152 / - Barking Owl (*Ninox connivens*) / 152 / 279 Superb Parrot (*Polytelis swainsonii*) / 152 / - Masked Owl (*Tyto novaehollandiae*) / 152 / - On 7 June 2022, the Biodiversity Offsetting Targets of Condition 14 were revised, as set out in the Tables below. See Appendix 4 for approval letter from DPE. ***Table 1****: Ecosystem Credit Requirements* ***PCT ID*** / ***Credits Required*** (***Road Upgrades*** / ***Project Site***) 81 / 40 / - 266 / 2 / - 281 / 111 / 354 1177 / 19 / - 1770 / - / 2 ***Table 2****: Species Credit Requirements* ***Species Credit Species*** / ***Credits Required*** (***Road Upgrades*** / ***Project Site***) Barking Owl *(Ninox connivens)* / - / 195	
Schedule 3 **Condition 15**	**BIODIVERSITY** ***Biodiversity Management Plan*** Prior to commencing road upgrades, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with BCS, and to the satisfaction of the Planning Secretary. This plan must:	A separate Biodiversity Management Plan was prepared for Stage 1 Road Upgrades and approved by DPE on 29 September

		2022. A copy of the DPE approval is provided in Appendix 5.
	a. include a description of the measures and timeframes that would be implemented for:	
	• protecting vegetation and fauna habitat outside the approved disturbance areas;	**Section 1.8, Section 4 (including Tables 4.1, 4.2 and 4.3 Protocol 1 Protocol 2 Protocol 3 Protocol 4 Protocol 5 Protocol 6 Protocol 7 Protocol 8 Protocol 9 Protocol 10 Protocol 11 Protocol 12 Protocol 13 Protocol 14**
	• managing the remnant vegetation and fauna habitat onsite;	**Section 1.8, Section 4 (including Tables 4.1, 4.2 and 4.3 Protocol 1 Protocol 2 Protocol 3 Protocol 4 Protocol 5 Protocol 6 Protocol 7 Protocol 8 Protocol 9 Protocol 10 Protocol 11 Protocol 12 Protocol 13 Protocol 14**

	• minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development;	**Section 1.8, Section 4 (including Tables 4.1, 4.2 and 4.3 Protocol 1 Protocol 2 Protocol 3 Protocol 4 Protocol 7 Protocol 9 Protocol 13**
	• minimising the impacts to fauna on site and implementing fauna management protocols;	**Section 1.8, Section 4 (including Tables 4.1, 4.2 and 4.3 Protocol 1 Protocol 2 Protocol 3 Protocol 4 Protocol 5 Protocol 6 Protocol 7 Protocol 9 Protocol 10 Protocol 12 Protocol 13**
	• avoiding the removal of hollow-bearing trees during spring to avoid the main breeding period for hollow-dependent fauna;	**Section 1.8, Section 4 (including Tables 4.1, 4.2 and 4.3 Protocol 1 Protocol 2**
	• rehabilitating and revegetating temporary disturbance areas with species that are endemic to the area;	**Section 1.8, Section 4 (including Tables 4.1, 4.2 and 4.3 Protocol 1 Protocol 2 Protocol 3 Protocol 4 Protocol 9 Protocol 13 Protocol 15**
	• maximising the salvage of vegetative and soil resources within the approved disturbance area for beneficial reuse in the	**Protocol 1 Protocol 2 Protocol 3**

	enhancement or the rehabilitation of the site; and controlling weeds, feral pests and pathogens;	**Protocol 4** **Protocol 5** **Protocol 6** **Protocol 7** **Protocol 8** **Protocol 9** **Protocol 13**
	b. include a program to monitor and report on the effectiveness of mitigation measures; and	**Section 1.8,** **Section 4** **(including Tables 4.1, 4.2 and 4.3)**
	c. include details of who would be responsible for monitoring, reviewing and implementing the plan.	**Section 1.8,** **Section 4** **(including Tables 4.1, 4.2 and 4.3)** **Protocol 1** **Protocol 2** **Protocol 3** **Protocol 4** **Protocol 5** **Protocol 6** **Protocol 7** **Protocol 8** **Protocol 9** **Protocol 10** **Protocol 11** **Protocol 12** **Protocol 13** **Protocol 14** **Protocol 15**
	Following the Planning Secretary's approval, the Applicant must implement the Biodiversity Management Plan. *Note: If the biodiversity credits are retired via a Biodiversity Stewardship Agreement, then the Biodiversity Management Plan does not need to include any of the matters that are covered under the Biodiversity Stewardship Agreement*.	

2.2 PROJECT COMMITMENTS

In addition to the consent conditions, a number of commitments were made in the BDAR (Eco Logical 2020) as part of the Environmental Impact Statement (EIS), and as the EIS was the basis for Development Consent, these commitments must be adhered to. The commitments that pertain to biodiversity management are presented in **Table 2-2**. The table identifies all the commitments

relating to biodiversity impact and identifies where in the BMP individual requirements have been addressed.

Table 2-2: Consolidated EIS and Amendment report commitments relevant to BMP.

ID	Management/Mitigation measure – biodiversity	Section in this BMP
B1	*Clearing protocols will be developed that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance (e.g. removal of native vegetation by chainsaw instead of heavy machinery where only partial clearing is proposed).*	Protocol 1 – Vegetation Clearing Procedure Protocol 2 – Habitat Tree Removal Protocol 3 – Management of Displaced Fauna Protocol 4 – Stockpiles and Re-using Resources as Woody Debris
	Fencing (or other barriers as required) and signage will be placed around those areas of vegetation to be maintained to prevent any accidental construction damage and provide a permanent barrier between the development footprint and retained areas.	Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones
	The type of fencing during construction may be of a temporary nature and scale that is robust enough to withstand damage during this stage of work.	Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones
	Use of appropriate machinery, to achieve directional felling. Away from retained / exclusion areas. This may include an excavator fitted with a swivel bucket, a forestry feller buncher attachment, or manually falling with a chainsaw for vegetation removal adjacent to retained areas.	Protocol 1 – Vegetation Clearing Procedure Protocol 2 – Habitat Tree Removal
B2	*Pre-clearance surveys will be undertaken prior to tree clearing.*	Protocol 1 – Vegetation Clearing Procedure Protocol 2 – Habitat Tree Removal
	Active breeding or nesting identified during pre-clearance surveys will be avoided in August, September and October which is the breeding/nesting period for most fauna species.	Protocol 1 – Vegetation Clearing Procedure Protocol 2 – Habitat Tree Removal (Please note that the Condition of Consent references vegetation clearing not being permitted in Spring (September – November). Therefore, these months are used in Protocols 1 and 2.

	A qualified ecologist/licenced wildlife handler will supervise tree removal in accordance with best practise methods.	Protocol 3 – Management of Displaced Fauna
B3	*A procedure will be developed for the relocation of habitat features (e.g. fallen timber, hollow logs) to adjacent retained habitat.*	Protocol 4 – Stockpiles and Re-using Resources as Woody Debris
B4	*Monitoring will be undertaken within the environmental exclusion zones to ensure biodiversity values are not significantly affected by indirect impacts. This may include:* *comparison against EIS baseline monitoring* *consideration of natural seasonal variation* *development of trigger values for the commencement of adaptive management actions* *details of proposed adaptive management actions to reduce or eliminate recorded impacts.*	Table 4-2: Trigger, Action, Response, Monitoring and reporting requirements during Construction. Table 4-3: Trigger, Action, Response, Monitoring and reporting requirements during Operation.
B5	*Appropriate controls will be implemented to manage exposed soil surfaces and stockpiles to prevent sediment discharge into waterways.*	Protocol 4 – Stockpiles and Re-using Resources as Woody Debris Protocol 8 – Erosion and Sediment Control Protocol 15 – Waterway Crossings
	All works within proximity to the drainage lines will have adequate sediment and erosion controls (e.g. sediment barriers, sedimentation ponds)..	Protocol 8 – Erosion and Sediment Control
	Commence revegetation within 10 days of completion of any construction or upgrading activities and establish ground cover within 3 months to minimise the risk of erosion (see SWMP)	Protocol 9 – Dust Control / Rehabilitation Section 4.10
B6	*Construction works will only be undertaken in accordance with the Conditions of Consent. Lights associated with operation will be directional to avoid unnecessarily shining light into adjacent retained vegetation where possible.*	Protocol 10 – Lighting Design
B7	*Dust suppression measures will be implemented to limit dust onsite. Revegetation will also be commenced as soon as practicable to minimise areas likely to create dust.*	Protocol 9 – Dust Control / Rehabilitation

B8	*All machinery will be cleaned prior to entering and exiting the study area to minimise the transport of weeds to vegetated areas to be retained.*	Protocol 12 – Vehicle Hygiene Procedure
	Weeds that are present within the study area that are listed under the NSW Biosecurity Act 2015 will be managed.	Protocol 5 – Weed Management
B9	*All personnel working on the project will undertake an environmental induction as part of their site familiarisation. This will include:*	
	• *site environmental procedures (vegetation management, sediment and erosion control, exclusion fencing and noxious weeds)*	Protocol 1 – Vegetation Clearing Procedure Protocol 2 – Habitat Tree Removal Protocol 3 – Management of Displaced Fauna Protocol 4 – Stockpiles and Re-using Resources as Woody Debris Protocol 5 – Weed Management Protocol 7 – Fence Construction and Management Protocol 8 – Erosion and Sediment Control Protocol 12 – Vehicle Hygiene Procedure Protocol 13 – Exclusion Fencing/Exclusion Zones
	• *what to do in case of environmental emergency (e.g. chemical spills, fire, injured fauna)*	Protocol 11 – Chemical Management Emergency Plan Section 4.3.1
	• *key contacts in the case of an environmental emergency.*	Table 4-3. Response Agency Contact Details.
B10	*A Traffic Management Plan will be developed which includes speed limits and controls to reduce risk of fauna strike. Any vehicle strike incidents will be recorded.*	Traffic Management Plan Protocol 3 – Management of Displaced Fauna
B11	*A strategy will be developed and implemented to protect vegetation and habitat adjacent to the project. This will outline the following:*	
	• *rubbish disposal guidance*	Protocol 13 – Exclusion Fencing / Exclusion Zones

		Waste Management Plan
	• *prohibition of wood collection*	Protocol 13 – Exclusion Fencing / Exclusion Zones
	• *prohibition of lighting of fires*	Protocol 13 – Exclusion Fencing / Exclusion Zones
	• *exclusion zones for native vegetation outside the development footprint*	Protocol 13 – Exclusion Fencing / Exclusion Zones
	• *speed limits on the surrounding road network*	Traffic Management Plan
B12	*Suitable species will be used as ground cover species in any revegetation areas. This will ensure compliance with the principles of site rehabilitation contained in Kovac and (Briggs 2013).*	Protocol 9 – Dust Control / Rehabilitation Section 4.10
B13	*All waterway crossings will be designed in accordance with Policy and Guidelines for Fish Friendly Waterway Crossing (DPI, n.d.) where appropriate.*	Protocol 15 – Waterway Crossings
B14	*Vegetation removal for the road upgrade and access road construction has been completed. Ongoing trimming of vegetation may be required during site construction.*	Stage 1 BMP
LU1	Land management within the study area will include measures to minimise impacts to surrounding agricultural land use with reference to DPI's publication Infrastructure proposals on rural land (Kovac, M and Briggs, G, 2013). These measures will also be implemented during operation of the project and will include strategies to minimise impacts of aerial spraying. The land management measures will aim to minimise impacts on:	A Land Use Conflict Risk Assessment was undertaken during the preparation of the EIS, which addressed the issued covered in Kovac and Briggs 2013.
	• land and soil capability within the development footprint	Section 3.1
	• biosecurity both at a local and regional level	Protocols 5 and 12
	• soil erosion	Addressed in SWMP
	• surface water runoff	Addressed in SWMP
	• agricultural activities on neighbouring properties.	Addressed in EIS

LU2	Biosecurity management will include:	
	• measures to manage the impacts of weeds, disease and pest animals during construction, operation, and decommissioning activities	Protocol 5 – Weed Management Protocol 12 – Vehicle Hygiene Procedure
	• biosecurity response measures where impacts are identified	Protocol 5 – Weed Management Protocol 12 – Vehicle Hygiene Procedure Table 4-2
	• contingency measures in the event that existing measures are inadequate in managing the risk/impact.	Protocol 5 – Weed Management Protocol 12 – Vehicle Hygiene Procedure Table 4-2
LU3	Consultation will be undertaken with Mid-Western Regional Council, DPIE and other relevant stakeholders including mining and exploration licence holders, and native title claimants where relevant in order to identify potential impacts on surrounding land uses and develop measures to address concerns.	Native Title claimants were consulted as part of the Registered Aboriginal Parties process. The one mining and exploration licence holder was consulted as part of the EIS process. The licence has been removed and there are no current (as at 8 June 2023) mining or exploration licences located within the vicinity of the project site. ACEN and Mid-Western Regional Council are in constant dialogue regarding the project, including the Accommodation and Employment Strategy (AES).
LU4	Consultation will continue to be undertaken with participating landholders to minimise disruption to agricultural activities during construction and operation.	ACEN and the participating landholders are in constant dialogue regarding the project to minimise impacts to agricultural activities such as fencing realignment plans and has entered into grazing licences to facilitate this.

LU5	Options will be further investigated to consider the feasibility of grazing within the study area throughout operation, in consultation with landholders.	Grazing will be undertaken in line with the "Australian guide to agrisolar for large-scale solar for proponents and farmers" and in consultation with the host landholders
LU6	A decommissioning and rehabilitation plan will be prepared and submitted to Mid-Western Regional Council for approval within 5 years of the commencement of operation that outlines the rehabilitation objectives and strategies to return the study area to its pre-existing condition for agricultural land use. This will include but not be limited to: • rehabilitation objectives and strategies • describing the design criteria of the final land use and landform • performance indicators to be used to guide the return of the land back to agricultural production • expected timeline for the rehabilitation program. The plan will be reviewed every 5 years, so that it is readily available should operations cease earlier than planned.	This BMP is for Stage 2 – Construction and Operation

2.3 LEGISLATION

PCL will conduct the Project consistent with the requirements of the Development Consent and any other legislation that is applicable to an approved State Significant Development under the *Environmental Planning and Assessment Act, 1979* (EP&A Act).

In addition to the statutory obligations described in Section 2.1, the following NSW Acts (and their Regulations) may be applicable to the conduct of the Project:

- *Biodiversity Conservation Act, 2016* (BC Act)
- *Biosecurity Act, 2015*
- *Crown Lands Management Act, 2016*
- *Contaminated Land Management Act, 1997*
- *Dangerous Goods (Road and Rail Transport) Act, 2008*
- *Electricity Supply Act, 1995*
- *Electricity Supply (Safety and Network Management) Regulation, 2014*
- *Energy and Utilities Administration Act, 1987*
- *Environmental Planning and Assessment Act, 1979* (EP&A Act)
- *Fisheries Management Act, 1994*
- *Protection of the Environment Operations Act, 1997* (POEO Act)
- *Roads Act, 1993*
- *Soil Conservation Act, 1938*
- *Water Management Act, 2000*
- *Work Health and Safety Act, 2011*

Commonwealth Acts which may also be applicable to the conduct of the Project include:

- *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act); and
- *Native Title Act, 1993.*

On 13 May 2022 the then Department of the Agriculture, Water and the Environment (DAWE) determined that the Project is not a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This means that the Project does not require further assessment and approval under the EPBC Act.

Guidelines and Standards

- *Guidelines for Controlled Activities on Waterfront Land* (NRAR, 2018), or its latest version
- *Policy and Guidelines for Fish Habitat Conservation and Management* (2013), or its latest version.
- *Policy and Guidelines for Fish Friendly Waterway Crossing* (DPI, n.d.) or its latest version
- *Infrastructure proposals on rural land (*Kovac, M and Briggs, G, 2013), or its latest version
- *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004) or its latest version

3 EXISTING ENVIRONMENT

3.1 LAND USE HISTORY

The Project site has a long history of agricultural land use, including both cropping and grazing. As such, a large percentage of the area proposed to be developed has previously been cleared and is significantly modified. The site was mapped as Land Capability Class V, which is land that is suitable for grazing and may require soil conservation measures including pasture and grazing management to maintain soil structural integrity.

Impacts on surrounding agricultural land use will be managed and minimised with reference to the DPI Primefact document *Infrastructure proposals on rural land* (Kovac and Briggs 2013). Management measures will include:

- timing construction activities and planning the location / design of temporary fencing and temporary access routes to minimise impacts on farm operations and livestock as far as practical
- engaging with adjacent landholders regarding any proposal to undertake aerial spraying of weeds and notifying them at least 48 hours before spraying is to be undertaken
- ensuring that any spraying of weeds is undertaken by suitably accredited and experienced practitioners on days of low wind speed
- implementing the additional weed and biosecurity measures set out in the BMP
- implementing the livestock management measures set out in the land management section of the CEMP
- implementing the bushfire management measures set out in the Bushfire Management Plan
- minimising soil erosion risk and managing site runoff in accordance with the ESCP (Appendix C)
- undertaking progressive site rehabilitation in accordance with the Section 4.10 of the BMP and ESCP (Appendix C).

3.2 LANDFORM, GEOLOGY AND SOILS

The Project site falls within the South Western Slopes Bioregion and the Inland Slopes Subregion (**Table 3-1**). The elevation within the Project site ranges from 550m (east) to 450m (west).

Table 3-1: Inland Slopes Subregion Description.

Geology	Characteristic landforms	Typical soils	Vegetation
Ordovician to Devonian folded and faulted sedimentary sequences with inter-bedded volcanic rocks and large areas of intrusive granites.	Steep, hilly and undulating ranges and granite basins. Occasional basalt caps, confined river valleys with terrace remnants.	Shallow stony soils on steep slopes, texture contrast soils grading from red subsoils on upper slopes to yellow subsoils on lower slopes. Alluvial sands, loams and clays.	Open forests and woodlands. Red stringybark on upper slopes with black cypress pine, kurrajong, red ironbark, white gum, white box, yellow box and Blakely's red gum on lower slopes. Merging west to yellow box, grey box and white cypress pine. Rough-barked apple on flats with river oak on upper tributaries and river red gum on lower and larger streams.

Two Mitchell Landscapes occur within the Project Site: the Talbragar-Upper Macquarie Terrace Sand and Cope Hills Granite (**Figure 3-1**, **Table 3-2**). Note that Figure 3-1 is from the 2020 BDAR and does not show the second creek crossing.

Figure 3-1: NSW (Mitchell) Landscapes, IBRA Regions, Watercourses and other key geographic features within the Project Site (Source: Eco Logical 2020).

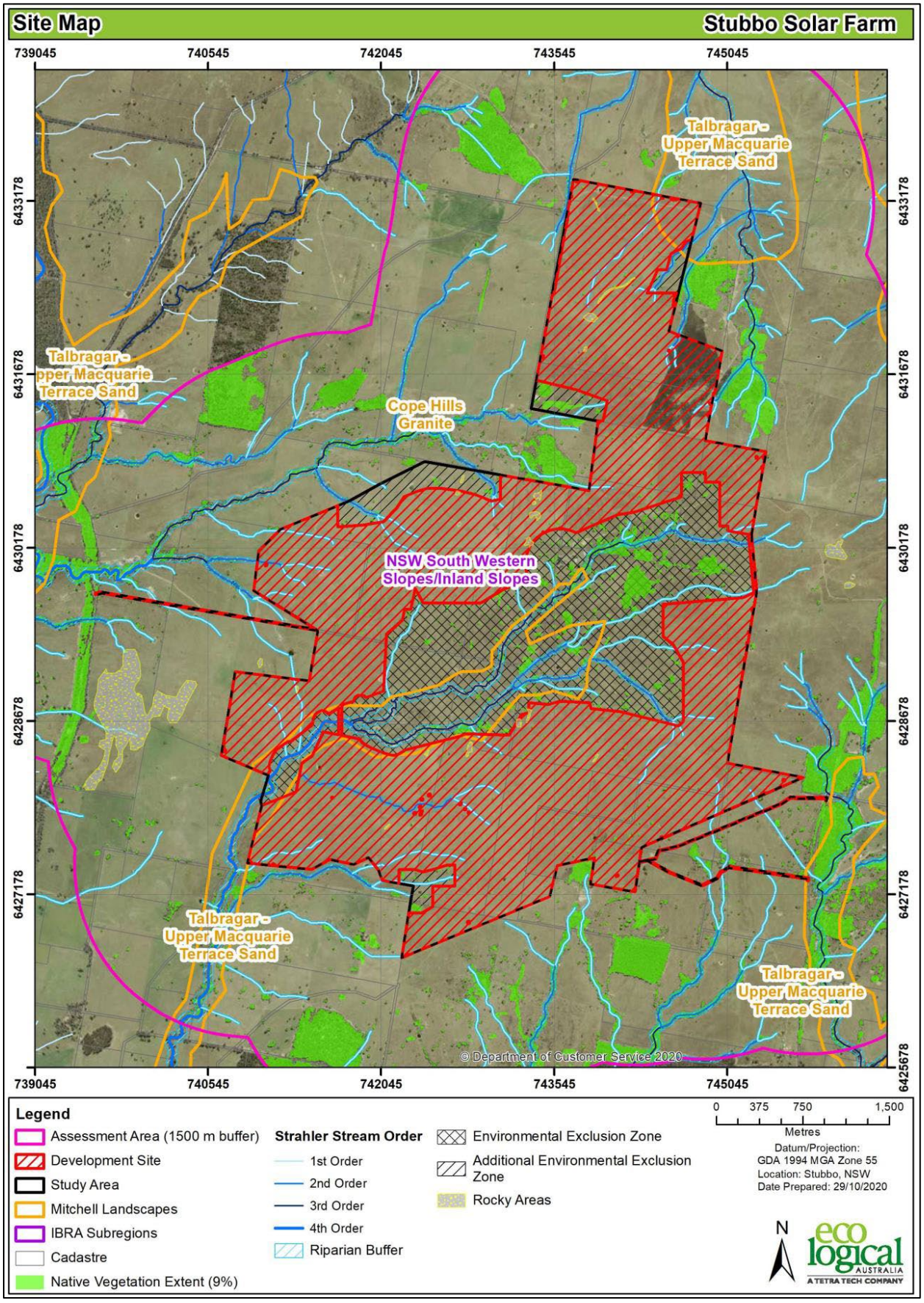


Table 3-2: NSW (Mitchell) Landscapes within the Project Site (Source: Ramboll 2020)

Mitchell (NSW) Landscape	Description
Talbragar - Upper Macquarie Terrace Sands and Gravels (Tab)	Sandy Quaternary alluvial sediments on the floodplains and terraces of the Talbragar River, general elevation 350 to 500m, local relief 30 to 40m. Red-brown and red-yellow earthy sands with some yellow texture-contrast soils on the valley margins. River red gum (*Eucalyptus camaldulensis*) along the channels, yellow box (*Eucalyptus melliodora*) and rough-barked apple (*Angophora floribunda*) with white cypress pine (Callitris glaucophylla) on the plain.
Cope Hills Granite (Cop)	Undulating and rolling hills on Carboniferous granite and granodiorite, general elevation 500 to 740m, local relief 150m. Gritty gradational red earth and red texture-contrast soils. Forest of yellow box (*Eucalyptus melliodora*), Blakely's red gum (*Eucalyptus blakelyii*), red stringybark (*Eucalyptus macrorhyncha*), apple box (*Eucalyptus bridgesiana*), mountain gum (*Eucalyptus dalrympleana*) and black cypress pine (*Callitris endlicheri*).

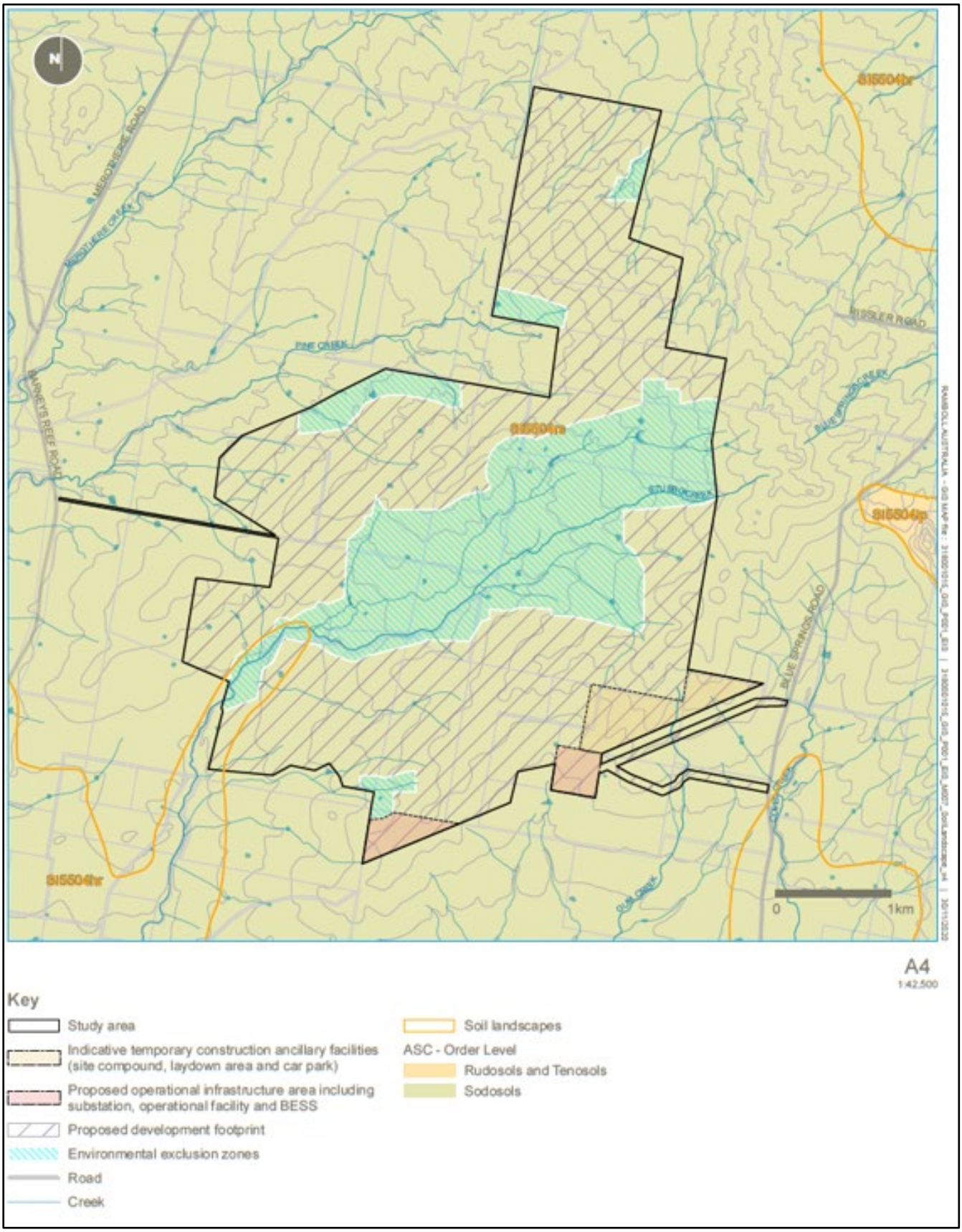
Desktop soil mapping and field observations of the site conducted by Ramboll in 2020 identified that the project site is consistent with the Rouse soil landscape. Two primary soil types were identified on the project site. The soils identified on the project site are detailed in Table 3-3 and illustrated in Figure 3-2.

Table 3-3: Soil types within the Project Site.

Soil type	Location	Characteristics
Siliceous sands	Mid-slopes and upper slopes	• Topsoils are dark brown to brown loamy sand to clayey sand • Very weak structure • Slightly acidic • Typically extends to 200 mm depth
Yellow solodic soils / soloths	Northern and southern portion of the project site	• Topsoils have a brown to dull yellowish-orange to yellowish-brown coarse sandy loam • Circumneutral pH levels • Weak structure

In addition to the soils identified on the Project Site, Basic Paralithic Black-Orthic Tenosols were also identified approximately 900 m north of the project site. Tenesols have a weakly developed soil profile (sandy without distinct horizons), is not strongly acid and is not calcareous. There were no identified occurrences of acid sulphate soils within the study area.

Figure 3-2. Map illustrating soil types occurring on the project site (Source: Ramboll 2020)



3.3 BIODIVERSITY

A BDAR prepared by Ecological Australia to support the Environmental Impact Statement (EIS) for the Project found the following:

- Stubbo Creek – a 4th order waterway, an unnamed second order drainage line and one unnamed first order drainage line.
- The location of the western cable crossing of Stubbo Creek is mapped as Key Fish Habitat (Figure 3-9). No significant impacts are expected to occur to the KFH.
- A number of small farm dams are present on the Project Site, none of which contain significant amounts of aquatic vegetation or high quality wetland habitat. One dam is within the development area.
- Paddock areas represent over 99% of the Project Site. These no longer comprise native plant communities due to historical agricultural use.
- Extensive vegetation clearing has (evidently) occurred for agricultural development. At the time of the BDAR the Project Site was planted to oats. The remaining native vegetation prior to development consists principally of isolated paddock trees. Vegetation corridors are present at the periphery of the development site along public road reserves.
- Two Plant Community Types (PCTs) were recorded:
    - PCT 281 - Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion (5.29 ha)
    - PCT 1770 - Narrow-leaved Ironbark - Red Stringybark - Black Pine woodlands on sandstone substrates of the Brigalow Belt South (0.24 ha)
- PCT 281 can conform to White Box - Yellow Box - Blakely's Red Gum Grassy Woodland, a Critically Endangered Ecological Community (CEEC) listed under the BC Act and EPBC Act. All 5.29 ha of PCT 281 within the development site has been conservatively assessed to meet the CEEC threshold at a State level. Within the development site 0.17 ha was assessed as meeting the condition thresholds for the CEEC listed under the EPBC Act.
- Appendix 2 provides information relating to the BAM plots and examples of the PCT.
- Two threatened fauna species were recorded within or adjacent to the project site (**Figure 3-8**):
    - Black Falcon (*Falco subniger)* was recorded on the south west of the study area
    - Barking Owl (*Ninox connivens*) was recorded incidentally 500m south of the study area
- Important habitat features for fauna species within the Project Site included:
    - Habitat trees containing hollows
    - Rock outcrops
    - Dams providing potential habitat for waterfowl passing through the site

Figure 3-3, Figure 3-4, Figure 3-5, Figure 3-6 and **Figure 3-7** show existing vegetation, riparian buffer and vegetation to be removed.

Figure 3-3: Existing native vegetation, riparian buffer and vegetation to be removed within the Project Site (whole site).

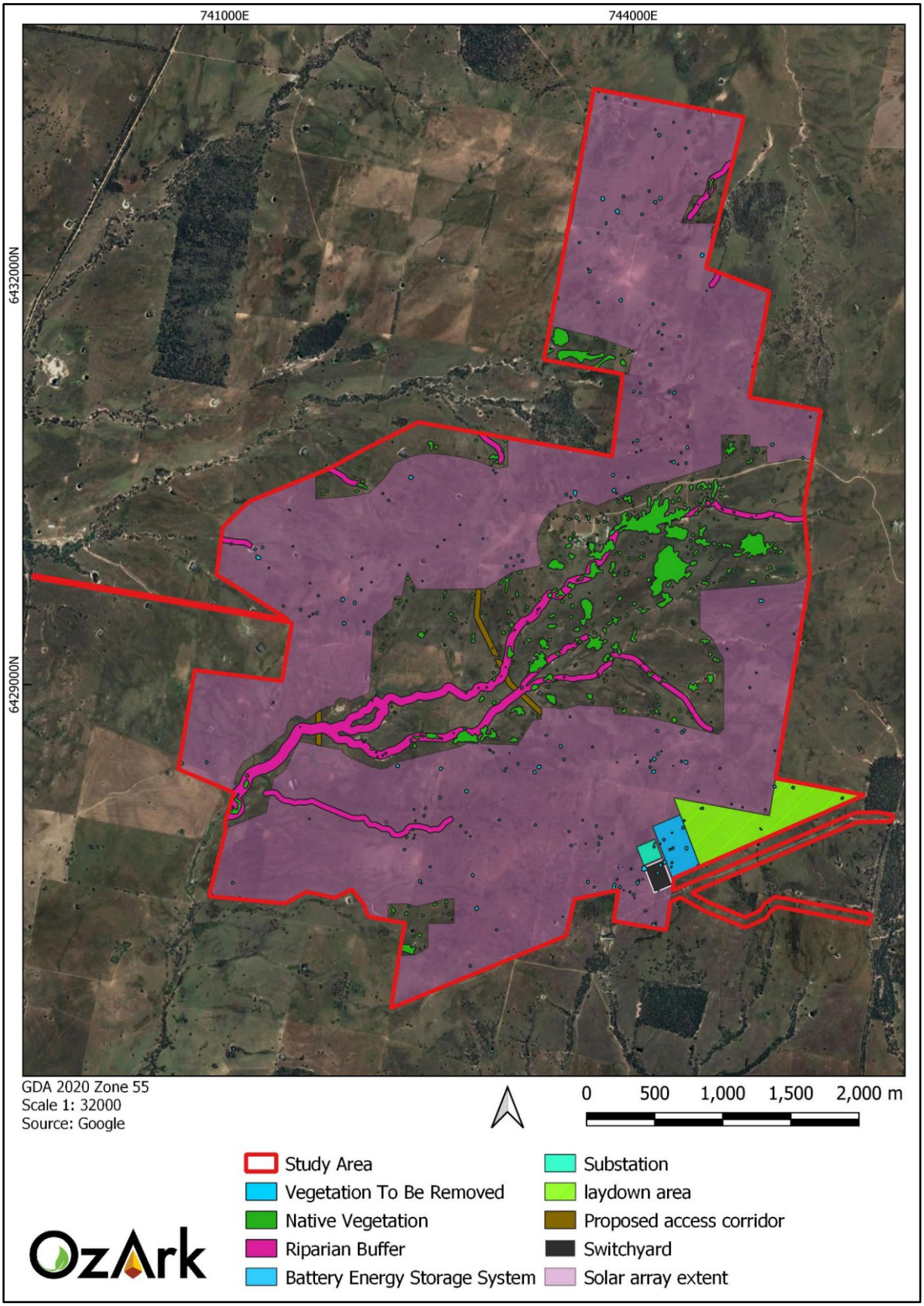


Figure 3-4: Existing native vegetation, riparian buffer and vegetation to be removed – eastern section.

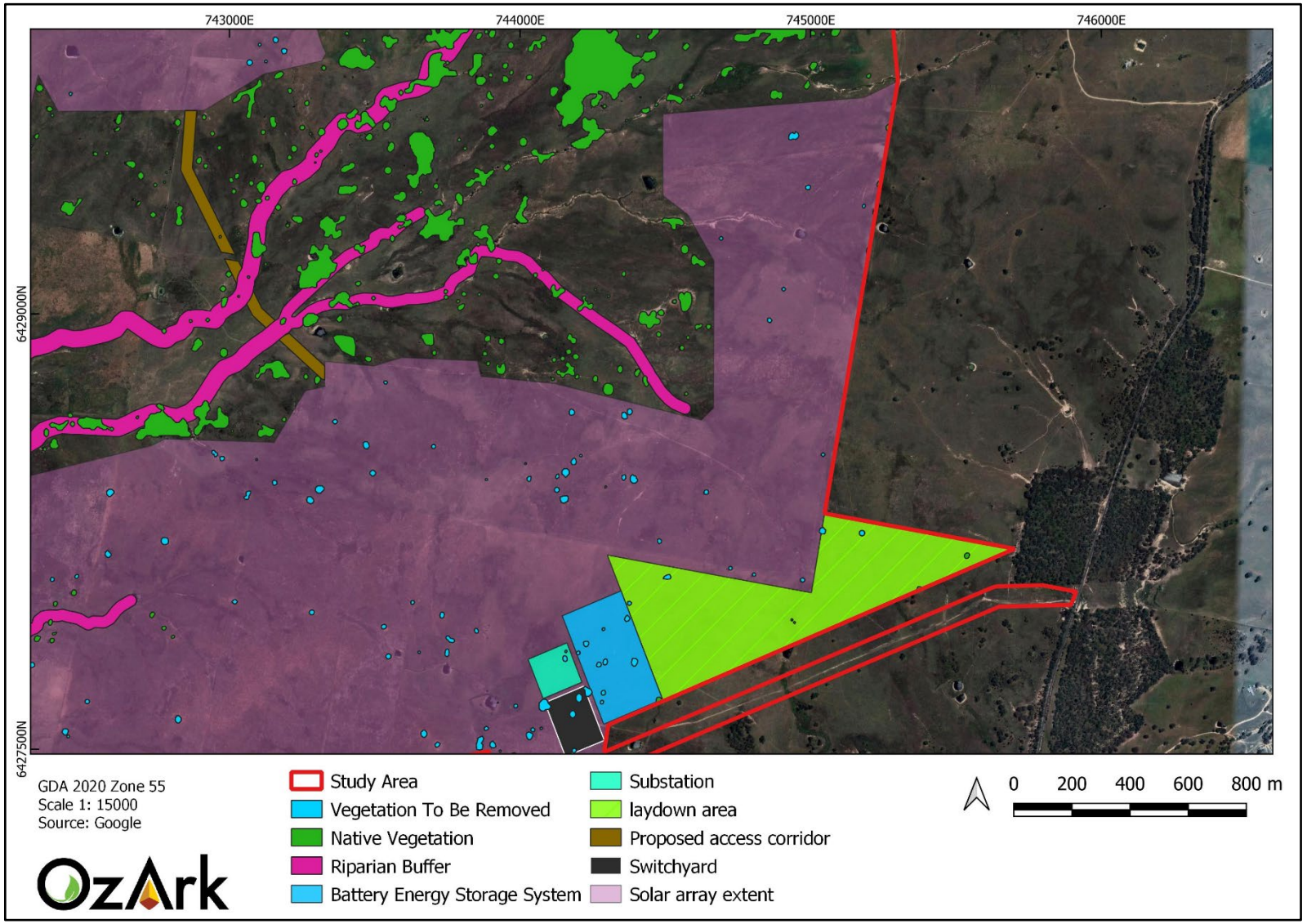


Figure 3-5: Existing native vegetation, riparian buffer and vegetation to be removed – western section.

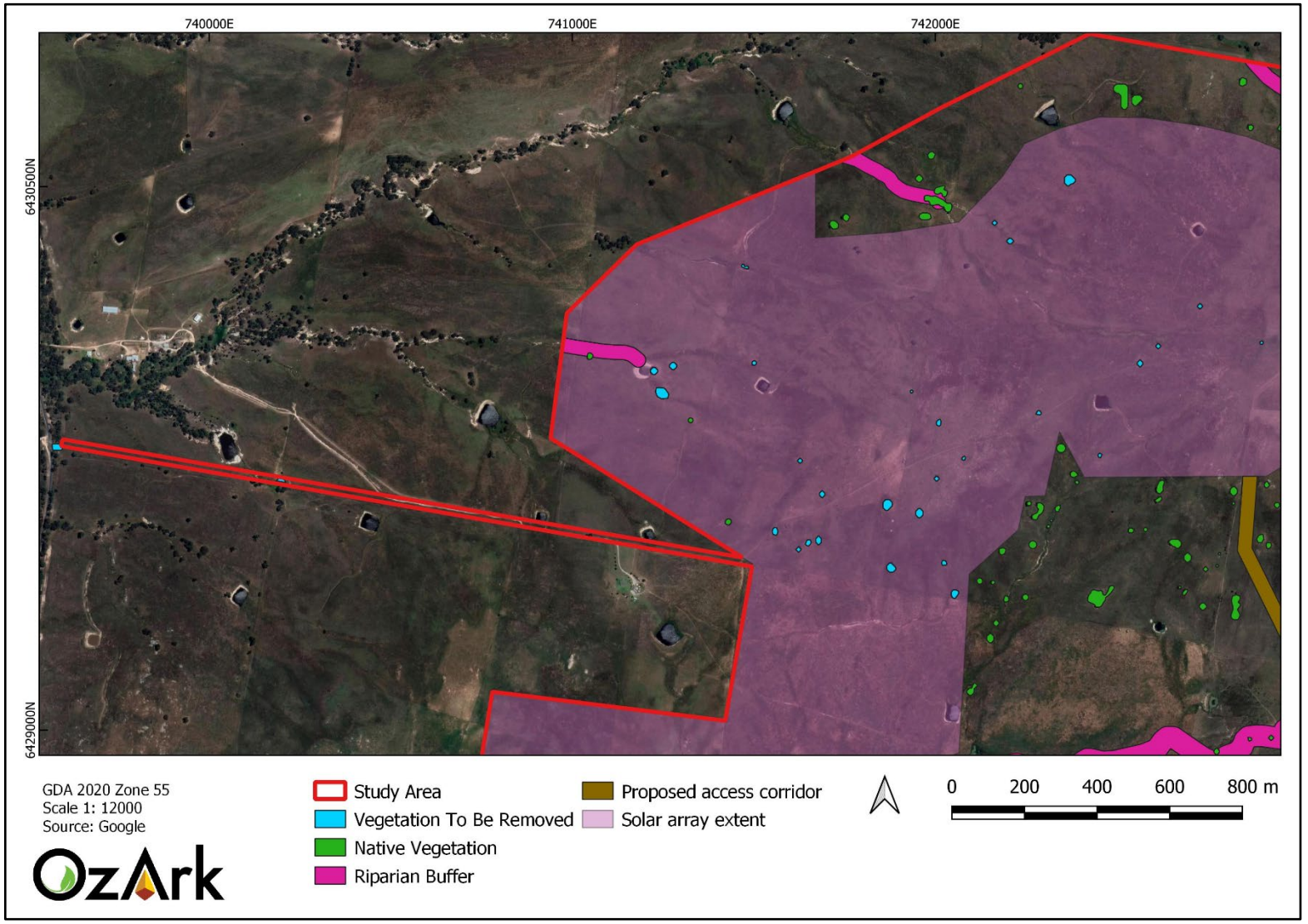


Figure 3-6: Existing native vegetation, riparian buffer and vegetation to be removed – southern section.

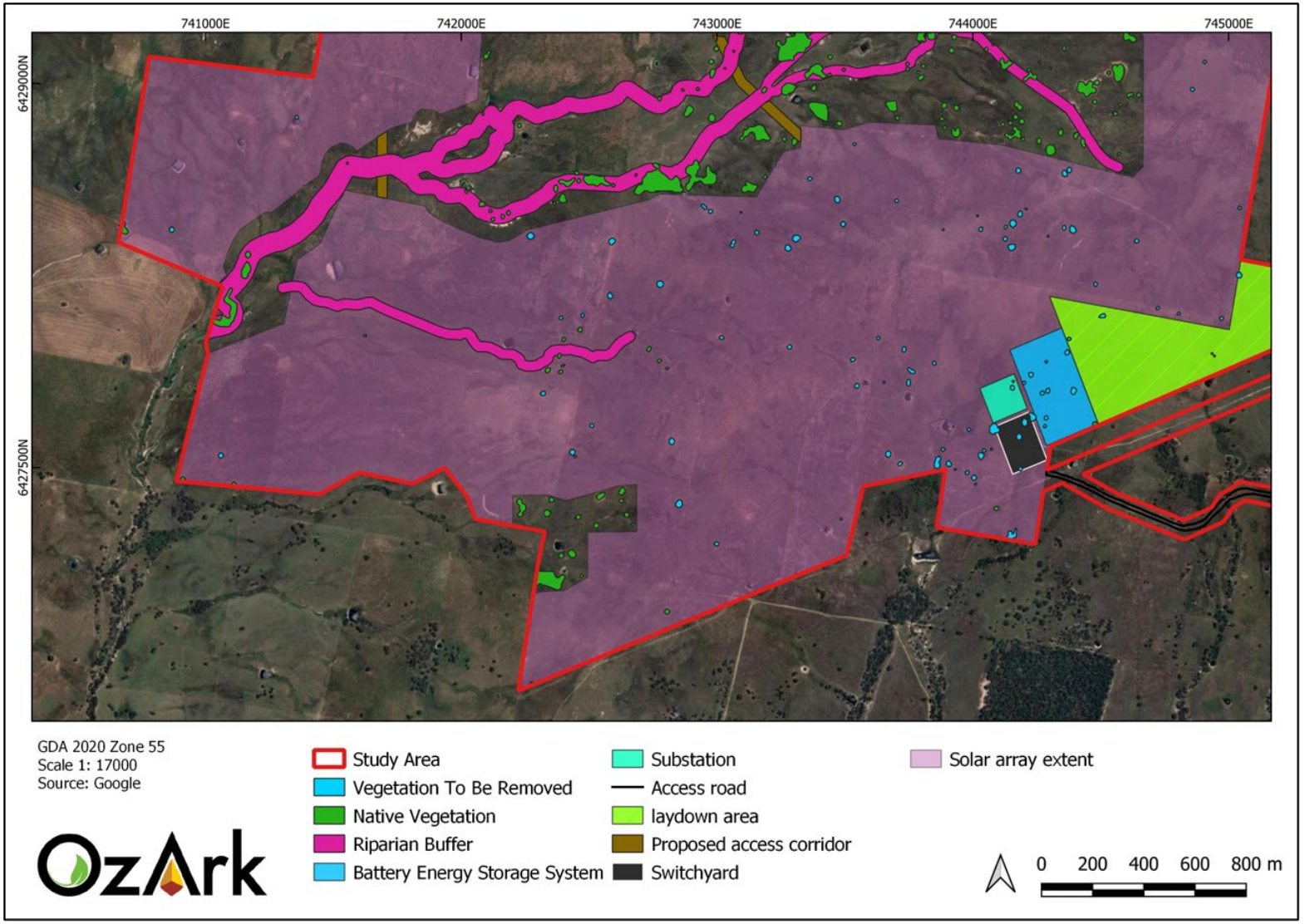


Figure 3-7: Existing native vegetation, riparian buffer and vegetation to be removed – northern section.

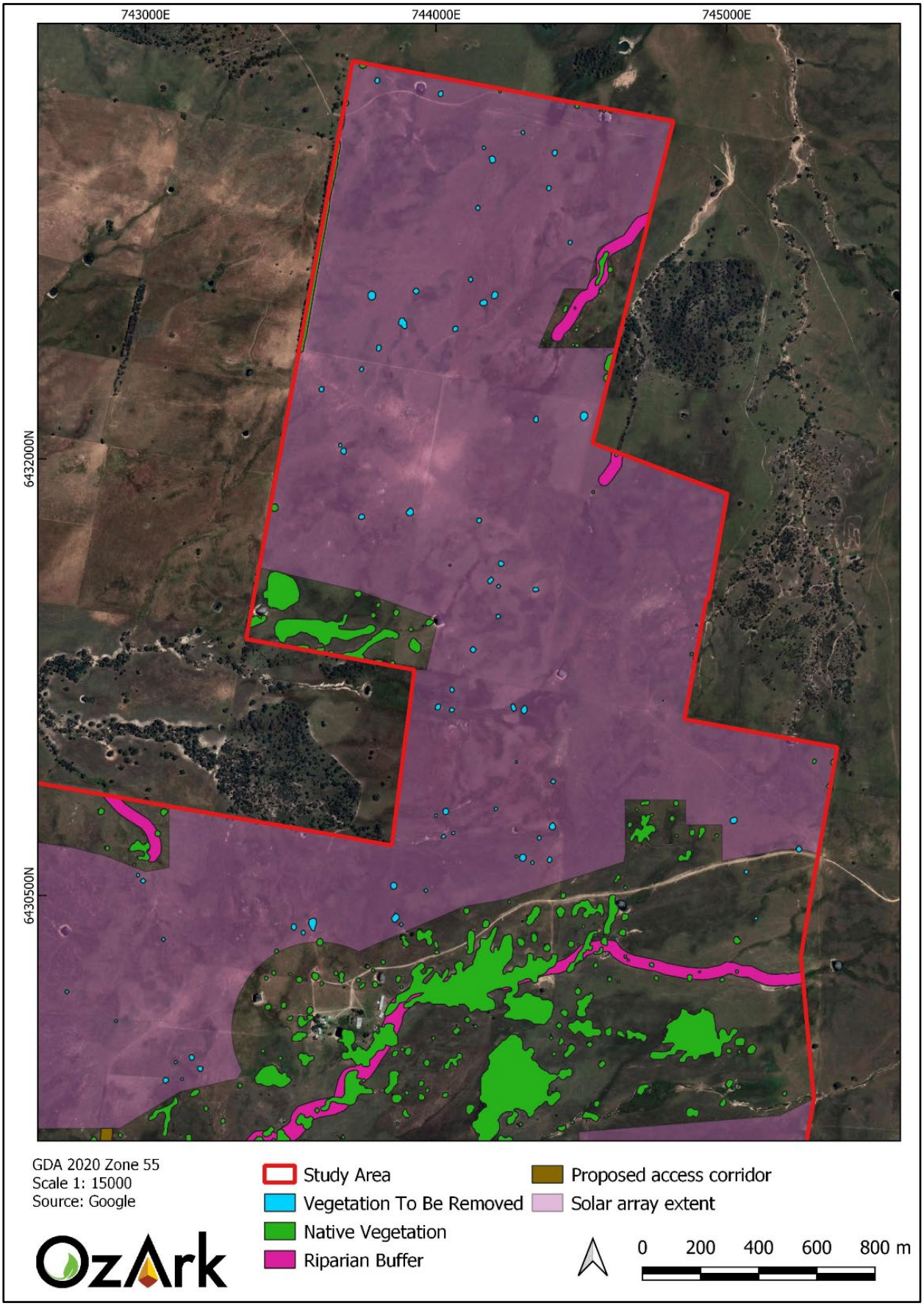


Figure 3-8: Location of Recorded Threatened Species (Source: Ecological Australia, 2020).

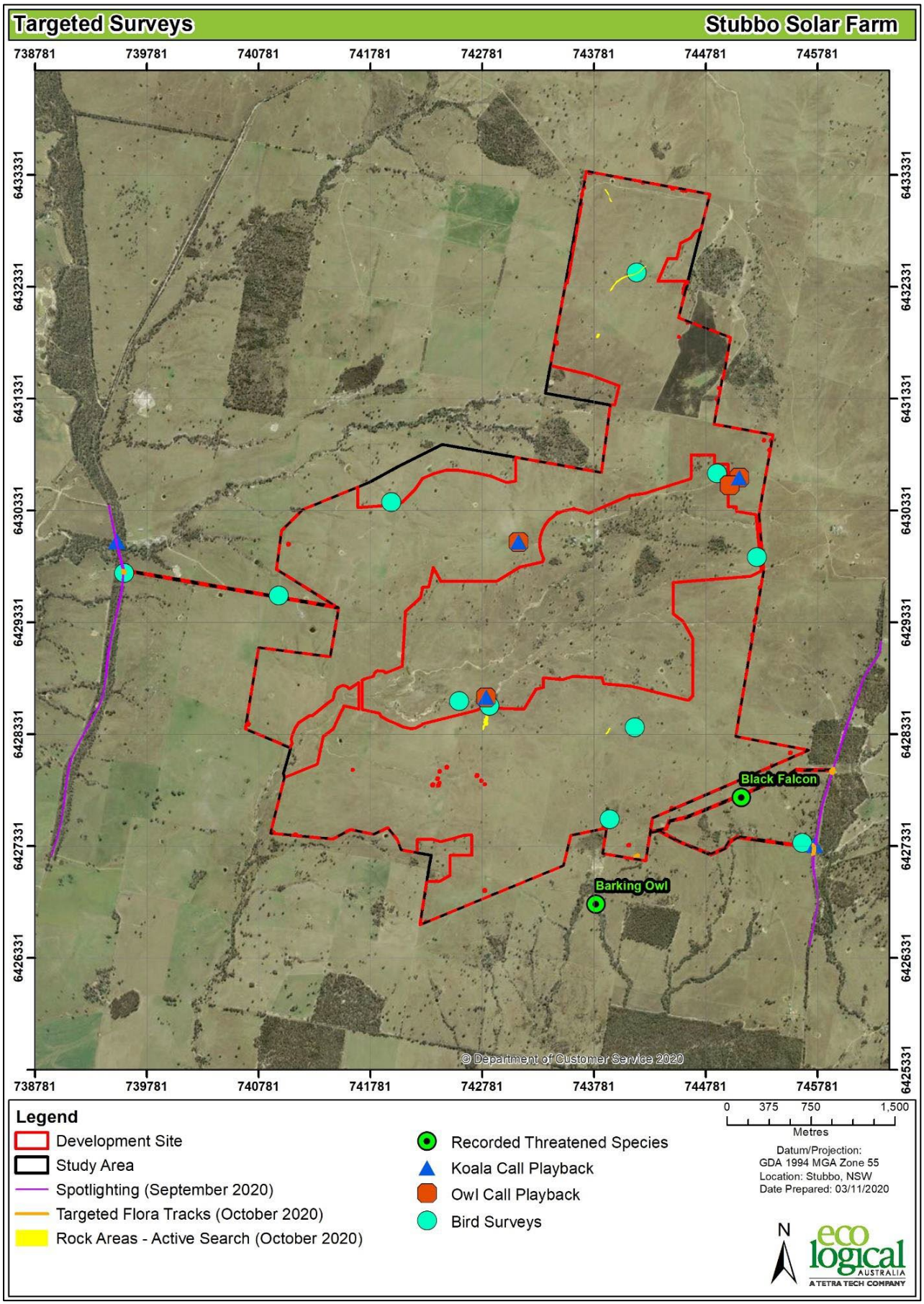
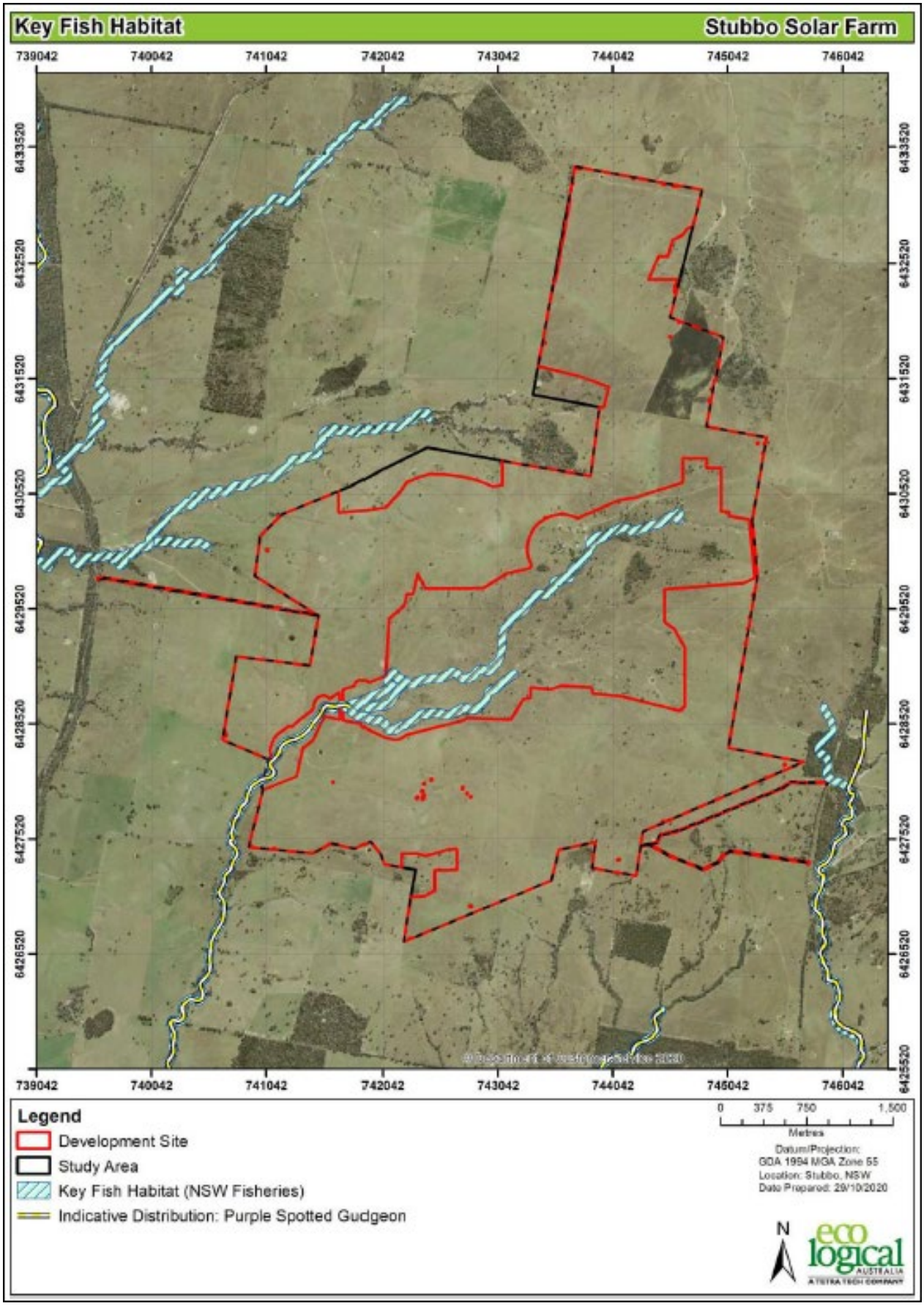


Figure 3-9: Key fish habitat and threatened species distribution (Source: Ecological Australia, 2020)



3.4 RECORDED WEED AND PEST SPECIES

The BDAR (Eco Logical 2020) includes the following weed species gathered as part of the BAM plots required for the assessment process. **Appendix 2** provides details of location of weed species within the PCT Descriptions. Additionally, a pre-construction weed survey was completed in early May 2023 to provide baseline information and weed control treatments for priority weeds as shown in **Table 3-4**.

Weed species (BDAR) (Ecological Australia 2020)

- *Arctotheca calendula* (Cape Dandelion)
- *Trifolium* spp. (Clovers)
- *Medicago* sp. (Medic)
- *Echium plantagineum* (Paterson's Curse)
- *Lolium* sp. (Rye Grass)
- *Eragrostis cilianensis* (Stinkgrass)
- *Avena sp.* (Oats)
- *Spergularia rubra* (Red Sandspurry),
- *Lepidium spp.* (Peppergrasses).
- *Acetosella vulgaris* (Sheep Sorrel)
- *Hypochaeris* radicata (Flatweed)

Pest mammal species (BDAR 2020) (Ecological Australia 2020)

- *Oryctolagus cuniculus* (European Rabbit)
- *Sus scrofa* (Pig)
- *Vulpes vulpes** (Red Fox)

Table 3-4: Significant weeds recorded during the pre-clearance weed survey, May 2023.

Family	Scientific name	Common name	HTE	WoNS	PW	Management Category
Amaranthaceae	*Alternanthera pungens*	Khaki Weed	Yes	No	No	
Asteraceae	*Bidens* sp.	Beggars Tick	Yes	No	No	
Asteraceae	*Carthamus lanatus*	Saffron Thistle	Yes	No	No	
Asteraceae	*Cineraria lyratiformis*	African Marigold	No	No	No	+Community Concern
Asteraceae	*Xanthium spinosum*	Bathurst Burr	Yes	No	No	
Cyperaceae	*Cyperus eragrostis*	Umbrella Sedge	Yes	No	No	
Fabaceae	*Robinia pseudoacacia*	Black Locust	Yes	No	No	
Pinaceae	*Pinus radiata*	Radiata Pine	Yes	No	No	
Poaceae	*Cenchrus clandestinus*	Kikuyu Grass	Yes	No	No	
Poaceae	*Paspalum dilatatum*	Paspalum	Yes	No	No	
Polygonaceae	*Acetosella vulgaris*	Sheep Sorrel	Yes	No	No	
Rosaceae	*Rosa rubiginosa*	Sweet briar	Yes	No	No	+Community Concern
Rosaceae	*Rubus fruticosus* sp. agg.	Blackberry	Yes	Yes	Yes	*Asset Protection
Salicaceae	*Salix babylonica*	Weeping Willow	Yes	No	No	
Solanaceae	*Lycium ferocissimum*	African Boxthorn	Yes	Yes	Yes	*Asset Protection

*Asset Protection: To prevent the spread of weeds to key/assets of high economic, environmental and social value, or to reduce their impact on these sites if spread has already occurred.

+Community Concern: It is not feasible to contain or eradicate these species, however minimising their impacts is reasonably practicable.

The recommended control techniques for priority weeds are outlined below.

- An experienced, qualified operator is recommended for herbicide applications.
- Refer to https://weeds.dpi.nsw.gov.au/ for herbicides options and their rates.
- If using herbicides near waterways, the herbicide must be approved for use near water.

More information on permits or product labels can be found at the Australian Pesticides and Veterinary Medicines Authority website www.apvma.gov.au.

To aid with management, the site has been divided into zones based on weed occurrence. This will aid in management and enable what areas to be prioritised.

Table 3-5: Priority weeds and recommended control techniques.

Target Weed Species	Control Techniques
African Boxthorn (*Lycium ferocissimum*)	Physical removal: Mechanical removal of large plants and thickets is the preferred way to remove large infestations where access is practicable. New regrowth can be sprayed. Foliar herbicide: Using herbicides preferably in cooler months after rain when actively growing. Reapplication may be required.
Blackberry (*Rubus fruticosus* sp. agg.)	Physical removal: large plants and thickets can be mechanical removed all year round. Foliar herbicide: Spray with a broadleaf selective herbicide from spring to early summer.
African Marigold (*Cineraria lyratiformis*)	A new weed to the area. Given its invasive tendencies it is likely to become more abundant and widespread over time. Grazing: Livestock can provide effective control for this species. Foliar herbicide: Spray with a broadleaf selective herbicide from spring to summer. Registered herbicides for this species are limited.
Sweet Briar (*Rosa rubiginosa*)	Physical removal: Plants can be mechanical removed all year round. Foliar herbicide: Spray with a broadleaf selective herbicide when plants are actively growing. Insufficient herbicide coverage will not be effective.

4 BIODIVERSITY MANAGEMENT PLAN AND COMPLETION CRITERIA

The BMP covers the construction and operation phase of the project. This BMP does not cover the decommissioning phase of the Project, however the BMP will be revised by the Applicant prior to the commencement of decommissioning to incorporate this phase. Information relating to the direct and indirect impacts, strategies/mitigation measures from the BDAR and development consent conditions form the basis of the plan (**Table 41**). Monitoring and Reporting, along with Triggers and Responses are included as **Table 42 (construction) and Table 43 (operation)**. Management Protocols referred to in these tables are listed in **Section 6** and are based on the **mitigation measures** from the BDAR. They primarily apply only to the development area of the solar project, except where specified for the exclusion zone.

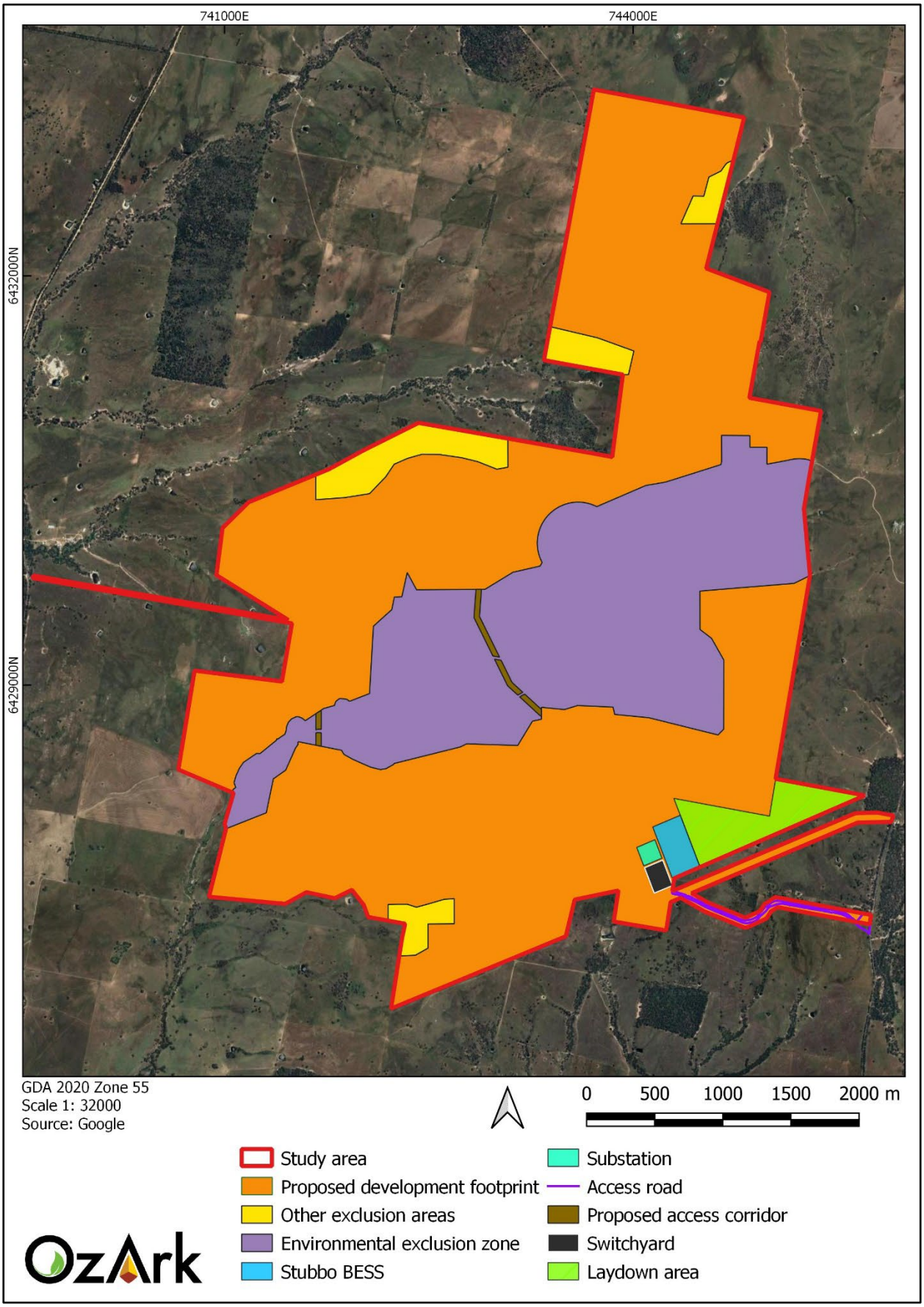
The requirements of the BMP should form a component of the site inductions that all contracted personnel are expected to undertake.

4.1 PROJECT DESIGN IMPACT

The Project is situated on largely disturbed and cropped land that has low vegetation integrity. As a result, impacts of the Project are limited to the following and broadly shown in **Figure 4-1**:

- the removal of paddock trees (some containing hollows) scattered over 1000 ha (the Project's development footprint;).
- indirect impact to two threatened avian species:
    - Black Falcon (*Falco subniger)* (recorded on the south west of the study area)
    - Barking Owl (*Ninox connivens*) (recorded incidentally 500m south of the study area)
- removal of rock outcrops
- removal of six farm dams that provide potential habitat for passing waterfowl.

Figure 4-1: Stubbo Solar development footprint, exclusion zones and other zones.



4.2 IMPACT AND MITIGATION MEASURES

Table 4-1 describes the risks and potential direct and indirect impacts of the Project on biodiversity; it also outlines mitigation measures to be implemented to reduce these risks and potential impacts. Finally, it describes the monitoring responses and responsibility for implementing these measures.

Table 4-1: Site environmental risks, mitigation measures, monitoring responses and responsibilities.

Risk/Impact to be managed	Consequences	Mitigation Measures	Summary of Monitoring	Responsibility
DIRECT IMPACTS				
1. Removal of native vegetation	General loss of flora General loss of habitat for fauna Two threatened bird species (Black Falcon and Barking Owl) may be impacted due to clearing. Hollow-dependent fauna species will be impacted due to loss of habitat trees. One Threatened Ecological Community is present and will be directly impacted (White Box - Yellow Box - Blakely's Red Gum Grassy Woodland, a Critically Endangered Ecological Community (CEEC)) Removal of farm dams. Creation of temporary disturbance areas in development footprint. Maintain Exclusion Zones.	Where possible, clearing should be avoided and minimised. Ensure that only those areas identified and offset in the conditions of approval are cleared. Protocol 1 – Vegetation Clearing Procedure Protocol 2 – Habitat Tree Removal Protocol 3 – Management of Displaced Fauna Protocol 4 – Stockpiles and Re-using Resources as Woody Debris Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Protocol 15 – Waterway Crossings Rehabilitation planting in development footprint to restore land for pasture/stock or to native vegetation where practical after construction is completed based on IFC timeframes. Maintain integrity of exclusion zone fencing	Sign off Project Ecologist that all relevant Protocols have been met prior to the commencement of clearing. Inspection and supervision of clearing site to ensure relevant protocol requirements are met. Maintain a log of salvaged animals and actions taken to relocate them. Rehabilitated areas to be monitored weekly for the first six months to ensure plant establishment, then monthly thereafter for next six months after construction is completed. Weekly monitoring of exclusion zone fencing during construction of creek crossings. Monthly monitoring of exclusion zone fencing during construction.	PCL HSE Manager to arrange mitigation measures, monitoring and ensure compliance. Subcontractor – Project Ecologist to undertake pre-clearance surveys, supervise clearing, undertake any fauna handling

Risk/Impact to be managed	Consequences	Mitigation Measures	Summary of Monitoring	Responsibility
2. Construction of solar panels and perimeter fencing	Trapped fauna may exhaust food resources and water supply, causing death. Trapped fauna may cause degradation of retained native vegetation. Security fences may obstruct the movement of larger terrestrial species such as kangaroos, wallabies and other fauna species. Vehicle strike causing injury to fauna on internal roads	Protocol 3 – Management of Displaced Fauna Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Reduced speed limit as per Section 4.4 of Traffic Management Plan	Inspection and supervision of clearing site to ensure relevant protocol requirements are met. Maintain a log of salvaged animals and actions taken to relocate them. Regular (weekly) inspection and maintenance of fencing during construction (See Protocol 7 – Fence Construction and Management) Monthly inspection for fencing for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based. Implementation of TMP (noting location of vehicle strike as required).	PCL HSE Manager Project Ecologist to undertake any fauna handling.
INDIRECT IMPACTS				
3. Changed management practices on Site.	Vegetation condition may decline over time due to increased abundancy of weeds.	Protocol 5 – Weed Management Protocol 8 – Erosion and Sediment Control Protocol 13 – Exclusion Fencing/Exclusion Zones Completion of a baseline weed survey prior to construction. Annual monitoring of four BDAR BAM plots in exclusion zone as listed in Protocol 13.	Visual inspections to detect new weed germination in disturbed area. At least monthly during construction Annual monitoring during operation of four BAM plots in exclusion zone	PCL HSE Manager BAM Accredited Ecologist (sub-contractor)
4. Increased traffic and visitation	Degradation and modification of retained habitat due to spread of weeds and feral pests.	Protocol 5 – Weed Management Protocol 6 – Feral Pest Management Protocol 9 – Dust Control / Rehabilitation Protocol 12 – Vehicle Hygiene Procedure Protocol 13 – Exclusion Fencing/Exclusion Zones	Visual inspections to detect new weed germination in disturbed area. Monthly during construction Monthly during operation. On-going quarterly inspections to detect presence of feral pests after construction completion.	PCL HSE Manager

Risk/Impact to be managed	Consequences	Mitigation Measures	Summary of Monitoring	Responsibility
			Vehicle hygiene procedure implemented and recorded. Implementation of TMP.	
5. Ground disturbance	Creation of dust and facilitation of waterborne sediment. Sedimentation could adversely affect the surrounding vegetation. Rehabilitation with respect to construction.	Protocol 8 – Erosion and Sediment Control Protocol 9 – Dust Control / Rehabilitation Rehabilitate temporary disturbance areas with pre-development species. Works to be undertaken at an appropriate time of year to ensure survival of the planted species. Rehabilitation works should be completed within 18 months -post-construction as per Section 4.10. Dewatering of sediment basins onto ground surface within Project Area as outlined in ESCP, if required.	Sediment control measures and rehabilitation areas will be checked and maintained at regular intervals (weekly during construction and immediately following rainfall events that cause runoff). Weekly follow up visual inspections of rehabilitation works during construction to assess the success of soil and vegetation stabilisation. Quarterly inspections of rehabilitated areas for two years after works; half-yearly inspections for the life of the project. Implement appropriate responses if rehabilitation fails.	PCL HSE Manager
6. Light Spill	Light spill from artificial light may affect nocturnal species such as arboreal mammals, large forest owls and foraging microbats.	Protocol 10 – Lighting Design	Inspection of site for potential light source spill against Australian Standard AS/NZS 4282:2019 at commencement of construction. Inspection site for potential light source spill against Australian Standard AS/NZS 4282:2019 at commencement of operation then annually.	PCL HSE Manager
7. Pollution	Contamination of land and water from chemical spill.	Protocol 11 – Chemical Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Fortnightly check of integrity and adequacy of bunding during construction. Monthly check of integrity during Operations due reduced number of potential chemical and fuel sources.	PCL HSE Manager

Risk/Impact to be managed	Consequences	Mitigation Measures	Summary of Monitoring	Responsibility
			Check that vehicles involved in refuelling mobile plant away from a bunded area have spill kit and portable bund or drip tray. Contractors involved in weed spraying will ensure that in field chemical replenishment will adhere to Chemcert obligations.	

4.3 TRIGGER, ACTION, RESPONSE, MONITORING AND REPORTING

Monitoring and reporting commitments are summarised below in **Table 4-2 (Construction) and Table 4-3 (Operation)**. Reports will be provided to the Applicant and DPE. Any recommendations or changes to the ecological aspects of the monitoring should be acted upon by the Applicant. All monitoring actions/inspections will be recorded and used to meet reporting requirements.

Table 4-2: Multi-level Trigger, Action, Response, Monitoring and reporting requirements during construction.

Trigger Levels

Level 1	**Normal Level**
Level 2	**Early Warning Level**
Level 3	**Exceedance Level**

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
CONSTRUCTION								
1 Vegetation Clearing	General loss of flora	1	Inspect the clearing site to ensure relevant protocol requirements are met	Clearing in accordance with Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal Vegetation is appropriately demarcated with fencing and/or flagging tape as per Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal. Manage any displaced fauna in accordance with Protocol 3	Project Ecologist to review BMP and ensure vegetation to be removed vs vegetation to be retained is appropriately marked prior to continuing works	Daily during clearing activities	Pre-clearing surveys. Project Ecologist sign off all Protocols prior to commencement of clearing.	PCL HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing and undertake any fauna handling.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
				Management of Displaced Fauna.				
		2	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation down	Reinstate fallen demarcation measures	Daily during clearing activities	Project Ecologist to report damage to HSE Manager	Project Ecologist
		3	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation removed. Unauthorised clearing	If any vegetation is removed outside the approved development footprint, stop work, and report incident. Reinstall demarcation measures If work not being completed in accordance with this BMP, stop work and review protocols Undertake additional training with operators and relevant site personnel.	Daily during clearing activities	Project Ecologist report incident to PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of an incident)	Project Ecologist, HSE Manager, ACEN Project Manager ACEN Project Manager to report to DPE, Planning Secretary
	General loss of habitat for fauna	1	Inspect the clearing site to ensure relevant protocol requirements are met	Clearing in accordance with Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal Vegetation is appropriately demarcated with fencing and/or flagging tape as per Protocol 1 – Vegetation Clearing Procedure and	Project Ecologist to review BMP and ensure vegetation to be removed vs retained is appropriately marked prior to continuing works	Daily during clearing activities	Pre-clearing surveys. Project Ecologist sign off all Protocols prior to commencement of clearing.	PCL HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing and undertake any fauna handling.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
				Protocol 2 – Habitat Tree Removal. Manage any displaced fauna in accordance with Protocol 3 Management of Displaced Fauna.				
		2	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation down	Reinstate fallen demarcation measures	Daily during clearing activities	Project Ecologist to report damage to HSE Manager	Project Ecologist
		3	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation removed. Unauthorised clearing	If any vegetation is removed outside the approved development footprint, stop work, and report incident. Reinstall demarcation measures If work not being completed in accordance with this BMP, stop work and review protocols Undertake additional training with operators and relevant site personnel.	Daily during clearing activities	Project Ecologist report incident to PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of an incident)	Project Ecologist, HSE Manager, ACEN Project Manager to report to DPE, Planning Secretary
	Two threatened bird species (Black Falcon and Barking Owl) may be impacted due to clearing.	1	Inspect the clearing site to ensure relevant protocol requirements are met	Clearing in accordance with Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal	Project Ecologist to review BMP and ensure vegetation to be removed vs retained is appropriately marked prior to continuing works	Daily during clearing activities	Pre-clearing surveys. Project Ecologist sign off all Protocols prior to commencement of clearing.	PCL HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
				Vegetation is appropriately demarcated with fencing and/or flagging tape as per Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal. Manage any displaced fauna in accordance with Protocol 3 Management of Displaced Fauna.				and undertake any fauna handling.
		2	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation down	Reinstate fallen demarcation measures	Daily during clearing activities	Project Ecologist to report damage to HSE Manager	Project Ecologist
		3	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation removed. Unauthorised clearing	If any vegetation is removed outside the approved development footprint, stop work, and report incident. Reinstall demarcation measures If work not being completed in accordance with this BMP, stop work and review protocols. Undertake additional training with operators and relevant site personnel.	Daily during clearing activities	Project Ecologist report incident to PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of an incident)	Project Ecologist, HSE Manager, ACEN Project Manager to report to DPE, Planning Secretary

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
	Hollow-dependent fauna species will be impacted due to loss of habitat trees.	1	Inspect the clearing site to ensure relevant protocol requirements are met	Clearing in accordance with Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal Vegetation is appropriately demarcated with fencing and/or flagging tape as per Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal.	Project Ecologist to review BMP and ensure vegetation to be removed vs retained is appropriately marked prior to continuing works. Manage any displaced fauna in accordance with Protocol 3 Management of Displaced Fauna.	Daily during clearing activities	Pre-clearing surveys. Project Ecologist sign off of all Protocols prior to commencement of clearing.	PCL HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing and undertake any fauna handling.
		2	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation down. Unexpected native fauna finds (less than two per month)	Reinstate fallen demarcation measures. Manage any displaced fauna in accordance with Protocol 3 Management of Displaced Fauna.	Daily during clearing activities	Project Ecologist to report damage to HSE Manager	Project Ecologist
		3	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation removed. Unauthorised clearing Unexpected native fauna finds (more than two per month) Unexpected native fauna find that is a listed Threatened Species.	If any vegetation is removed outside the approved development footprint, stop work, and report incident. Manage any displaced fauna in accordance with Protocol 3 Management of Displaced Fauna. Reinstall demarcation measures. If work not being completed in accordance	Daily during clearing activities	Project Ecologist report incident to PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of an incident)	Project Ecologist, HSE Manager, ACEN Project Manager to report to DPE, Planning Secretary

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					with this BMP, stop work and review protocols. Undertake additional training with operators and relevant site personnel.			
	One Threatened Ecological Community is present and will be directly impacted (White Box - Yellow Box - Blakely's Red Gum Grassy Woodland, a Critically Endangered Ecological Community (CEEC))	1	Inspect the clearing site to ensure relevant protocol requirements are met	Clearing in accordance with Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal Vegetation is appropriately demarcated with fencing and/or flagging tape as per Protocol 1 – Vegetation Clearing Procedure and Protocol 2 – Habitat Tree Removal.	Project Ecologist to review BMP and ensure vegetation to be removed vs retained is appropriately marked prior to continuing works. Manage any displaced fauna in accordance with Protocol 3 Management of Displaced Fauna.	Daily during clearing activities	Pre-clearing surveys. Project Ecologist sign off all Protocols prior to commencement of clearing.	PCL HSE Manager to undertake monitoring and ensure compliance. Project Ecologist to undertake pre-clearance surveys, supervise clearing and undertake any fauna handling.
		2	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation down	Reinstate fallen demarcation measures	Daily during clearing activities	Project Ecologist to report damage to HSE Manager	Project Ecologist
		3	Inspect the clearing site to ensure relevant protocol requirements are met	Exclusion zone demarcation removed. Unauthorised clearing	If any vegetation is removed outside the approved development footprint, stop work, and report incident. Reinstall demarcation measures.	Daily during clearing activities	Project Ecologist report incident to PCL/Transgrid HSE Manager, Lead Manager (immediately)	Project Ecologist, HSE Manager, ACEN Project Manager to report to DPE, Planning Secretary

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					If work not being completed in accordance with this BMP, stop work and review protocols. Undertake additional training with operators and relevant site personnel.		External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of an incident)	
	Trapped fauna may exhaust food resources and water supply, causing death.	1	Inspect for trapped fauna. Maintain a log of salvaged animals and actions taken to relocate them.	No trapped fauna	Monitor for trapped fauna	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager on trapped fauna. PCL to report any fauna mortalities to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager.
		2	Inspect for trapped fauna. Maintain a log of salvaged animals and actions taken to relocate them.	Fauna being trapped. Fauna deaths (one in a continuous three month period). No deaths of listed Threatened Species	Implement Protocol 3 – Management of Displaced Fauna. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any fauna mortalities to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager
		3	Inspect for trapped fauna. Maintain a log of salvaged animals and actions taken to relocate them.	Fauna being trapped. Fauna deaths (two or more in a continuous three month period) A death of a listed Threatened Species	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Weekly	PCL HSE Manager to consult with Project Ecologist and review Protocol and report to PCL Lead Construction Manager PCL/Transgrid HSE Manager, Lead	PCL HSE Manager Project Ecologist, PCL Lead Construction Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required		Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of fauna mortality)	ACEN Project Manager to report to DPE as required.
	Maintain Exclusion Zones	1	Monitoring the environmental exclusion zones to ensure biodiversity values are not significantly affected by indirect impacts	Compliance with EIS Commitment B4	Monitor for integrity of exclusion zone fencing. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Implement control measures in Protocol 5 – Weed Management. Undertake monthly inspection of Exclusion Zones to ensure integrity of biodiversity values.	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager on exclusion zone integrity. PCL to report any unauthorised worker access to exclusion zones to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager.
		2	Monitoring the environmental exclusion zones to ensure biodiversity values are not significantly affected by	Evidence of unauthorised access to exclusion zones detected in weekly inspections such as fresh wheel tracks, fencing damage that wasn't present the day before.	Replace and / or repair missing fencing. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones.	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any unauthorised worker access and fence	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			indirect impacts	Fencing compromised, but not deliberately.	Implement control measures in Protocol 5 – Weed Management. Undertake monthly inspection of Exclusion Zones to ensure integrity of biodiversity values. Toolbox talk / education program for all workers regarding unauthorised access to the exclusion zones.		damage to the exclusion zones to ACEN for reporting to DPE as required.	
		3	Monitoring the environmental exclusion zones to ensure biodiversity values are not significantly affected by indirect impacts	Evidence of continued unauthorised access to exclusion zones detected in weekly inspections such as new tracks, repeated usage of previously identified tracks and deliberately compromised fencing.	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones. Undertake monthly inspection of Exclusion Zones to ensure integrity of biodiversity value. Implement control measures in Protocol 5 – Weed Management. Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required.	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of unauthorised access and/or fence damage to the exclusion zones)	PCL HSE Manager Project Ecologist, PCL Lead Construction Manager ACEN Project Manager to report to DPE as required.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					Reinduction of workers accessing the exclusion zones.			
		1	Visual monitoring of the approved creek crossings and access tracks within the environmental exclusion zones to ensure confinement to approved areas.	All access confined to approved access tracks and creek crossings	Monitor for evidence of vehicle tracks outside approved tracks and crossings. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Weekly once creek crossing construction is completed.	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager on exclusion zone integrity. PCL to report any unauthorised access to exclusion zones to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager.
		2	Visual monitoring of the approved creek crossings and access tracks within the environmental exclusion zones to ensure confinement to approved areas.	Evidence of unauthorised vehicle movements off the approved access tracks and crossings detected in weekly inspections such as fresh wheel tracks through the creek, fencing damage that wasn't present at the previous inspection.	Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones. Toolbox talk / education of workers regarding usage of access tracks and crossings within the exclusion zones.	Weekly once creek crossing construction is completed	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any unauthorised access and fence damage to the exclusion zones to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager
		3	Visual monitoring of the approved creek crossings and access tracks within the environmental exclusion zones to ensure	Evidence of continued unauthorised access to exclusion zones detected in weekly inspections such as new tracks, repeated usage of previously identified tracks and deliberately compromised fencing.	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Investigate cause of death or injury and record details	Weekly once creek crossing construction is completed	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager PCL/Transgrid HSE Manager, Lead Manager (immediately)	PCL HSE Manager Project Ecologist, PCL Lead Construction Manager ACEN Project Manager to report to DPE as required.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			confinement to approved areas.		Review fencing design if investigation identifies improvement required. Reinduction of workers accessing the exclusion zones.		External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of unauthorised access and/or fence damage to the exclusion zones)	
2 **Construction of solar panels and perimeter fencing**	Trapped fauna may cause degradation of retained native vegetation.	1	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing intact. Implement Protocol 7 – Fence Construction and Management) Salvaged animals relocated.	Regular (weekly) inspection and maintenance of fencing during construction Implement Protocol 7 – Fence Construction and Management)	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any fauna mortalities to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager
		2	Inspect and maintain fencing. Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing is damaged or not being maintained. Injured or deceased fauna is identified along or near fencing.	Repair fencing Implement Protocol 7 – Fence Construction and Management)	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any fauna mortalities to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
		3	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing is missing and has not been repaired. Fauna deaths Listed Threatened Species trapped inside the perimeter fence.	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management) Undertake additional training with operators and relevant site personnel. Project Ecologist to capture, if possible, listed Threatened Species and relocate. Implement Protocol 3 – Management of Displaced Fauna.	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of a fauna mortality)	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager ACEN Project Manager to report to DPE as required.
	Security fences may obstruct the movement of larger terrestrial species such as kangaroos, wallabies and other fauna species.	1	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	No damage to fencing	Regular (weekly) inspection and maintenance of fencing during construction. Implement Protocol 7 – Fence Construction and Management)	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any fauna mortalities to ACEN for reporting to DPE as required.	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager
		2	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken	Fencing is damaged or not being maintained. Injured or deceased fauna is identified along or near fencing	Repair fencing Implement Protocol 3 – Management of Displaced Fauna.	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager. PCL to report any fauna mortalities to	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			to relocate them.				ACEN for reporting to DPE as required.	
		3	Inspect and maintain fencing. Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing is missing and has not been repaired. Fauna deaths. Listed Threatened Species trapped inside the perimeter fence	Replace and / or repair missing fencing, Undertake additional training with operators and relevant site personnel. Project Ecologist to capture, if possible, listed Threatened Species and relocate. Implement Protocol 3 – Management of Displaced Fauna	Weekly	PCL HSE Manager to consult with Project Ecologist and report to PCL Lead Construction Manager PCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of a fauna mortality)	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager ACEN Project Manager to report to DPE as required.
	Vehicle strike causing injury to fauna.	1	Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes.	Nil vehicle strikes within Project Area. Nil animal salvage within the site.	Maintain logs.	Daily	PCL HSE Manager to undertake recording, maintain logs and report to PCL Lead Construction Manager. PCL Lead Project Manager to report any fauna mortalities to ACEN for reporting to DPE as required	PCL HSE Manager, Project Ecologist, PCL Lead Construction Manager.
		2	Maintain a log of salvaged animals and actions taken	Occasional vehicle strikes occurring (one in a continuous three month period).	Investigate cause of death or injury and record details.	Daily	PCL HSE Manager to undertake recording, maintain logs and report to	PCL HSE Manager,

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			to relocate them. Maintain a log of vehicle strikes.	Animals requiring salvage within the site.	Review Traffic Management Plan and Site Induction. Undertake training with site staff regarding safe driving habits. Update if investigation identifies improvement required.		PCL Lead Construction Manager. PCL HSE Manager to report on suitability of Traffic management Plan. PCL Lead Project Manager to report any fauna mortalities to ACEN for reporting to DPE as required.	PCL Lead Construction Manager
		3	Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes.	Repeated vehicle strikes resulting in animal fatalities, Increased number or animals requiring salvage (more than two in a continuous three month period). Listed Threatened Species killed.	Investigate cause of death or injury and record details. Review Traffic Management Plan and Site Induction. Undertake training with site staff regarding safe driving habits. Update site traffic rules via the Traffic Management Plan if investigation identifies improvement required.	Daily	Project Ecologist to investigate injuries and deaths and report to PCL Lead Construction Manager PCL/Transgrid HSE Advisor. PCL/Transgrid HSE Advisor to arrange training. PCL Lead Project ManagerPCL/Transgrid HSE Manager, Lead Manager (immediately) External: to ACEN Project Manager, (immediately) DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes	Project Ecologist, PCL Lead Construction Manager ACEN Project Manager to report to DPE as required.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
							aware of a fauna mortality)	
3. Changed management practices on Site.	Vegetation condition may decline over time due to increased abundancy of weeds.	1	Inspect for weeds	No new weeds	Ongoing monitoring.	Monthly	PCL HSE Manager to report to PCL Lead Construction Manager	PCL HSE Manager, PCL Lead Construction Manager
		2	Inspect for weeds	Increase in weed density and distribution from baseline weed survey of 10%.	Identify and implement control measures in Protocol 5 – Weed Management	Monthly	PCL HSE Manager to report to PCL Lead Construction Manager	PCL HSE Manager, PCL Lead Construction Manager
		3	Inspect for weeds	Increase in weed density and distribution from baseline weed survey by more than 10%. Establishment of priority weeds (Declared Noxious Weeds).	Identify and implement control measures in Protocol 5 – Weed Management. Reporting of Priority Weeds (Declared Noxious Weeds) to ACEN and Local Land Services Targeted control of priority weeds (Declared noxious Weeds).	Monthly	PCL HSE Manager to report to PCL Lead Construction Manager. Project Ecologist to update relevant plans. ACEN Site Manager to report Weeds of Priority to Local Lands Service	PCL HSE Manager, PCL Lead Construction Manager Project Ecologist ACEN Site Manager
4. Increased traffic and visitation	Degradation and modification of retained habitat due to spread of weeds and feral pests.	1	Inspect for the presence of feral pests (rabbit, fox and pig) on the Project Site. Inspect for weeds along access tracks through retained habitat areas	No incidents of feral pest infestation. No increase in weeds	Implement management actions in Protocol 6 – Feral Pest Management. Implement control measures in Protocol 5 – Weed Management	Fortnightly	PCL HSE Manager report to PCL Lead Construction Manager	PCL HSE Manager, PCL Lead Construction Manager
		2	Inspect for the presence of feral pests	Feral pests (rabbit, fox and pig) are detected	Implement management actions in Protocol 6 – Feral Pest Management.	Fortnightly	PCL HSE Manager report to PCL Lead	PCL HSE Manager,

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			(rabbit, fox and pig) on the Project Site. Inspect for weeds along access tracks through retained habitat areas	within the disturbance zone. Weeds within the retained habitat zones	Implement control measures in Protocol 5 – Weed Management Review and update Feral Pest Management Protocol to include new or improved management techniques.		Construction Manager	PCL Lead Construction Manager
		3	Inspect for the presence of feral pests (rabbit, fox and pig) on the Project Site. Inspect for weeds along access tracks through retained habitat areas	New feral pest species detected within the disturbance zone, (eg Deer, feral cat or wild dog). Establishment of priority weeds (Declared Noxious Weeds). Establishment of feral pest species found in previously pest free area	Implement management actions in Protocol 6 – Feral Pest Management. Implement control measures in Protocol 5 – Weed Management. Targeted control of priority weeds (Declared noxious Weeds). Review and update Feral Pest Management Protocol to include management techniques for new species.	Fortnightly	PCL HSE Manager report to PCL Lead Construction Manager	PCL HSE Manager, PCL Lead Construction Manager
5. Ground disturbance	Creation of dust and facilitation of waterborne sediment. Sedimentation could adversely affect the surrounding vegetation.	1	Inspect Erosion and Sediment Control measures installed and operational	Erosion and sediment control devices functioning as per design and ESCP.	Inspect Erosion and Sediment Control measures installed and operational	Weekly and after rainfall events that cause runoff.	PCL HSE Manager report to PCL Lead Construction Manager.	PCL HSE Manager, PCL Lead Construction Manager.
		2	Inspect Erosion and Sediment Control measures installed and operational	Erosion and sediment control devices not functioning. Sedimentation occurring.	Repair and replace devices as required under the SWMP and ESCP. Install new devices as necessary.	Weekly and after rainfall events that cause runoff.	PCL HSE Manager report to PCL Lead Construction Manager. PCL Lead Construction	PCL HSE Manager, PCL Lead Construction Manager.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					Stop construction work in wet conditions as necessary.		Manager to report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS	PCL Lead Project Manager. ACEN Project Manager to report to DPE
		3	Inspect Erosion and Sediment Control measures installed and operational	Updated Erosion and sediment control devices not functioning. Sedimentation occurring.	Repair and replace devices as required under the SWMP and ESCP. Install new devices as necessary. Stop construction work in wet conditions as necessary. Review effectiveness of SWMP and ESCP.	Weekly and after rainfall events that cause runoff.	PCL HSE Manager report to PCL Lead Construction Manager. PCL Lead Construction Manager to report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS	PCL HSE Manager, PCL Lead Construction Manager. PCL Lead Project Manager. ACEN Project Manager to report to DPE
	Rehabilitation with respect to construction.	1	Inspect disturbed areas for rehabilitation success.	Disturbed areas meeting rehabilitation objectives.	Inspect disturbed areas for compliance with agreed rehabilitation objectives.	Weekly	PCL HSE Manager report to PCL Lead Construction Manager.	PCL HSE Manager, PCL Lead Construction Manager.
		2	Inspect disturbed areas for rehabilitation success.	Disturbed areas not meeting rehabilitation objectives.	Implement appropriate responses if rehabilitation fails.	Weekly	PCL HSE Manager report to PCL Lead Construction Manager.	PCL HSE Manager, PCL Lead Construction Manager.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
				Failed vegetation patches less than $20m^2$ Proliferation of non-native vegetation or ground cover <70% in disturbance area.	Identify and implement control measures in Protocol 5 – Weed Management Failed vegetation patches less than $20m^2$ to be actively managed within 30 days using the most appropriate method per the prevailing climatic conditions.		PCL Lead Construction Manager to report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS	PCL Lead Project Manager. ACEN Project Manager to report to DPE
		3	Inspect disturbed areas for rehabilitation success.	Updated Erosion and sediment control devices not functioning. Sedimentation occurring. Failed vegetation patches greater than $20m^2$.	Implement appropriate responses if rehabilitation fails. Identify and implement control measures in Protocol 5 – Weed Management. Failed vegetation patches less than 20m2 to be actively managed within 30 days using the most appropriate method per the prevailing climatic conditions.	Weekly	PCL HSE Manager report to PCL Lead Construction Manager. PCL Lead Construction Manager to report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS	PCL HSE Manager, PCL Lead Construction Manager. PCL Lead Project Manager. ACEN Project Manager to report to DPE
7. Light Spill	Light spill from artificial light may affect nocturnal species such as arboreal mammals, large	1	Inspect lighting in project area. Compliance with approved hours of construction.	Works being undertaken in accordance with the Conditions of Consent and there is no light spill.	Implement management actions in Protocol 10 – Lighting Design in accordance with AS4282	Weekly	PCL Lead Construction Manager to manage hours of operation.	PCL HSE Manager, PCL Lead Construction Manager.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
	forest owls and foraging microbats.	2	Inspect lighting in project area. Compliance with approved hours of construction.	Works being undertaken outside of the Conditions of Consent and there is no light spill.	Implement management actions in Protocol 10 – Lighting Design in accordance with AS4282. Manage site in accordance with Dark Sky Planning Guideline PCL Lead Construction Manager to investigate the circumstances regarding out of hours works.	Weekly	PCL Lead Construction Manager to manage hours of operation. PCL Lead Construction Manager to report circumstances of non-compliance with working hours to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS	PCL Lead Construction Manager. PCL Lead Project Manager. ACEN Project Manager to report to DPE
		3	Inspect lighting in project area. Compliance with approved hours of construction.	Works being undertaken in accordance with the Conditions of Consent and there is light spill	Implement management actions in Protocol 10 – Lighting Design in accordance with AS4282. Manage site in accordance with Dark Sky Planning Guideline PCL Lead Construction Manager to investigate the circumstances regarding out of hours works and light spill	Weekly	PCL Lead Construction Manager to report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS	PCL HSE Manager, PCL Lead Construction Manager. PCL Lead Project Manager. ACEN Project Manager to report to DPE
8. Pollution	Contamination of land and water from chemical spill.	1	Inspect chemical storage areas	No spills.	Implement management actions in Protocol 11 – Chemical Management	Fortnightly	PCL HSE Manager report to PCL Lead Project Manager.	PCL HSE Manager, PCL Lead Construction Manager.

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
		2	Inspect chemical storage areas	Minor spill, outside of definition of Incident in Conditions of Consent.	Stop work in the spill area. Clean up spill. Implement management actions in Protocol 11 – Chemical Management	Fortnightly	PCL HSE Manager report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS.	PCL Lead Construction Manager. PCL Lead Project Manager. ACEN Project Manager to report to DPE
		3	Inspect chemical storage areas	Spill which is considered an Incident	Stop work in the spill area, Clean up spill, Report the incident. Review and update management actions in Protocol 11 – Chemical Management if required.	Fortnightly	PCL HSE Manager report to PCL Lead Project Manager. PCL Lead Project Manager to immediately report any incidents or non-compliances to ACEN for reporting to DPE as set out in the project EMS.	PCL HSE Manager, PCL Lead Construction Manager. PCL Lead Project Manager. ACEN Project Manager to report to DPE

Table 4-3: Multi-level Trigger, Action, Response, Monitoring and reporting requirements during operation.

Trigger Levels

Level 1	**Normal Level**
Level 2	**Early Warning Level**
Level 3	**Exceedance Level**

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
OPERATIONS								
1 Removal of Native Vegetation	Trapped fauna may exhaust food resources and water supply, causing death.	1	Inspect for trapped fauna. Maintain a log of salvaged animals and actions taken to relocate them.	No trapped fauna	Monitor for trapped fauna	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor and Project Ecologist to undertake monitoring. O&M Supervisor to report any fauna mortalities to ACEN for reporting to DPE.	O&M Supervisor, Project Ecologist,
		2	Inspect for trapped fauna. Maintain a log of salvaged animals and actions taken to relocate them.	Fauna being trapped. Fauna deaths (less than one in a continuous three month period)	Implement Protocol 3 – Management of Displaced Fauna. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor and Project Ecologist to undertake monitoring. O&M Supervisor to report any fauna mortalities to ACEN for reporting to DPE.	O&M Supervisor, Project Ecologist, ACEN Operations Manager DPE
		3	Inspect for trapped fauna. Maintain a log of salvaged	Fauna being trapped. Fauna deaths (two or more a continuous three month period)	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management	Monthly for first three months of operations, then	O&M Supervisor and Project Ecologist to undertake review of Protocol 7 and update where necessary.	O&M Supervisor, Project Ecologist,

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			animals and actions taken to relocate them.		Protocol 13 – Exclusion Fencing/Exclusion Zones Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required	quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor to report any fauna mortalities to ACEN for reporting to DPE immediately.	ACEN Operations Manager to report to DPE, Planning Secretary
	Maintain Exclusion Zones	1	Monitoring the environmental exclusion zones to ensure biodiversity values are not significantly affected by indirect impacts	Compliance with EIS Commitment B4	Monitor for integrity of exclusion zone fencing. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Implement control measures in Protocol 5 – Weed Management. Annual monitoring of four BDAR BAM Plots in exclusion zone (as listed in Protocol 13).	Monthly Annual (BAM plots)	O&M Supervisor and Project Ecologist to undertake monitoring. O&M Supervisor to report any unauthorised access to the exclusion zones to ACEN for reporting to DPE.	O&M Supervisor, Project Ecologist,
		2	Monitoring the environmental exclusion zones to ensure biodiversity values are not significantly affected by indirect impacts	Evidence of unauthorised access to exclusion zones detected in monthly inspections such as fresh wheel tracks, fencing damage that wasn't present the week before. Fencing compromised, but not deliberately.	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones. Implement control measures in Protocol 5 – Weed Management.	Monthly Annual (BAM plots)	O&M Supervisor and Project Ecologist to undertake monitoring. O&M Supervisor to any unauthorised access to the exclusion zones to ACEN for reporting to DPE.	O&M Supervisor, Project Ecologist, ACEN Operations Manager DPE

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
				Evidence of changes in Vegetation Integrity score.	Annual monitoring of four BDAR BAM Plots in exclusion zone (as listed in Protocol 13). Toolbox talk / education program for all workers regarding unauthorised access to the exclusion zones.			
		3	Monitoring the environmental exclusion zones to ensure biodiversity values are not significantly affected by indirect impacts	Evidence of continued unauthorised access to exclusion zones detected in monthly inspections such as new tracks, deliberately compromised fencing. Evidence of significant changes in Vegetation Integrity score.	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Implement control measures in Protocol 5 – Weed Management. Annual monitoring of four BDAR BAM Plots in exclusion zone (as listed in Protocol 13).. Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required. Reinduction of workers accessing the exclusion zones.	Monthly Annual (BAM plots)	O&M Supervisor and Project Ecologist to undertake review of Protocol 7 and update where necessary. O&M Supervisor to any unauthorised access to the exclusion zones to ACEN for reporting to DPE immediately.	O&M Supervisor, Project Ecologist, ACEN Operations Manager to report to DPE, Planning Secretary

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
		1	Monitoring the approved creek crossings and access tracks within the environmental exclusion zones to ensure	All access confined to approved access tracks and creek crossings	Monitor for evidence of vehicle tracks outside approved tracks and crossings. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Monthly	O&M Supervisor and Project Ecologist to undertake monitoring. O&M Supervisor to report any unauthorised access to the exclusion zones to ACEN for reporting to DPE.	O&M Supervisor, Project Ecologist,
		2	Monitoring the approved creek crossings and access tracks within the environmental exclusion zones to ensure	Evidence of one-off unauthorised vehicle movements off the approved access tracks and crossings detected in monthly inspections such as fresh wheel tracks, fencing damage that wasn't present the month before.	Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones. Toolbox talk / education of workers regarding usage of access tracks and crossings within the exclusion zones.	Monthly	O&M Supervisor and Project Ecologist to undertake monitoring of tracks and crossings. O&M Supervisor to any unauthorised access to the exclusion zones to ACEN for reporting to DPE.	O&M Supervisor, Project Ecologist, ACEN Operations Manager DPE
		3	Monitoring the approved creek crossings and access tracks within the environmental exclusion zones to ensure	Evidence of continued unauthorised access to exclusion zones detected in monthly inspections such as new tracks, deliberately compromised fencing.	Replace and / or repair missing fencing, Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required.	Monthly	O&M Supervisor and Project Ecologist to undertake review of Protocol 7 and update where necessary. O&M Supervisor to any unauthorised access to the exclusion zones to ACEN for reporting to DPE. Suspension of driving rights on site for repeated infringements.	O&M Supervisor, Project Ecologist, ACEN Operations Manager to report to DPE, Planning Secretary

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					Reinduction of workers accessing the exclusion zones.		O&M Supervisor to undertake a fresh induction site workers.	
2 **Construction of solar panels and perimeter fencing**	Trapped fauna may cause degradation of retained native vegetation.	1	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing intact Salvaged animals relocated.	Regular monthly inspections and maintenance of fencing for the first three months post-construction, then quarterly for the remainder of the first-year post-construction. Then annually, provided fauna deaths are infrequent. Protocol 3 – Management of Displaced Fauna Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor and Project Ecologist to undertake monitoring.	O&M Supervisor, Project Ecologist
		2	Inspect and maintain fencing. Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing is damaged or not being maintained. Injured or deceased fauna is identified along or near fencing. Decline in vegetation integrity	Repair fencing Implement Protocol 7 – Fence Construction and Management Protocol 3 – Management of Displaced Fauna Protocol 13 – Exclusion Fencing/Exclusion Zones Protocol – 9 – Dust Control/Rehabilitation	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor to report any fauna mortalities to ACEN Operations Manager for reporting to DPE	O&M Supervisor, ACEN Operations Manager
		3	Inspect and maintain fencing.	Fencing is missing and has not been repaired.	Replace and / or repair missing fencing	Monthly for first three months of	O&M Supervisor to report any fauna mortalities to ACEN	O&M Supervisor,

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			Maintain a log of salvaged animals and actions taken to relocate them.	Fauna deaths Significant decline in vegetation integrity	Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones Investigate cause of death or injury and record details Review fencing design if investigation identifies improvement required. Protocol 3 – Management of Displaced Fauna V Protocol 3 – Management of Displaced Fauna Improve vegetation integrity by implementing rehabilitation protocol.	operations, then quarterly for the remainder of the year. Then annually or incident based.	Operations Manager for reporting to DPE immediately	ACENCEN Operations Manager
	Security fences may obstruct the movement of larger terrestrial species such as kangaroos, wallabies and other fauna species.	1	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes. Implementation of TMP.	Fencing intact. No fauna detected. No vehicle strikes.	Regular monthly inspections and maintenance of fencing for the first three months post-construction, then quarterly for the remainder of the first-year post-construction. Then annually, provided fauna deaths are infrequent. Maintain a log of vehicle strikes. Implementation of TMP. Salvaged animals relocated.	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor and Project Ecologist to undertake monitoring. O&M Supervisor to maintain log of strikes.	O&M Supervisor, Project Ecologist

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones.			
		2	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes. Implementation of TMP.	Fencing is damaged or not being maintained. Injured or deceased fauna is identified along or near fencing or within the site.	Regular monthly inspections and maintenance of fencing for the first three months post-construction, then quarterly for the remainder of the first-year post-construction. Then annually, provided fauna deaths are infrequent. Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them. Implement Protocol 7 – Fence Construction and Management Protocol 13 – Exclusion Fencing/Exclusion Zones.	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or incident based.	O&M Supervisor to report any fauna mortalities to ACEN Operations Manager for reporting to DPE. O&M Supervisor to maintain log of strikes.	O&M Supervisor, ACEN Operations Manager
		3	Inspect and maintain fencing. Maintain a log of salvaged animals and actions taken to relocate them.	Fencing is missing and has not been repaired. Fauna trapped. Fauna deaths. Listed Threatened Species trapped inside the perimeter fence.	Regular monthly inspections and maintenance of fencing for the first three months post-construction, then quarterly for the remainder of the first-year post-construction. Then annually, provided fauna deaths are infrequent.	Monthly for first three months of operations, then quarterly for the remainder of the year. Then annually or	O&M Supervisor to report any fauna mortalities to ACEN Operations Manager for reporting to DPE immediately. O&M Supervisor to maintain log of strikes.	O&M Supervisor, ACEN Operations Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
					Replace and / or repair missing fencing. Investigate cause of death or injury and record details. Review fencing design if investigation identifies improvement required. Review Protocol 7 – Fence Construction and Management Review Protocol 13 – Exclusion Fencing/Exclusion Zones	incident based.		
	Vehicle strike causing injury to fauna on internal roads.	1	Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes.	Nil vehicle strikes within Project Area. Nil animal salvage within the site.	Maintain logs.	Incident based	O&M Supervisor to maintain log.	O&M Supervisor.
		2	Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes.	Occasional vehicle strikes occurring (less than one in a three continuous month period). Animals requiring salvage within the site. Listed Threatened Species injured.	Investigate cause of death or injury and record details. Review Traffic Management Plan and Site Induction. Undertake training with site staff regarding safe driving habits. Update if investigation identifies improvement required.	Incident based	O&M Supervisor to report any fauna mortalities to ACEN Operations Manager for reporting to DPE	O&M Supervisor ACEN Operations Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
		3	Maintain a log of salvaged animals and actions taken to relocate them. Maintain a log of vehicle strikes.	Repeated vehicle strikes resulting in animal fatalities, Increased number or animals requiring salvage (more than two in a continuous three month period) Listed Threatened Species killed.	Investigate cause of death or injury and record details. Review Traffic Management Plan and Site Induction. Undertake training with site staff regarding safe driving habits. Update if investigation identifies improvement required.	Incident based	O&M Supervisor to report any fauna mortalities to ACEN Operations Manager for reporting to DPE immediately	O&M Supervisor ACEN Operations Manager
3. Changed management practices on Site.	Vegetation condition may decline over time due to increased abundancy of weeds.	1	Visual inspection by vehicle for weeds	No new weeds within Project Area compared to pre baseline survey.	Monthly inspection	Monthly (project area)	Project Ecologist to report weeds to O&M Manager	Project Ecologist
		2	Visual inspection by vehicle for weeds	Increase in weed density and distribution from baseline weed survey of up to 10%.	At 10% weed cover, weed control is to be undertaken at rosette stage/prior to flowering. Implement control measures in Protocol 5 – Weed Management Implement Protocol 12 – Vehicle Hygiene O&M Manager to engage weed spraying contractor	Monthly (project area) Annual weed inspection as outlined in Protocol 5 (project area and exclusion zone).	Project Ecologist to report weeds to O&M Manager	Project Ecologist
		3	Visual inspection by vehicle for weeds	Increase in weed density and distribution from baseline weed survey by more than 10%. Establishment of priority weeds	At 10% weed cover, weed control is to be undertaken at rosette stage/prior to flowering. Implement control measures in Protocol 5 – Weed Management	Monthly (project area) Annual weed inspection as outlined in Protocol	Project Ecologist to report weeds to O&M Manager. O&M Supervisor to report Priority Weeds to ACEN Operations Manager.	O&M Supervisor ACEN Operations Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
				(Declared Noxious Weeds).	Implement Protocol 12 – Vehicle Hygiene Reporting of Priority Weeds (Declared Noxious Weeds) to ACEN and Local Lands Service. O&M Manager to engage weed spraying contractor	5 (project area and exclusion zone)	ACEN Operations Manager to report Weeds of Priority to Local Lands Service	
4. Increased traffic and visitation	Degradation and modification of retained habitat due to spread of weeds and feral pests.	1	Inspect for the presence of feral pests (rabbit, fox and pig) on the Project Site. Inspect for weeds along access tracks through retained habitat areas	No feral pests (rabbit, fox and pig) on Project Site.	Implement management actions in Protocol 6 – Feral Pest Management. Implement Protocol 12 – Vehicle Hygiene Implement control measures in Protocol 5 – Weed Management	Opportunistic sightings and Quarterly Site Inspection.	O&M Supervisor to report progress to ACEN Operations Manager	O&M Supervisor
		2	Inspect for the presence of feral pests (rabbit, fox and pig) on the Project Site. Inspect for weeds along access tracks through retained habitat areas	Feral pests (rabbit, fox and pig) are detected within the disturbance zone. Weeds within the retained habitat zones	Implement management actions in Protocol 6 – Feral Pest Management. Implement Protocol 12 – Vehicle Hygiene Implement control measures in Protocol 5 – Weed Management Review and update Feral Pest Management Protocol to include new or improved management techniques.	Opportunistic sightings and Quarterly Site Inspection	O&M Supervisor to report progress to ACEN Operations Manager.	O&M Supervisor
		3	Inspect for the presence of feral pests (rabbit, fox and pig) on the Project Site.	New feral pest species detected within the disturbance zone, (eg Deer, feral cat or wild dog).	Implement management actions in Protocol 6 – Feral Pest Management. Implement Protocol 12 – Vehicle Hygiene	Opportunistic sightings and Quarterly	O&M Supervisor to report progress to ACEN Operations Manager to approve Protocol update	O&M Supervisor ACEN Operations Manager

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			Inspect for weeds along access tracks through retained habitat areas	Establishment of feral pest species found in previously pest free area. Establishment of priority weeds (Declared Noxious Weeds).	Implement control measures in Protocol 5 – Weed Management Targeted control of priority weeds (Declared noxious Weeds). Reporting of Priority Weeds (Declared Noxious Weeds) to ACEN and Local Land Services Review and update Feral Pest Management Protocol to include management techniques for new species.	Site Inspection		
5. Ground Disturbance Rehabilitation	Monitor rehabilitated areas	1	Quarterly inspections of rehabilitated areas for two years after works; half-yearly inspections for the life of the project.	Maintenance of non-native vegetation or ground cover >70% in disturbance area.	Continued monitoring	Quarterly inspections of rehabilitated areas for two years after works; half-yearly inspections for the life of the project.	Project Ecologist to review results and report to O&M Supervisor after each visit	Project Ecologist O&M Supervisor
		2	Quarterly inspections of rehabilitated areas for two years after works; half-yearly inspections for	Disturbed areas not meeting rehabilitation objectives. Failed vegetation patches less than $20m^2$	Implement management actions in Protocol 8 – Erosion and Sediment Control Protocol 9 – Dust Control / Rehabilitation Section 4.10	Quarterly inspections of rehabilitated areas for two years after works; half-yearly	Project Ecologist to review results and report to O&M Supervisor after each visit	Project Ecologist O&M Supervisor

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
			the life of the project.	Proliferation of non-native vegetation or ground cover <70%.	Identify and implement control measures in Protocol 5 – Weed Management Failed vegetation patches less than 20m^2 to be actively managed within 30 days using the most appropriate method per the prevailing climatic conditions.	inspections for the life of the project.		
		3	Quarterly inspections of rehabilitated areas for two years after works; half-yearly inspections for the life of the project.	Failed vegetation patches greater than 20m^2 Proliferation of weeds, non-native vegetation within rehabilitated areas or ground cover <70% in disturbance area.	Implement management actions in Protocol 8 – Erosion and Sediment Control Protocol 9 – Dust Control / Rehabilitation Section 4.10 Identify and implement control measures in Protocol 5 – Weed Management Failed vegetation patches less than 20m2 to be actively managed within 30 days using the most appropriate method per the prevailing climatic conditions.	Quarterly inspections of rehabilitated areas for two years after works; half-yearly inspections for the life of the project.	Project Ecologist to review results and report to O&M Supervisor after each visit	Project Ecologist O&M Supervisor
7. Light Spill	Light spill from artificial light may affect nocturnal species such as arboreal mammals, large forest owls and foraging microbats.	1	Inspect lighting in project area. Compliance with Conditions of Consent.	Works being undertaken in accordance with the Conditions of Consent and there is no light spill.	Implement management actions in Protocol 10 – Lighting Design in accordance with AS4282 Manage site in accordance with Dark Sky Planning Guideline.	Upon commencement of operation then annually.	O&M Supervisor to manage hours of operation.	O&M Supervisor

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
		2	Inspect lighting in project area. Compliance with Conditions of Consent	Works being undertaken in accordance with the Conditions of Consent and there is light generation.	Implement management actions in Protocol 10 – Lighting Design in accordance with AS4282. Manage site in accordance with Dark Sky Planning Guideline O&M Supervisor to investigate the circumstances regarding light generation and check for compliance with Conditions of Consent. If out of hours works are involved, then O&M Supervisor and ACEN to seek Secretary's Approval for such works.	Upon commencement of operation then annually.	O&M Supervisor to manage hours of operation. O&M Supervisor to report circumstances of non-compliance with working hours to ACEN Operations Manager. O&M Supervisor to immediately report any incidents or non-compliances to ACEN Operations Manager for reporting to DPE as set out in the project EMS	O&M Supervisor. ACEN Operations Manager to report to DPE
		3	Inspect lighting in project area. Compliance with Conditions of Consent	Works being undertaken in accordance with the Conditions of Consent and there is light spill	Implement management actions in Protocol 10 – Lighting Design in accordance with AS4282. Manage site in accordance with Dark Sky Planning Guideline Manager O&M Supervisor to investigate light spill that doesn't conform with Conditions of Consent (eg light shining above the horizontal). If out of hours works are required ACEN to seek Secretary's Approval for such works	Upon commencement of operation then annually.	O&M Supervisor to immediately report any incidents or non-compliances to ACEN Operations Manager for reporting to DPE as set out in the project EMS immediately	O&M Supervisor. ACEN Operations Manager to report to DPE

Impact Table 4.1	Activity	Level	Monitoring Action	Decision Trigger	Action	Timing	Reporting	Responsibility
8. Pollution	Contamination of land and water from chemical spill.	1	Inspect chemical storage areas	No spills.	Implement management actions in Protocol 11 – Chemical Management	Monthly	O&M Supervisor to monitor.	O&M Supervisor
		2	Inspect chemical storage areas	Minor spill, outside of definition of Incident in Conditions of Consent.	Stop work in the spill area. Clean up spill. Implement management actions in Protocol 11 – Chemical Management	Monthly	O&M Supervisor to report circumstances of non-compliance to ACEN Operations Manager. O&M Supervisor to immediately report any incidents or non-compliances to ACEN Operations Manager for reporting to DPE as set out in the project EMS	O&M Supervisor. ACEN Operations Manager to report to DPE
		3	Inspect chemical storage areas	Spill which is considered an Incident	Stop work in the spill area. Clean up spill. Report the incident. Review and update management actions in Protocol 11 – Chemical Management if required.	Monthly	O&M Supervisor to immediately report any incidents or non-compliances to ACEN Operations Manager for reporting to DPE as set out in the project EMS	O&M Supervisor. ACEN Operations Manager to report to DPE

4.3.1 Incident Management

As defined in the DC an incident is a set of circumstances that causes or threatens to cause material harm to the environment. Material harm is also defined in the development consent as harm that:

- involves actual or potential harm to the health and safety of human beings or to ecosystems that is not trivial; or
- results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
- Subsequent notification requirements will be given (**Table 4-4**), and reports submitted in accordance with the requirements set out in Appendix 7 of the Conditions of Approval (see below).

Table 4-4: Incident management process.

Incident level	Definition	Notification	Responsibility
Reportable	Causes or threatens to cause material harm to the environment (see definition in DC): • involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or makegood harm to the environment.	• Internal: to PCL/Transgrid HSE Manager, Lead Manager (immediately) • External: to ACEN Project Manager, (immediately) • DPE: to the Planning Secretary, (immediately after the ACEN Project Manager becomes aware of an incident)	• PCL/Transgrid Lead Project Manager • ACEN Project Manager to report to DPE, Planning Secretary

It is a mandatory requirement for any personnel working for or on behalf of PCL, ACEN or Transgrid to report and respond to all hazards and events that have affected or have the potential to adversely affect the environment.

Examples of events include:

- fauna mortality
- fuel spillage
- excessive noise incidents
- chemical spills
- bushfire
- complaint from a neighbour.

The first line of response is to take immediate actions to minimise risks to persons, equipment, fauna and the environment. These actions may include:

- stop work
- assess site and make the area safe
- notify other parties that may be affected by the hazard/event.

DPE will be notified in writing via the Major Projects portal immediately after the Applicant becomes aware of an incident on site which has the potential to cause material environmental harm. Accordingly, the PCL Lead Project Manager will notify the ACEN Project Manager immediately after a reportable incident occurs to enable prompt reporting by the ACEN Project Manager to the Planning Secretary.

The notification must identify the development, including the application number and the name of the development, and set out the location and nature of the incident. Examples of an environmental incident that results in 'material harm to the environment' could be:

- an uncontained spill into a water course resulting in harm to the health or safety of human beings or non-trivial harm to ecosystems
- the mortality of or serious injury to wildlife as a result of project activity

Response agencies need to be informed of pollution incidents quickly, so action can be coordinated to prevent or limit harm to the environment and human health generally. These are listed in **Table 4-5**.

Table 4-5: Response Agency Contact Details.

Response agency	Contact details
Environment Protection Authority NSW (EPA NSW)	131 555 or (02) 9995 5555
Ministry of Health NSW	(02) 9391 9000
SafeWork NSW	131 050
The local authority, Mid-Western Shire Council	(02) 6378 2850 24 hours
Fire and Rescue NSW	000 or 112 from mobile
Rural Fire Service Gulgong	000, or 112 from mobile

4.3.2 Non-compliance Reporting

A project non-compliance is a project condition that is not in compliance with the development consent conditions. Environmental non-compliances will be reported and actioned through the incident management procedures detailed below.

As per Schedule 4 Conditions 8, 9 and 10, as well as Appendix 7 of the Conditions of Consent, the Applicant (ACEN) is required to inform the Department in writing via the Major Projects website within 7 days after becoming aware of any non-compliance with the conditions of this consent. Accordingly, PCL Lead Project Manager, or Transgrid, will notify the ACEN Project Manager no greater than 24 hours after a non-compliance is identified to enable prompt reporting by ACEN to the Planning Secretary. As Consent Holders ACEN has the responsibility for reporting non-compliances to the Planning Secretary during both construction and operations.

The notification will identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the noncompliance (if known) and what actions have been done, or will be, undertaken to address the non-compliance. A non-compliance notified as an incident does not need to be notified as a non-compliance.

4.3.3 Appendix 7: Incident Notification and Reporting Requirements

<u>Written Incident Notification Requirements</u>

1. A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Projects website within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition 7 of Schedule 4 or, having given such notification, subsequently forms the view that an incident has not occurred.

2. Written notification of an incident must:

(a) identify the development and application number;

(b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);

(c) identify how the incident was detected;

(d) identify when the applicant became aware of the incident;

(e) identify any actual or potential non-compliance with conditions of consent;

(f) describe what immediate steps were taken in relation to the incident;

(g) identify further action(s) that will be taken in relation to the incident; and

(h) identify a project contact for further communication regarding the incident.

3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.

4. The Incident Report must include:

(a) a summary of the incident;

(b) outcomes of an incident investigation, including identification of the cause of the incident;

(c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and

(d) details of any communication with other stakeholders regarding the incident.

4.4 CONSTRUCTION PERIOD - SUMMARY OF REPORTING

- The following will be reported to ACEN via the PCL Construction Supervisor in consultation with the Project Ecologist at the end of the construction period. ACEN will then provide this information in a summary format to DPE. Performance in relation to carrying out works in accordance with this BMP in accordance with Condition 15(a), Sch 3 of SSD-10452. This will include, but not be limited to:
- Vegetation cleared against vegetation approved to be cleared
- Fauna mortalities
- Weed observations
- Feral pest observations
- Corrective measures undertaken to address fauna mortalities
- Non-compliance and incidents

4.5 BMP PERFORMANCE

Analysis of Completion Criteria across all risk/impacts to determine performance of the BMP in managing biodiversity of the development. This will include:

- **Construction**
    - Habitat tree felling will only occur in summer, autumn or winter (1 December - 31 August) and will not occur in spring (1 September to 30 November) (see Protocol 2).
    - Baseline weed management survey completed prior to construction.
    - Zero removal of 'to be retained' native vegetation during construction and operational phases.
    - Any post construction ground cover revegetation to occur within 3 months of construction completion or upgrading using native grasses. Rehabilitation works including reshaping, topsoil spreading will commence within 10 days of the completion of construction.
- **Operation**
    - The site will be rehabilitated to its inherent Land Capability of Class V as identified within the EIS.
    - Maintain ground cover to 70% cover in the disturbance area with native pasture species for the life of the project (see Section 4.10).
    - Failed vegetation patches greater than $20m^2$ to be actively managed within 10 days using the most appropriate method per the prevailing climatic conditions.
    - Scours greater than 100 mm deep and 20 metres long to be actively managed within 10 days. This may include mulch, re-topsoiling, diversion of water and other methods as outlined in Landcom 2008.
    - Monitoring and reporting requirements as required in Table 4.2 met for life of the project.
    - Fencing requirements are maintained for the life of the project as per Protocol 7.
    - Management of weed cover when 10% cover is reached or 10% increase in baseline data over the life of the project.
    - Management of feral animals in both disturbed areas and exclusion zone so there is no net increase of presence of feral animals for the life of the project.

4.6 INDEPENDENT ENVIRONMENTAL AUDIT

An Independent Environmental Audit of the Stubbo Solar will be conducted in accordance with Schedule 4, Conditions 11-16 of the conditions of consent. Specifically, an audit will be undertaken:

- within 3 months of commencing construction
- within 3 months of commencement of operations
- or as directed by the Secretary of DPE.

The audit will:

- be prepared in accordance with the relevant *Independent Audit Post Approval requirements* (2020)
- be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary

4.7 REVIEW AND IMPROVEMENT

Continuous improvement of this BMP will be achieved by the ongoing evaluation of performance. During construction the Project Ecologist, PCL HSE Manager and TransGrid HSE Manager will monitor the BMP and may propose amendments.

During operations, a review and evaluation of the BMP to identify opportunities for improvement will be completed by the O&M Supervisor, and Project Ecologist.

This BMP will be reviewed and updated, if required, at the following times of the project:

- Prior to upgrading or decommissioning activities on site
- In accordance with Condition 2, Schedule 4, within 1 month of:
    - Submission of an incident report under condition 7 of Schedule 4
    - Submission of an audit report under condition 9 of Schedule 4
    - Any modifications to the conditions of this consent
- Within three years after the Stubbo Solar Project commences operations, then 5 years thereafter.

Part of the continuous improvement process will also include an annual meeting held during the construction and operation phases of the project, and be designed to:

- identify areas of opportunity for improvement of environmental management and performance.
- determine the cause or causes of non-compliance and deficiencies.

- develop and implement a plan of corrective and preventative action to address any non-compliances and deficiencies.
- verify the effectiveness of the corrective and preventative actions.
- document any changes in procedures resulting from process improvement.
- make comparisons with objectives and targets.

Outcomes associated with the continuous improvement process will be distributed to relevant personal via PCL, ACEN and Transgrid internal communication networks such as Toolbox Talks and Working Methods. The updates will also be uploaded to the project website.

4.8 TRAINING

4.8.1 Induction

As part of the induction for **construction** phase of the Project, personnel and relevant subcontractors will become familiar with:

- the purpose of the BMP and all relevant Post approval plans
- the protocols of the BMP and environmental controls
- the processes for environmental emergencies and key contacts
- key roles and responsibilities relevant to BMP.

Protocols in this BMP relevant to that day's activities will be highlighted in the pre-start meeting, and protocols that relate specifically to managing flora and fauna on site are to be included in the induction material developed for the project.

The Site Induction will be updated prior to the commencement of operations to reflect the changes in onsite activities, environmental management and personnel. The Operations Site Induction will be administered by the O&M Manager.

This site will have Site Inductions and an induction register will be kept on-site, signed by inductees, with awareness of the requirements of the BMP highlighted.

As part of the induction for **operational** phase of the Project, personnel and relevant subcontractors will become familiar with:

- the purpose of the BMP and all relevant Post approval plans
- the protocols of the BMP and environmental controls
- the processes for environmental emergencies
- key roles and responsibilities relevant to BMP.

4.8.2 Project Ecologist

The Project Ecologist shall have an applicable tertiary qualification or similar. The ecologist shall be familiar with the scope of works proposed, the project objectives and have a clear knowledge of the ecology of the locality. The role of the ecologist may be subcontracted out on an as needs basis.

Proof of all licences, approvals and qualifications shall be provided at the commencement of the ecologist's involvement in this project.

4.9 WEBSITE

A website has been established for the Project at https://stubbosolar.com.au/

This website will be maintained and kept up-to-date by the Proponent ACEN. As the EPC, PCL will provide ACEN with information as required to ensure the website has up-to-date information. In accordance with Schedule 4, Condition 17, of the conditions of consent, the website will make the following information publicly available at a minimum, as relevant to the stage of the development:

- The EIS
- the final layout plans for the development
- current statutory approvals for the development
- approved strategies, plans or programs required under the conditions of this consent
- the proposed staging plans for the development if the construction, operations or decommissioning of the development is to be staged
- how complaints about the development can be made
- any independent environmental audit, and the Applicant's response to the recommendations in any audit
- any other matter required by the Planning Secretary.

This information on the website will be kept up to date.

4.10 REHABILITATION

The areas disturbed by construction will be rehabilitated within 3 months of construction being completed. Rehabilitation includes the reshaping, spreading of topsoil and sowing of suitable species on disturbed areas. The earthworks associated with rehabilitation will commence within 10 days of the completion of construction activities. Revegetation will follow shortly after

depending upon seasonal conditions and will be completed within 3 months. In some situations, a short-term seasonal sterile cover crop such as Rye Corn or Oats may be sown prior to the establishment of native species. This is to ensure land stability and minimise soil erosion, and is identified in the Erosion and Sediment Control Plan. It is recommended that the following list and supporting documents be used as a guide for providing the correct native species. 70% ground cover in accordance with the Landcom 2004 will be achieved in the disturbance area.

- *Themeda triandra* (Kangaroo Grass)
- *Rytidosperma caespitosum* (Ringed Wallaby Grass)
- *Microlaena stipoides* (Weeping Grass)
- *Bothriochloa macra* (Red Grass, Red-Leg Grass)
- *Poa labillardierei* (Poa Tussock)
- Common native grasses of Central West NSW by the Local Land Service LLS https://www.lls.nsw.gov.au/__data/assets/pdf_file/0007/567628/native-grasses-guide.pdf)
- Grazing Management for Native Pastures on the North West Slopes of NSW (https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0018/162252/grazing-native.pdf)

Within 18 months of cessation of operations, as per Schedule 3, Condition 34, the applicant must rehabilitate the site to the satisfaction of the Planning secretary, as shown in **Table 4-6**. A detailed decommissioning and rehabilitation plan will be developed at the time of decommissioning.

Table 4-6: Rehabilitation Objectives.

Feature	Objective
Site	• Safe, stable and non-polluting • Minimise the visual impact of any above ground ancillary infrastructure agreed to be retained for an alternative use
Solar project infrastructure	• To be decommissioned and removed, unless the Planning Secretary agrees otherwise
Land use	• Restore pre-existing land use so as to be consistent with Schedule 3, Condition 12
Community	• Ensure public safety at all times

5 BIODIVERSITY OFFSETTING

The BMP has been prepared cognisant that offsetting biodiversity impacts of the development will be required under Schedule 3, Condition 14. Prior to commencing construction, unless the Secretary agrees otherwise, the Proponent must retire biodiversity credits of a number and class specified in Table 1 and Table 2 of Schedule 3, Condition 14 (see **Section 2-1**).

Following targeted biodiversity surveys, the biodiversity offset requirements under Condition 14 of Schedule 3 were revised, as confirmed in the Department of Planning and Environment's letter dated 7 June 2022 (reference SSD-10452-PA-1), a copy of which is attached in Appendix 4.

ACEN has retired the biodiversity credit liability for the project by acquiring 'biodiversity credits' within the meaning of the Biodiversity Conservation Act 2016 or making payments into an offset fund that has been developed by the NSW Government. This was confirmed in the submission of Credit Purchases to the DPE via the Major Projects Portal on 23 May 2023, a copy of which is attached in **Appendix 4**.

6 MANAGEMENT PROTOCOLS

The following protocols have been developed to make the implementation of the BMP easier to manage for both the Construction and Operation phases.

6.1 PROTOCOL 1 – VEGETATION CLEARING

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor), Transgrid

Specific measures to minimise the impact of vegetation clearing include:

- Refer to **Figure 3-3, Figure 3-4, Figure 3-5, Figure 3-6** and **Figure 3-7** for guidance on trees and stags to be removed vs retained. The protocol for habitat tree removal is Protocol 2, which stipulates that habitat tree felling will only occur in summer, autumn or winter (1 December - 31 August) and will not occur in spring (1 September to 30 November).
- Clearing will not be undertaken during adverse weather conditions ie dry/windy days and/or significant rainfall events.
- Refer to Figure 3-8 for known locations of Threatened Species.
- This protocol is to be read in conjunction with Protocol 2 and Protocol 13.
- Using GIS data, areas of vegetation to be retained are to be clearly demarcated by the PCL HSE Manager with high visibility fencing to prevent accidental clearing during the construction phase.
    - Clearly marked on Issued for Construction Plans (IFC) which will be delineate areas to be cleared, exclusion zones, Heritage Items (refer to Heritage Management Plan for further details)
    - Capped star pickets and reflective spinning tape (helicopter tape) is recommended for fencing off larger areas of vegetation that is to be retained. This fence should be installed at least 2 m from the dripline
    - Where the above fencing is not practical (e.g., for isolated paddock trees), blue flagging tape is recommended for marking individual trees to be retained
    - Spray painting a red X on the trunk is recommended for marking individual non-habitat trees to be removed
    - Encircling the tree in red and white flagging tape is recommended for marking individual habitat trees to be removed
- Existing cleared areas, farm tracks or areas of existing disturbance will be utilized where possible for laydown areas, boundary fences and access tracks to minimise the amount of vegetation clearing required.

- All material stockpiles, vehicle parking and machinery storage will be sign posted and located within cleared areas or areas proposed for clearing, and not within areas of vegetation to be retained.
- The PCL HSE Manager will regularly record the clearing as undertaken, and confirm that approved disturbance areas align with actual clearing conditions. GIS and digital records will be kept and updated regularly. These actions/management measures that will minimise unnecessary clearance during construction and include:
    - Digital recording (photographs, GPS coordinates and GIS shapefiles) of areas to be cleared prior to clearing
    - IFC drawings to clearly show areas to be cleared.
    - Digital recording (photographs, GPS Coordinates and GIS shapefiles) of cleared areas after clearing
- Pre-clearance surveys must be undertaken by the Project Ecologist prior to commencement of any clearing activities; the Project Ecologist will conduct pre-clearing surveys to identify:
    - Fauna species likely to be encountered during construction and potential impacts to those fauna during vegetation clearing
    - Habitat being actively used by fauna within the Project Site (mark with red and white flagging tape)
    - Habitat potentially being used by fauna within the Project Site (mark with red and white flagging tape)
    - Suitable locations to relocate fauna near to the Project Site (collect GPS co-ordinates)
    - Local WIRES representatives or local vets willing to care for injured animals
- Pre-clearing surveys will take place 1-2 weeks prior to the commencement of native vegetation clearing. The Proposal Ecologist will mark all potential fauna habitat (e.g. habitat trees, nest trees, burrows, etc.) in the development footprint with red and white flagging tape (e.g. trees, large woody debris and nests).
- Prior to all clearing operations the Project Ecologist will verify and certify that all the relevant Protocols have been satisfied.
- The Project Ecologist is to be present on site during all native vegetation tree clearing operations.
- Native Vegetation should be cleared in a way that will allow fauna species living in or near the clearing site enough time to move out of the area without additional human intervention. Specifically, clearing should begin with non-habitat trees and start at the centre of the Project site, working towards the boundary, to encourage wildlife to disperse to remnant patches.

- No clearing should occur at dawn, dusk or at night, as this is when fauna are most likely to be on the move and are more vulnerable to injury. Specifically, works should begin a minimum of two hours after first light, and cease a minimum of 90 minutes prior to sunset.
- Habitat links must be maintained during clearing to allow fauna species to move safely from the site to adjacent areas.
- Clearing should begin in the area that is farthest from vegetation to be retained.
- The direction of clearing should also ensure that fauna species are directed away from threats such as roads, developed areas or disturbed areas (e.g. residential areas or cleared spaces >100m). Directional felling of trees may be achieved with an excavator or may require specialised equipment such as feller buncher, swivel grab attachment for excavator or chainsaw.
- To avoid soil disturbance and prevent inadvertent damage, use of a chainsaw is preferable in situations where partial clearing is proposed.
- This protocol will be incorporated into the induction process for the project.

6.2 PROTOCOL 2 – HABITAT TREE REMOVAL

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor), Transgrid

Habitat trees must be carefully felled under the supervision of the Project Ecologist. The following recommendations have been developed in consideration of best practise guidelines:

- This protocol is to be read in conjunction with Protocol 1 and Protocol 13.
- Project Ecologist to sign off that all mitigation measure have been implemented.
- All habitat trees to be cleared are to be surveyed and marked with high visibility red and white flagging tape 1-2 weeks prior to clearing taking place.
- Non habitat trees will be removed first, followed by habitat trees, with at least 24 hours separating the two events.
- Habitat tree felling will only occur in summer, autumn or winter (1 December - 31 August) and will not occur in spring (1 September to 30 November).
- Check weather conditions prior to removal, habitat trees may only be removed when temperatures are less than 35^{o}C to reduce stress to fauna, i.e., habitat tree clearing must cease if temperatures exceed 35^{o}C.
- Habitat links must be maintained during clearing to permit fauna species to move safely from the site to adjacent areas:
- Clearing should begin in the area that is farthest from those areas of vegetation that are to be retained and move progressively towards the area retained. i.e, clearing should begin in the centre of the site and work towards the perimeter.
- Sequential clearing should not create an ‘island’ of habitat that is isolated from adjoining habitat by roads, or cleared and disturbed areas
- The direction of clearing should ensure that fauna species are directed away from threats such as roads, developed areas or disturbed areas
- Trees should be felled in a staged manner, with removal of non-hollow bearing limbs should occur first.
- Habitat trees are to be mechanically shaken or agitated multiple times immediately prior to felling to encourage any remaining animals to either leave the tree or show themselves and subsequently be removed by the Project Ecologist prior to felling. The contractor should wait a minimum of two minutes between shaking the tree and felling the tree to allow time for fauna to emerge.

- Felling will involve gently pushing the tree and lowering or felling using a forestry harvester (such as feller buncher) to avoid sudden falling as this is likely to injure or kill wildlife; or if this is infeasible due to a lack of access to forestry harvesting equipment, trees will be gently shaken and agitated multiple times prior to implementing traditional felling methods.
- Directional felling of trees may be achieved with an excavator or may require specialised equipment such as feller buncher, swivel grab attachment for excavator or chainsaw.
- To avoid soil disturbance and prevent inadvertent damage, use of a chainsaw is preferable in situations where partial clearing is proposed.
- Following felling, habitat trees will be systematically checked from the ground by the Project Ecologist for any remaining fauna.
- Uninjured fauna must be relocated to suitable nearby habitat by the Project Ecologist
- Injured fauna must be taken to a local Vet or a Wildlife Rehabilitator identified by the Project Ecologist.
- Felled habitat trees will be left in position overnight to allow any undetected fauna further opportunity to escape.
- If any hollow-bearing tree is found or suspected to contain any threatened species, the tree should be left in place for a minimum of two days and must be reinspected no more than two hours prior to felling to ensure that the threatened species is no longer present. If the species is still present these steps should be repeated.
- Records of the habitat clearing must be kept by Project Ecologist and submitted to PCL HSE Manager. Information recorded to include tree species, tree size, hollow number and size, fauna encountered, the outcome for those fauna (e.g., relocated to nearby habitat, taking to a wildlife rehabilitator, deceased etc), and staff/contractors involved in clearing.

6.3 PROTOCOL 3 – MANAGEMENT OF DISPLACED FAUNA

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor), Transgrid

Operational phase responsible position: O&M Supervisor, Project Ecologist (subcontractor)

Construction

- All handling of fauna should be conducted by the Project Ecologist.
- If any injured fauna species are found, works in the immediate vicinity of the fauna must stop immediately so that the injured animal can be taken to a veterinarian or wildlife carer by the Project Ecologist as has been sourced prior to construction commencement.
- Any vehicle strike incidents will be recorded.

Operation

- All handling of fauna should be conducted by the Wires or other organisations trained to undertake fauna handling.
- Operational staff trained in snake handling, may undertake to relocate snakes if they are interfering with operational activities.

6.4 PROTOCOL 4 – STOCKPILES AND RE-USING RESOURCES AS WOODY DEBRIS AND BUSHROCK REMOVAL

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor), Transgrid

To reduce the potential for impacts to native vegetation and fauna species, it is recommended that the following methods for re-using resources be implemented:

- Identify and mark out/sign post suitable stockpile locations as per ESCP. The location of Salvaged native vegetation and coarse woody debris stockpiles will be identified in IFC drawings and ESCPs.
- Stockpiles to be located away from native vegetation and drainage paths and in areas already cleared/disturbed. Minimum distance 40 m.
- Salvaged native vegetation, coarse woody debris and soil from construction would be inspected and reserved for beneficial re-use on site in similar locations/environments as suitable. Suitable salvage vegetation includes limbs with hollows (>10 cm in diameter), coarse woody debris (>10 cm in diameter and >50 cm long), and vegetation that can be mulched and reused on site to stabilise cleared areas. Soil would be suitable for reuse provided it is not contaminated with chemicals or weeds. Woody debris, including logs with hollows, should be placed within the areas of the Project Site where vegetation is to be retained.
- Soil stockpiles will be stabilised by re-seeding where necessary and kept weed free, if they are to be in place for more than 10 days, or if at high-risk of erosion, by using geofabric, hydro mulch or geotextiles.
- When areas that require regeneration are ready for re-establishment when construction is completed, preference is given to re-using resources available from on site. Seed collection on site should be undertaken by an experienced seed collector for use in revegetation as soon as practicable after felling or when construction is complete, depending upon species requirements. Where seeds are not available on site, preference is to utilise a local endemic seed supplier.
- Burning will only be undertaken provided that:
    - appropriate permits have been obtained (e.g. from Rural Fire Service)
    - appropriate fire risk management measures are in place (see Bushfire Management Plan)
    - it is undertaken outside the exclusion zone.
    - Only non-habitat material (ie no logs, stags, hollows etc) are to be burnt.

- Undertake bushrock removal in a way that minimises damage to the bushrock, avoids excessive soil disturbances and avoids climatic seasons when species are utilising this resource.
- Bushrock to be retained on site and used in a beneficial manner such as erosion and sediment control. Further guidance is available in the Transport for NSW Biodiversity Guidelines, available at: https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/biodiversity_guidelines.pdf
- There will be no removal of bush rock or timber habitat material from site.

6.5 PROTOCOL 5 – WEED MANAGEMENT

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor), Transgrid

Operational phase responsible position: O&M Supervisor, O&M Contractors, Project Ecologist (subcontractor)

Standard operating procedures for weed management will be used by certified personal and records kept on site. This protocol will be incorporated into the induction process for the project.

Construction

Measures to prevent the spread of weeds will include the following weed hygiene procedures:

- Induction materials containing detailed information pertaining to the identification of high threat weeds will be prepared by a suitably trained ecologist or bush regenerator (see Pre-clearance weed inspection letter report, OzArk May 2023). These materials will be provided to contractors who will carry out construction works within the Project Site.
- A baseline weed survey will be completed to facilitate management of weeds during construction and operation. (NB This was completed in May 2023)
- Prior to construction, control of any High Threat Exotic weeds present must be completed.
- Weeds present on the site that are listed under the *NSW Biosecurity Act 2015* or are listed as a Weed of National Significance (WoNS) will be managed.
- Weed control can include mechanical control (where appropriate) and use of registered chemicals, including aerial spraying and drones and ground (by a suitably qualified person eg Chemcert certified).
- Any chemicals will be administered by authorised personnel with ChemCert accreditation – AQF 3 and in accordance label instructions; and activities recorded/kept by the PCL HSE Manager during construction. If using chemicals near waterways, they must be approved for use near water.
- Regular (monthly) weed monitoring and control will be completed, documented and reported to the PCL HSE Manager during construction.
- All vehicles, equipment, footwear and clothing should be clean and free of weed propagules prior to entering the Project Site. In a designated area, vehicles will be decontaminated using the Vehicle Hygiene Procedure (Protocol 12 – Vehicle Hygiene Procedure).
- Any weeds that are removed during the construction phase will be disposed of via an appropriate waste facility.

Operation

- Weed abundance and fuel load will be managed through monitored sheep grazing, with regimes based on annual vegetation surveys (BAM plots or weed survey plots).
- Sheep grazing management will be undertaken in accordance with the “Australian guide to agrisolar for large-scale solar for proponents and farmers” and adhere to recommendations regarding management of sheep. Sheep grazing will not occur on site until the completion of Stage 2a and will typically occur at a stocking density not exceeding 5 Dry Sheep Equivalents per Hectare (DSE).
- Ground cover should be maintained at 70% or more in the disturbance area. To achieve this cover:
    - Destocking during periods of declared drought or as directed by Central Tablelands Local Land Services
    - Not exceeding 5 DSE when ground cover exceeds 70%
    - Not exceeding 10 DSE for weed management or as directed by Central Tablelands Local Land Services
    - Not exceeding 10 DSE for fire fuel load reduction or as directed by the Cudgegong Rural Fire Service.
-
- Livestock exclusion fencing to be installed around areas of native vegetation to be retained (Protocol 13 – Exclusion Fencing/Exclusion Zones).
- Quarterly weed reconnaissance and reporting during normal operations and measures implemented to control new infestations.
- Any chemicals will be administered by authorised personnel with ChemCert accreditation – AQF 3 and in accordance label instructions; and activities recorded/kept by the O&M Manager during construction. If using chemicals near waterways, they must be approved for use near water.

6.6 PROTOCOL 6 – FERAL PEST MANAGEMENT

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor), Transgrid

Operational phase responsible position: O&M Supervisor, Project Ecologist (subcontractor)

Measures to control feral animals.:

- Conduct fence inspection prior to completion of fencing to reduce risk of animals being trapped within the Project site.
- Keep a log of opportunistic sightings of feral pests in the Project site, including location or sighting, species sighted, and any relevant details (e.g., damaged fence that they are entering through)
- Quarterly monitoring (via vehicular visual inspection) of project site will be used to determine presence of feral animals. Presence will be determined by using identification techniques such as burrows, roosts and scats. Activity levels of feral animals present will be recorded using a low, medium, high scale.
- Feral pest management activities to be in consultation, and coordinated with, Local Lands Service (LLS).
- Species management will be determined by species specific culling requirements, including, but not limited to the following.
    - Feral Rabbit: Combination of chemical (Pindone or 1080) and mechanical (ripping of burrows) (annual or on demand)
    - Feral Pig: Combination of chemical (1080 poisoning), ground shooting and trapping (when sighted)
    - Feral Foxes: Combination of chemical (1080 poisoning), ground shooting, trapping (when sighted)
- Any chemicals will be administered by authorised personnel with ChemCert accreditation – AQF 3 and in accordance label instructions; and activities recorded/kept by the PCL HSE Manager during construction and O&M Site Manager during operations. If using chemicals near waterways, they must be approved for use near water.
- Additional management actions detailed in https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw may be implemented.
- If an overabundance of native species is found on site, then a separate management regime will be developed in consultation with the project ecologist.

- Recording fauna mortalities on the Project Site will be completed by PCL HSE Manager during construction and O&M Supervisor during operation using their management systems and subsequent notification to DPE by ACEN. Records will be kept onsite during construction and operation and will be available upon request.
- Adjoining landholders will be notified by letterbox drop if and when baiting for feral animals is planned to be used and signage will be placed on boundary fences and gates.
- This protocol will be incorporated into the induction process for the project.
- Pets shall not be permitted within the environmental exclusion zone.

6.7 PROTOCOL 7 – FENCING CONSTRUCTION AND MANAGEMENT

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor),

Operational phase responsible position: O&M Supervisor

To reduce the potential for impacts to fauna, the following fencing construction and management protocol be implemented. This protocol will be incorporated into the induction process for the project.

Biodiversity Conservation Trust's *Essential Conservation Fencing Infrastructure (Nov 2022)* to be considered by PCL and ACEN when designing fences or when undertaking repairs, taking into consideration the definition of 'standard' and 'difficult' sites within the above-mentioned document.

6.7.1 Perimeter Fence and Exclusion Zones

- The perimeter fence will meet safety requirements, whilst taking into consideration biodiversity needs where practicable.
- Weekly inspection of perimeter fencing will be undertaken during construction (as a staged approach to fencing (southern followed by northern sections) allows fauna to disperse), and inspected monthly for the first year of operation to identify any fauna incidents related to the fencing.
- The perimeter fence is galvanized chain-link fence and post with barb wires at top and maximum height of 2.25 meters.
- Exclusion zones within the perimeter fence are demarcated by star pickets and flagging at 20 metre intervals with signage stating these are no-go-zone areas. There is only one instance of an exclusion zone contained within perimeter security fence.

6.7.2 Internal Fencing

- Internal fencing should be of a standard to allow stock movement and grazing.
- Internal fencing should be designed and constructed using the "Biodiversity Conservation Trust – Essential conservation fencing infrastructure" as a guide, where practicable, particularly in relation to any fencing located nearby of the exclusion zone.
- Temporary fencing used during construction to protect retained vegetation should be of a type and scale robust enough to withstand damage from construction vehicles during this stage of work.

6.8 PROTOCOL 8 – EROSION AND SEDIMENT CONTROL

Construction phase responsible position: PCL Lead Project Manager

Operational phase responsible position: O&M Supervisor

Refer to and implement the Erosion and Sediment Control Management Plan (ESCP).

6.9 PROTOCOL 9 – DUST CONTROL / REHABILITATION

6.9.1 Dust control

Construction phase responsible position: PCL Lead Project Manager

Operational phase responsible position: O&M Supervisor

As per Condition 18, measures to minimise the generation of dust and associated impacts on adjacent natural environments are provided for in the CEMP and ESCP. This will include reassessment of activities during adverse weather conditions to reduce excessive dust.

6.9.2 Rehabilitation

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager and Project Ecologist (subcontractor),

Operational phase responsible position: O&M Supervisor

Rehabilitation of disturbed ground will be completed using the following as a guide.

- Vegetating and/or rehabilitating disturbed land surfaces and stockpiles as soon as practicable as outlined in the SWMP and ESCP.
- Suitable local grass species will be used as ground cover in any rehabilitation areas to meet the requirements in section 4.10.
- The areas disturbed by construction will be rehabilitated within 3 months of construction being completed. Rehabilitation includes the reshaping, spreading of topsoil and sowing of suitable species on disturbed areas. The earthworks associated with rehabilitation will occur within 10 days of the completion of construction activities. Revegetation will follow shortly after depending upon seasonal conditions and will be completed within 3 months. In some situations when climatic conditions are not suitable and ground cover cannot be achieved by the sowing of native species then the Project Ecologist can authorise the use of, a short-term seasonal sterile cover crop such as Rye Corn or Oats to be sown prior to the establishment of native species. This is to ensure land stability and minimise soil erosion and will be identified in the Erosion and Sediment Control Plans.
- It is recommended that the following list and supporting documents be used as a guide for providing the correct native species. 70% ground cover in accordance with Landcom 2004 will be achieved across the disturbance area.
    - *Themeda triandra* (Kangaroo Grass)
    - *Rytidosperma caespitosum* (Ringed Wallaby Grass)

- *Microlaena stipoides* (Weeping Grass)
- *Bothriochloa macra* (Red Grass, Red-Leg Grass)
- *Poa labillardierei* (Poa Tussock)
- Common native grasses of Central West NSW by the Local Land Service LLS https://www.lls.nsw.gov.au/__data/assets/pdf_file/0007/567628/native-grasses-guide.pdf)
- Grazing Management for Native Pastures on the North West Slopes of NSW (https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0018/162252/grazing-native.pdf)

- Ground cover should be maintained at 70% or more in the disturbance area. To achieve this cover:
    - Destocking during periods of declared drought or as directed by Central Tablelands Local Land Services
    - Not exceeding 5 DSE when ground cover exceeds 70%
    - Not exceeding 10 DSE for weed management or as directed by Central Tablelands Local Land Services
    - Not exceeding 10 DSE for fire fuel load reduction or as directed by the Cudgegong Rural Fire Service.

6.10 PROTOCOL 10 – LIGHTING DESIGN

Construction phase responsible position: PCL Lead Project Manager

Operational phase responsible position: O&M Supervisor

Construction

The hours of construction, upgrading and decommissioning are contained in Condition 16 Schedule 3: Unless the Planning Secretary agrees otherwise, the Applicant may only undertake road upgrades, construction, upgrading or decommissioning activities between:

(a) 7 am to 6 pm Monday to Friday;

(b) 8 am to 1 pm Saturdays; and

(c) at no time on Sundays and NSW public holidays.

The following construction, upgrading or decommissioning activities may be undertaken outside these hours without the approval of the Planning Secretary:

- the delivery of materials as requested by the NSW Police Force or other authorities for safety reasons; or
- emergency work to avoid the loss of life, property and/or material harm to the environment.

Lighting design will be undertaken to minimise light spill as contained in Condition 20. Measures to minimise light spill (as outlined in the CEMP and will be covered in the OEMP) include:

- Minimising light spillage from the development to road users, residential sensitive receivers and fauna species (mostly nocturnal species) by ensuring external lighting associated with the development:
    - Is installed as low intensity lighting (except where required for safety or emergency purposes)
    - Does not shine above the horizontal
    - Complies with AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting, and the Dark Sky Planning Guideline (DPE 2023) or their latest versions
    - Follows the Best Practice Lighting Design guidance in the National Light Pollution Guidelines for Wildlife (DEE 2020).
    - Is directed away from the exclusion zone where practicable.

Operation

- During operation, lighting will continue to minimise light spill by ensuring external lighting associated with the development:
    - Does not shine above the horizontal
    - Complies with AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting, and the Dark Sky Planning Guideline (DPE 2023) or their latest versions
    - Is directed away from the exclusion zone where practicable.

6.11 PROTOCOL 11 – CHEMICAL MANAGEMENT

Construction phase responsible position: PCL Lead Project Manager

Operational phase responsible position: O&M Supervisor

Refer to and implement the Soil and Water Management Plan (SWMP).

6.12 PROTOCOL 12 – VEHICLE HYGIENE

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager, Transgrid

Operational phase responsible position: O&M Supervisor

Vehicle hygiene procedures will be implemented for any vehicle that enters the development site, during construction and operation, which is likely to come into contact with the natural ground or weeds. These procedures are outlined in full below. It will be highlighted in induction material that there are no vehicle washdown facilities on site. Training for personnel involved in vehicle inspections will be provided during the site inductions. The procedures will include:

- All machinery will be inspected and cleaned prior to entering the site.
- If plant / machinery leaves site for 12 weeks or more, it will require reinspection.
- Plant and light vehicle authorisations (including weed and seed inspections) upon arrivals in laydown area.
- Driver induction and vehicle inspection prior to vehicles being given approval to enter indirect disturbance areas and weed and seed sticker applied to plant or light vehicle. PCL HSE Manager is responsible during the construction phase. O&M Contractor is responsible during the operational phase.
- If dirt, seeds or vegetative matter are present, the vehicle should be refused entry.
- Inspection after leaving disturbance areas and prior to leaving the site. Responsible staff will determine if off-site washing will be required for vehicles should they become dirty from on-site activities.
- Inspections will be recorded and kept on a Vehicle Hygiene Register and kept on site. PCL HSE Manager is responsible during the construction phase. O&M Supervisor is responsible during the operational phase.
- Any machinery or equipment that has been used in Queensland needs to adhere to the requirements of a Carrier Biosecurity Certificate in relation to Parthenium weed. Details are available at https://www.dpi.nsw.gov.au/biosecurity/weeds/parthenium-greatest-threat

6.13 PROTOCOL 13 – EXCLUSION FENCING/EXCLUSION ZONES

Inspections will be recorded and kept on site. PCL HSE Manager and PCL Lead Construction Manager are responsible during the construction phase.

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager

Operational phase responsible position: O&M Supervisor

To reduce the potential for impacts to existing flora and fauna, the following Exclusion Fencing/ Exclusion Zones construction and management protocol will be implemented:

- Clearly marked on Issued for Construction Plans (IFC) will be used to delineate areas to be cleared, exclusion zones, Heritage Items (see Heritage Management Plan for further information)
- Exclusion Fencing/Exclusion Zones will be clearly sign posted and demarcated under survey control using high visibility orange or yellow bunting, or durable three stringed fence, and will be in place as part of the Site Establishment phase and prior to any clearing or ground disturbance and other construction activities being undertaken. The alignment of this demarcation will be in accordance with *the Australian Standard Protection of Trees on Development Sites* (AS4970-2009) and incorporate the relevant tree protection zones for trees and vegetation to be retained.
- Exclusion Fencing/Exclusion Zones will be clearly marked and labelled on design drawings issued for construction and will be displayed in prominent places (e.g. site offices) and provided in site inductions. GIS data will be used to identify the boundaries to ensure that the exclusion fencing is located correctly.
- No storage of materials or machinery is allowed within Exclusion Zones or retained vegetation areas. There is also to be no preparation of chemicals or concrete in these areas, or adjacent areas (within 40 m), and care must be taken to avoid the compaction of soils by limiting use of heavy vehicles in the area via signage and inductions.
- Stockpile and compounds sites are to be located within the disturbance area only and not within an exclusion zone. Outside the exclusion zone, stockpiling of materials and equipment, and parking of vehicles, is to be avoided within the dripline (extent of foliage) of any tree.
- Firewood collection is prohibited within the exclusion fencing/exclusion zones so as not to impact on PCT
- The lighting of fires is prohibited within the exclusion fencing/exclusion zones (refer to Protocol 4 regarding burning of non-habitat material).
- No rubbish will be stored or disposed of within the exclusion fencing/exclusion zones
- No pets or stock are allowed in the exclusion zone
- This protocol will be incorporated into the induction process for the project.
- Annual monitoring of four BAM Plots (Plots 5, 8, 17 and 28) as per the BDAR (Eco Logical Australia 2020) will be undertaken by a BAM Accredited ecologist.

6.14 PROTOCOL 14 – NOISE MANAGEMENT

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager, PCL Lead Construction Manager, PCL HSE Manager, Transgrid

Operational phase responsible position: O&M Supervisor

The hours of construction, upgrading operation and decommissioning are contained in Condition 16 Schedule 3: Unless the Planning Secretary agrees otherwise, the Applicant may only undertake road upgrades, construction, upgrading or decommissioning activities between:

(a) 7 am to 6 pm Monday to Friday;

(b) 8 am to 1 pm Saturdays; and

(c) at no time on Sundays and NSW public holidays.

The following construction, upgrading or decommissioning activities may be undertaken outside these hours without the approval of the Planning Secretary:

- The delivery of materials as requested by the NSW Police Force or other authorities for safety reasons; or
- Emergency work to avoid the loss of life, property and/or material harm to the environment.

Specific measures relating to the Noise Management include:

- Provide awareness training during site inductions and toolbox talks and-emphasise the importance of limiting noise generation during construction and operation.
- Machinery, trucks and equipment will be restricted to designated parking areas away from existing vegetation.
- Minimise night works carried out on site to reduce impact to fauna.

6.15 PROTOCOL 15 – WATERWAY CROSSINGS

Construction phase responsible position: ACEN Project Manager, PCL Lead Project Manager

A suitably qualified person will design the waterway crossings, in accordance with the Guidelines for Controlled Activities on Waterfront Land (NRAR, 2018) and Policy and Guidelines for Fish Habitat Conservation and Management (2013) Policy and Guidelines for Fish Friendly Waterway Crossing (DPI, n.d.) (or their latest versions), unless DPIE Water agrees otherwise. The design and construction of crossing structures should consider, but not be limited to, the following guiding principles.

- Identifying the width of the riparian corridor in accordance with the department's guidelines for riparian corridors.
- Considering the full width of the riparian corridor and its functions in the design and construction of crossings. Where possible, the design should accommodate fully structured native vegetation (ground cover, shrub layer, over storey etc).
- Minimising the design and construction footprint and extent of proposed disturbances within the watercourse and riparian corridor.
- Maintaining existing or natural hydraulic, hydrologic, geomorphic and ecological functions of the watercourse.
- Demonstrating with modelling that where a raised structure or increase in the height of the bed is proposed there will be no detrimental impacts on the natural hydraulic, hydrologic, geomorphic and ecological functions.
    - Maintaining natural geomorphic processes
    - Maintain natural hydrological regimes
    - Protect against scour
- Stabilise and rehabilitate all disturbed areas including topsoiling, revegetation, mulching, weed control and maintenance in order to adequately restore the integrity of the riparian corridor upon completion of the waterway crossing construction.
- The earthworks associated with rehabilitation will occur within 10 days of the completion of construction activities. Revegetation will follow shortly after depending upon seasonal conditions and will be completed within 3 months.

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8 APPENDICES

8.1 APPENDIX 1: BAM PLOT DATA FOR THE SUBJECT SITE (FROM BDAR)

BAM Vegetation Plot Locations and Data (pages 80-84) of the BDAR (Eco Logical 2020).

Table 47: Plot locations

Plot	PCT	Condition	Zone	Easting	Northing	Bearing
Plot 5	281	Low	55	744237	6427695	90
Plot 6	281	Low	55	741276	6430003	245
Plot 26	281	Low	55	744106	6427352	0
Plot 27	281	Low	55	742479	6428103	215
Plot 29	281	Low	55	744161	6428351	315
Plot 31	281	Low	55	743754	6431804	225
Plot 32	281	Low	55	744285	6430951	320
Plot 33	1770	Low	55	741940	6430054	5
Plot 3	281	Mod_good	55	745094	6427449	280
Plot 7	281	Mod_good	55	743146	6428587	305
Plot 8	281	Mod_good	55	742535	6428610	270
Plot 9	281	Mod_good	55	742742	6428623	72
Plot 10	281	Mod_good	55	743132	6428804	50
Plot 12	281	Mod_good	55	742038	6430432	300
Plot 13	281	Mod_good	55	742955	6430662	55
Plot 15	281	Mod_good	55	743046	6429239	20
Plot 16	281	Mod_good	55	743107	6429797	50
Plot 17	281	Mod_good	55	744949	6429993	330
Plot 20	281	Mod_good	55	743820	6431397	225
Plot 21	281	Mod_good	55	743692	6431393	265
Plot 22	281	Mod_good	55	743500	6431529	240
Plot 25	281	Mod_good	55	744993	6427385	158
Plot 30	281	Planted_windbreak	55	743579	6432609	190
Plot 4	n/a	Category1_land	55	744956	6427996	200
Plot 11	n/a	Category1_land	55	741528	6429407	168
Plot 14	n/a	Category1_land	55	742715	6429650	210
Plot 18	n/a	Category1_land	55	744501	6431165	170
Plot 23	n/a	Category1_land	55	743992	6432517	290
Plot 24	n/a	Category1_land	55	744366	6432506	255
Plot 28	n/a	Category1_land	55	741664	6428670	80

Table 48: Plot composition data

Plot	PCT	Condition	Tree	Shrub	Grass	Forb	Fern	Other
Plot 5	281	Low	1	1	7	5	1	1
Plot 6	281	Low	1	0	5	6	1	0
Plot 26	281	Low	1	1	7	10	1	0
Plot 27	281	Low	1	0	2	4	0	0
Plot 29	281	Low	1	0	4	8	0	0
Plot 31	281	Low	1	0	3	4	0	0
Plot 32	281	Low	1	0	0	4	0	0
Plot 33	1770	Low	1	0	4	3	0	0
Plot 3	281	Mod_good	2	4	5	12	1	1
Plot 7	281	Mod_good	1	0	6	10	1	1
Plot 8	281	Mod_good	1	1	16	16	1	2
Plot 9	281	Mod_good	1	1	6	11	0	0
Plot 10	281	Mod_good	2	2	11	16	1	2
Plot 12	281	Mod_good	1	0	16	15	1	0
Plot 13	281	Mod_good	1	1	4	8	0	0
Plot 15	281	Mod_good	1	0	10	19	1	0
Plot 16	281	Mod_good	1	1	10	15	1	0
Plot 17	281	Mod_good	2	2	7	19	1	2
Plot 20	281	Mod_good	2	0	9	15	1	1
Plot 21	281	Mod_good	1	8	11	16	1	2
Plot 22	281	Mod_good	2	1	6	9	0	0
Plot 25	281	Mod_good	1	1	4	8	0	0
Plot 30	281	Planted_windbreak	3	0	3	5	0	0
Plot 4	n/a	Category1_land	0	0	5	8	0	0
Plot 11	n/a	Category1_land	0	0	4	4	1	0
Plot 14	n/a	Category1_land	0	0	7	3	1	0
Plot 18	n/a	Category1_land	0	0	9	7	1	1
Plot 23	n/a	Category1_land	0	0	8	13	1	0
Plot 24	n/a	Category1_land	0	0	2	7	0	0
Plot 28	n/a	Category1_land	0	0	3	3	0	0

Table 49: Plot structure data

Plot	PCT	Condition	Tree	Shrub	Grass	Forb	Fern	Other
Plot 5	281	Low	20	2	3.5	1.4	0.1	0.2
Plot 6	281	Low	2.0	0.0	6.3	1.9	0.1	0.0
Plot 26	281	Low	10	1	3.7	2.9	0.1	0
Plot 27	281	Low	4.0	0.0	3.1	5.3	0.0	0.0
Plot 29	281	Low	15	0	1.4	2.7	0	0
Plot 31	281	Low	8	0	3.2	0.8	0	0
Plot 32	281	Low	3	0	0	0.4	0	0
Plot 33	1770	Low	5	0	1.7	2.6	0	0
Plot 3	281	Mod_good	20	1.8	4.3	2.2	0.1	0.1
Plot 7	281	Mod_good	8.0	0.0	2.0	1.3	0.5	0.5
Plot 8	281	Mod_good	5	0.1	15.1	9.3	0.3	0.2
Plot 9	281	Mod_good	15	0.1	38.7	14	0	0
Plot 10	281	Mod_good	3.8	0.2	28.9	10.8	0.6	0.2
Plot 12	281	Mod_good	1	0	16.3	12.5	0.2	0
Plot 13	281	Mod_good	10	0.1	1.6	55.7	0	0
Plot 15	281	Mod_good	1	0	38.6	3	2	0
Plot 16	281	Mod_good	2	0.1	24.1	11.3	1	0
Plot 17	281	Mod_good	4.4	0.9	57.4	7.9	1	0.3
Plot 20	281	Mod_good	13	0	29.5	4.7	0.1	0.1
Plot 21	281	Mod_good	6	3.6	24.9	2.6	2	0.2
Plot 22	281	Mod_good	9	0.5	35.8	3.9	0	0
Plot 25	281	Mod_good	4	1	2.7	1	0	0
Plot 30	281	Planted_windbreak	10	0	10.3	2.4	0	0
Plot 4	n/a	Category1_land	0.0	0.0	36.2	1.8	0.0	0.0
Plot 11	n/a	Category1_land	0	0	10.3	20.4	0.2	0
Plot 14	n/a	Category1_land	0	0	3.5	30.2	0.1	0
Plot 18	n/a	Category1_land	0	0	9.7	1	0.2	0.1
Plot 23	n/a	Category1_land	0	0	23.9	2.3	3	0
Plot 24	n/a	Category1_land	0	0	0.2	1.7	0	0
Plot 28	n/a	Category1_land	0	0	11.1	0.3	0	0

Table 50: Plot function data

Plot	PCT	Large trees	Hollow-bearing trees	Litter Cover	Fallen Logs	Tree (5 - 10 cm)	Tree (10 - 20 cm)	Tree (20 - 30 cm)	Tree (30 - 50 cm)	Tree (50 - 80 cm)	Regen (dbh <5cm)	High threat exotic
Plot 5	281	1	0	4.2	0	0	0	0	0	0	1	0.5
Plot 6	281	1	1	15.2	9	0	0	0	0	0	0	0.1
Plot 26	281	0	0	11.6	0	0	0	0	1	0	1	0.2
Plot 27	281	0	0	14	5	0	0	0	1	0	0	0.2
Plot 29	281	2	0	26	10	0	0	0	1	1	0	0.1
Plot 31	281	1	1	34	27	0	0	0	0	1	0	0
Plot 32	281	1	1	4.6	2	0	0	0	0	1	0	0.2
Plot 33	1770	1	1	5.4	0	0	0	0	0	0	0	0.1
Plot 3	281	2	0	25.4	2	1	1	1	1	1	0	0.1
Plot 7	281	1	0	13.6	2	1	1	1	0	0	1	0.0
Plot 8	281	2	3	9.4	30	0	1	1	1	0	1	0.6
Plot 9	281	3	1	14	40	1	1	1	0	0	1	0.1
Plot 10	281	0	0	9	3	1	1	1	1	0	1	0.1
Plot 12	281	1	1	12.4	10	0	0	0	1	1	0	0.1
Plot 13	281	3	3	30	60	0	0	0	1	1	0	0.2
Plot 15	281	0	0	25.2	0	0	0	1	0	0	0	0.2
Plot 16	281	1	1	12.6	41	0	0	0	1	0	0	0.3
Plot 17	281	5	2	23	104	1	1	0	1	1	1	0.1
Plot 20	281	2	0	3	8	1	1	1	1	1	1	0.3
Plot 21	281	0	0	50	0	1	1	1	1	0	1	0
Plot 22	281	0	0	0.6	0	1	1	1	0	0	1	0.1

Plot	PCT	Large trees	Hollow-bearing trees	Litter Cover	Fallen Logs	Tree (5 - 10 cm)	Tree (10 - 20 cm)	Tree (20 - 30 cm)	Tree (30 - 50 cm)	Tree (50 - 80 cm)	Regen (dbh <5cm)	High threat exotic
Plot 25	281	2	1	8.2	39	0	0	0	1	1	0	0.1
Plot 30	281	0	0	34	0	0	1	1	0	0	0	0
Plot 4	n/a	0	0	0.4	0	0	0	0	0	0	0	0.1
Plot 11	n/a	0	0	0	0	0	0	0	0	0	0	0
Plot 14	n/a	0	0	2.2	0	0	0	0	0	0	0	0
Plot 18	n/a	0	0	6	0	0	0	0	0	0	0	0.2
Plot 23	n/a	0	0	7	0	0	0	0	0	0	0	1
Plot 24	n/a	0	0	3	0	0	0	0	0	0	0	0
Plot 28	n/a	0	0	4.4	0	0	0	0	0	0	0	1.1

Note: Flora Species Plot Data attached in MS Excel to BAM Calculator.

8.2 APPENDIX 2: PCT DESCRIPTIONS (FROM BDAR)

Table 13: PCT281_Low

PCT 281 Low			
Vegetation formation/class/structure	Western Slopes Grassy Woodlands / Grassy Woodlands / Woodland		
Conservation status	BC Act: CEEC. EPBC Act: Not listed due to not meeting condition thresholds.		
	This community occurs across the site as scattered individual remnant trees and some small clumps of trees within modified pasture. The mid-storey is absent. Canopy regeneration is absent. The groundcover contains a mix of exotic pasture species with fallen timber in some patches. The groundcover is significantly degraded.		
Characteristic canopy trees	*Angophora floribunda* (Rough-barked Apple), *Eucalyptus blakelyi* (Blakely's Red Gum), *E. melliodora* (Yellow Box)		
Characteristic mid-storey	Absent.		
Characteristic groundcovers	*Austrostipa* spp., Eragrostis sp., *Aristida* sp.,		
Mean native richness	10		
Exotic species / HTW cover	*Arctotheca calendula*, *Echium plantagineum, Lolium* sp., *Medicago* sp. and *Trifolium* spp / 0.3		
Condition	Low		
Variation and disturbance	This zone is characterised by remnant canopy with a highly degraded understorey that contains a mixture of exotic and native species. This zone includes isolated trees within paddock and small groups of trees		
% cleared in NSW	67		
No. sites sampled	10 (only the 7 sites within the development footprint were used in calculating the vegetation integrity score)		
Threatened flora species	No present. This zone is considered too degraded for threatened flora to occur.		
Fauna habitats	Hollow bearing trees, flowering eucalypts. Fallen logs are present in some patches.		
Composition	**Structure**	**Function**	**Vegetation Integrity Score**
51	24.2	22.9	30.5

Table 14: PCT 281 Moderate - good

PCT 281 Moderate-good			
Vegetation formation/class/structure	Western Slopes Grassy Woodlands / Grassy Woodlands / Woodland		
Conservation status	BC Act: CEEC EPBC Act: CEEC where condition thresholds are met.		
	This zone is characterised by remnant canopy with a partly intact shrub and groundcover layer, although exotic species are also abundant. This zone within the development site has generally suffered from some level of historic clearing or disturbance but is regenerating. This zone occurs within the development site as narrow strips of road reserve vegetation and a small patch at the edge of the development site near the southern boundary where some regeneration and shrubs are present.		
Characteristic canopy trees	*Angophora floribunda* (Rough-barked Apple), *Eucalyptus blakelyi* (Blakely's Red Gum), *E. melliodora* (Yellow Box)		
Characteristic mid-storey	*Acacia implexa, Cassinia sifton, Acacia decora, Sannantha cunninghamii*		
Characteristic groundcovers	*Aristida ramosa, Austrostipa spp., Arundanella nepalensis, Calotis lappulacaea, Cheilanthes* sp, *Wahlenbergia* spp.		
Mean native richness	27		
Exotic species / HTW cover	*Arctotheca calendula, Lolium sp,* Trifolium spp. *Acetosella vulgaris, Hypochaeris radicata* / 0.16		
Condition	Low		
Variation and disturbance	Access road options have been selected in areas so that no trees will be impacted but where some mid-storey and groundcover is present.		
% cleared in NSW	67		
No. sites sampled	14. Plots utilised for calculations within this zone were taken from the study area as no plots were undertaken in the development site due to the small size of these areas i.e. could not fit a plot in. Vegetation in the study area was considered representative of the condition of the small areas of vegetation within PCT 281 Moderate-good, and in some cases is an overestimation of the condition within the development site.		
Threatened flora species	Not present, targeted survey did not detect potential threatened species within this zone in the development site.		
Fauna habitats	Patches within the development site do not contain hollow bearing trees or significant amounts of fallen timber. Patches within the broader study area contain hollow bearing trees, flowering eucalypts and fallen logs.		
Composition	**Structure**	**Function**	**Vegetation Integrity Score**
84.2	76.3	70.8	76.9

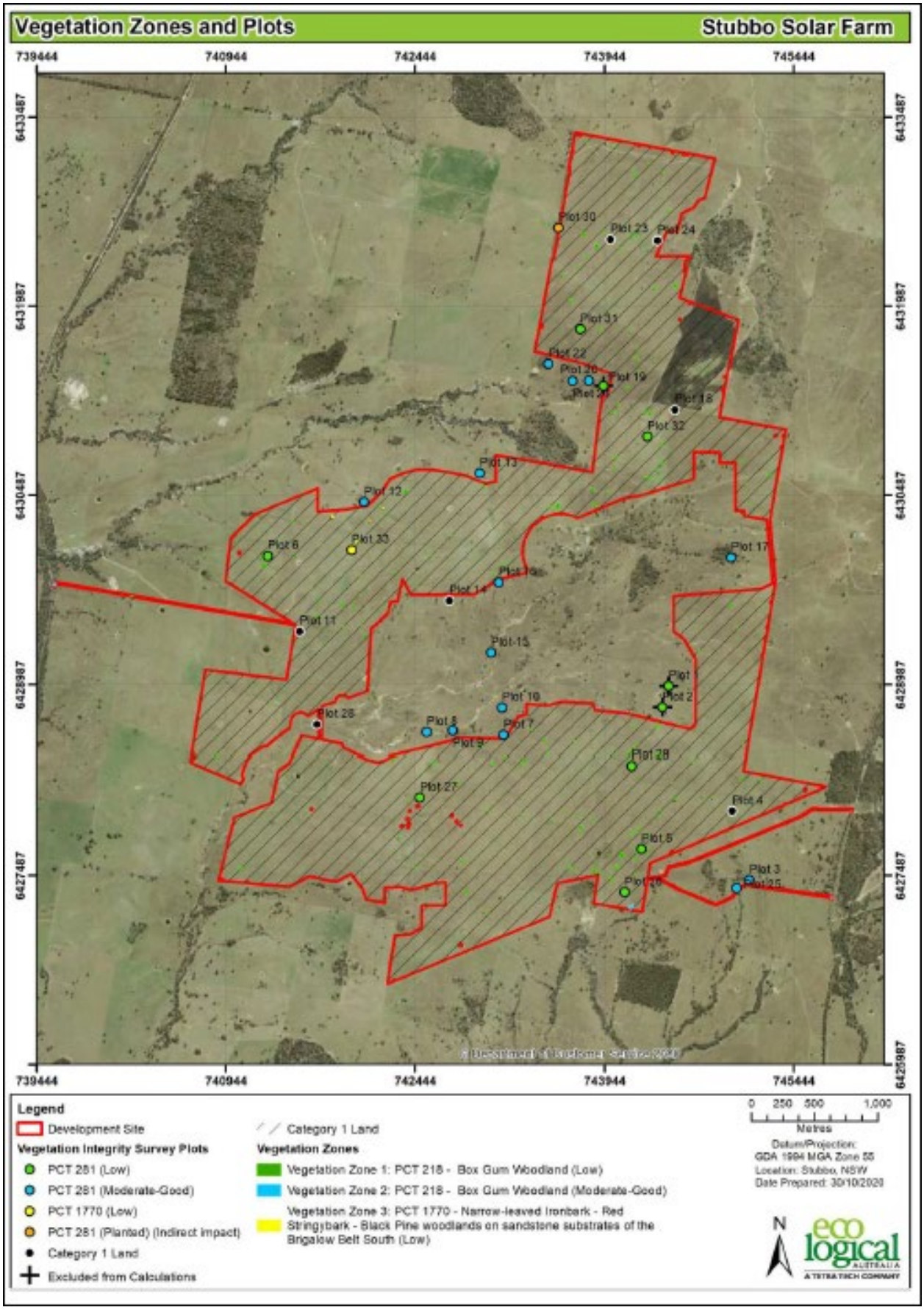
Table 15: PCT 1770 Low

PCT 1770 Low			
Vegetation formation/class/structure	Dry Sclerophyll Forest (Shrubby sub-formation) / Western Slopes Dry Sclerophyll Forest / Woodland		
Conservation status	BC Act: Not listed EPBC Act: Not listed		
	This community occurs as isolated remnant paddock trees of *Eucalyptus crebra* (Narrow-leaved ironbark) with a highly degraded understorey that contains a mixture of exotic and native species.		
Characteristic canopy trees	*Eucalyptus crebra* (Narrow-leaved Ironbark)		
Characteristic mid-storey	Absent		
Characteristic groundcovers	*Erodium crinitum, Austrostipa scabra, Cynodon dactylon, Chloris truncata, Rumex brownii.*		
Mean native richness	8		
Exotic species / HTW cover	*Arctotheca calendula*, *Spergularia rubra*, *Trifolium* spp. *Medicago* sp. / 0.1		
Condition	Low		
Variation and disturbance	This zone includes widely scattered remnant trees within exotic modified pasture.		
% cleared in NSW	11		
No. sites sampled	1		
Threatened flora species	No present. This zone is considered too degraded for threatened flora to occur.		
Fauna habitats	Hollow bearing trees, flowering eucalypts and fallen logs are present.		
Composition	**Structure**	**Function**	**Vegetation Integrity Score**
28.6	5.2	35.1	17.4

Table 16: Exotic pasture (Category 1 Land)

Exotic/modified pastures and cropland (Category 1 Land)			
Vegetation formation/class/structure	Not applicable		
Conservation status	Not listed		
	Areas of exotic/modified pasture within the development site no longer conform to any PCT. These areas have been cleared of canopy and mid-storey. The groundcover has been modified through pasture improvement, ploughed/sown, cropped and heavy grazing. Exotic pasture species dominate. Scattered native grasses and forbs are present, and the native species *Erodium crinitum* acts as a dominant pasture weed in some areas.		
Characteristic canopy trees	Not present.		
Characteristic mid-storey	Not present.		
Characteristic groundcovers	Exotics: *Arctotheca calendula* (Cape Dandelion), *Trifolium* spp. (Clovers), *Medicago* sp. (Medic), *Echium plantagineum* (Paterson's Curse), *Lolium* sp. (Rye Grass), *Eragrostis cilianensis* (Stinkgrass), Avena sp. (Oats), *Spergularia rubra* (Red Sandspurry), *Lepidium* spp. (Peppergrasses). Native: *Erodium crinitum* (Blue Storksbill), *Eragrostis* sp. (Lovegrass), *Austrostipa* spp (Speargrasses), *Aristida spp.* (Wiregrasses), *Crassula* sp. (Stonecrop).		
Exotic species / HTW cover	As listed above / 1.3		
Condition	Very low – not representative of a native plant community type		
Variation and disturbance	Includes modified pastures and cropland.		
% cleared in NSW	n/a		
No. sites sampled	6		
Threatened flora species	None present. This zone is considered too degraded for threatened flora to occur.		
Fauna habitats	Limited habitat opportunities.		
Similar PCTs	n/a		
Composition	**Structure**	**Function**	**Vegetation Integrity Score**
60	38.2	0.1	5.2

Figure 8-1: PCT Plot locations and zones (from BDAR).



8.3 APPENDIX 3: RESPONSE TO BCS COMMENTS

Contact timeframes with DPE.

Initial email to BCS requesting confirmation of additional information required: Jan 2023

Querying map suitability – 2 Feb 2023.

Submission of draft BMP – 8 Feb 2023

Comments from BCS received – 20 Feb 2023

Comments received have been incorporated into the BMP. The table following provides a response to where the comments were addressed within the BMP.

Department of Planning and Environment

Our ref: DOC23/10847
Your ref: SSD 10452

Jane Book
Senior Environmental Scientist
OzArk
jane@ozarkehm.com.au

Dear Jane

Biodiversity management plan requirements – Stubbo Solar Farm

Thank you for your e-mail dated 10 January 2023 to the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning and Environment requesting our requirements for the Stubbo Solar Farm biodiversity management plan (BMP).

The BMP will need to fulfil all requirements of Schedule 3, condition 15 of the consent for SSD 10452.

In addition to the headings in the proposed table of contents, BCS recommends that the BMP specifically addresses:

- Protection of vegetation and fauna habitat outside the approved disturbance areas. This should include a map of vegetation to be removed, retained, and managed.
- Measures to minimise clearing and avoid unnecessary disturbance of vegetation.
- Timing of vegetation clearing, especially for hollow-bearing trees (ie avoiding clearing during spring).
- Rehabilitation and revegetation of temporary disturbance areas with locally endemic species. This should include a map showing areas to be revegetated.
- A trigger, action, response plan.

If you have any questions about this advice, please do not hesitate to contact me via liz.mazzer@environment.nsw.gov.au or (02) 6883 5325.

Yours sincerely

Liz Mazzer

A/Senior Team Leader Planning North West

Biodiversity, Conservation and Science Directorate

10 January 2023

Department of Planning and Environment

Our ref: DOC23/10847
Your ref: SSD 10452

Jane Book
Senior Environmental Scientist
OzArk Environment & Heritage
jane@ozarkehm.com.au

Dear Jane

Biodiversity Management Plan Review – Stubbo Solar Farm

Thank you for e-mail dated 8 February 2023 to the Biodiversity, Conservation and Science Directorate (BCS) of the Department of Planning and Environment requesting comment on the Biodiversity Management Plan (BMP) for Stubbo Solar Farm.

The BMP requires revision in several key areas as outlined below and detailed in **Attachment A**:

- Ideally, the BMP should be a stand-alone document. It currently relies on other documents to provide important information (e.g. an Erosion and Sediment Control Plan). It is unclear whether these other documents that relate to the BMP have been completed. The BMP would benefit from a list of relevant documents that link to the BMP.
- Additional descriptions and mapping are requested to understand the baseline environment and to enable comparison for future monitoring and reporting against success criteria. This can be in the form of a Trigger Action Response Plan, which describes the following points for all actions:
    - baseline – what is currently on the site?
    - completion criteria – what is the ultimate target?
    - performance criteria – set targets for specified time intervals to ensure management actions are on track to achieve completion criteria
    - a detailed monitoring plan to track actual performance
    - a Trigger Action Response Plan (TARP) detailing corrective actions to be taken if performance or completion criteria are not met.
- The BMP lacks clearly defined monitoring plans. Specific details of how, when and where monitoring will occur are needed throughout the BMP, including measurable completion and success criteria. For example, weed management may include the "the complete removal of all (insert noxious weed)" and that "non-native groundcover not exceed 10%".
- There are some inconsistencies between the BMP and development consent for this project.

BCS considers that successful management plans include tailored, quantitative performance measures and targets, completion criteria, monitoring, and trigger points for corrective action which adhere to the SMART principles (specific, measurable, achievable, realistic, timely).

Management targets should adhere to the SMART principles and must be measurable and expressed in a manner that assists in the evaluation of progress toward the strategic goals that define the completion criteria.

Examples of these could be:

Weed Management

Objective 1: Noxious and environmental weeds are identified and mapped.

Year 1: Undertake a detailed inspection of the wind farm area and accurately map weed extent.

Years 2 & 3: Undertake weed inspections, update GIS database with necessary changes.

Objective 2: A risk-based weed management plan is developed for the wind farm site.

Year 1: Develop a risk-based weed management program

Years 2 & 3: Implement weed management program, undertake weed inspections and schedule and undertake necessary weed treatment.

Objective 3: Reduce presence of noxious and environmental weeds.

Year 1: Implement management actions for high risk areas identified in the detailed weed inspection. Develop specific actions e.g. Targeted spraying of (insert weed) in (insert area)

Years 2 & 3: Implement weed management program. List specific actions.

If you require any further information regarding this matter, please contact Nikki Pridgeon, Senior Conservation Planning Officer, via nikki.pridgeon@environment.nsw.gov.au or (02) 5852 6807.

Yours sincerely

Liz Mazzer
A/ Senior Team Leader Planning North West
Biodiversity, Conservation and Science Directorate

17 February 2023

BCS's recommendations – OzArk Responses

Stubbo Solar Farm – Biodiversity Management Plan

Section	Text	Recommendation	Response
Figure 1-1	Image	Ensure that environmental exclusion zones mapped in Figure 1-1 match those in Appendix 1 of the development consent for SSD 10452.	Image updated.
1 Introduction	N/A	BCS has records of a Stage 1 BMP associated with the road upgrades for this project. Please confirm if this BMP covers only Stage 2, (ie solely the solar farm), or if this BMP will also replace the Stage 1 BMP.	Clarified that the BMP only relates to Stage 2.
2.1 Project Consent Conditions	The BMP includes Schedule 3, Conditions 14 and 15 from the development consent	The text and table numbers in section 2.1 of the BMP differ from those in the development consent. BCS recommends that this section of the BMP be reviewed to ensure it is consistent with the development consent.	Development condition consents updated, including the revision approved by DPE on 7 June 2022.
Table 2-2 Species Credit Requirements	Project Site credits	Number of credits on the project site for Tumut Grevillea and Silky Swainson-pea do not match the development consent. BCS recommends that table 2-2 of the BMP be reviewed to ensure it is consistent with the development consent	Development condition consents updated, including the revision approved by DPE on 7 June 2022.
3.3 Biodiversity	Two Plant Community Types (PCTs) were recorded	Recommend including mapping, photographs and site-specific descriptions of quality and main features of each PCT. This will help with establishing the baseline vegetation quality to compare against for future reporting. Noting, this information can be an appendix.	Appendix 2 contains information relating to PCTs.

Section	Text	Recommendation	Response
3.3 Biodiversity	N/A	It would be helpful to have a new section 3.4 listing recorded weed and pest species. Descriptions of abundance or areas of existing weed outbreaks (e.g. photos or maps showing the location/extent) would help with description of the baseline weed levels to compare against for future reporting.	Section 3.4 created that lists weed and pest species. A pre-construction weeds survey will be undertaken.
Table 4-1 Site environmental risks, mitigation measures, monitoring responses and responsibilities	N/A	Protocol 15 has not been included in this table. Please list under the relevant sub-headings	Table updated.
Table 4-1 Site environmental risks, mitigation measures, monitoring responses and responsibilities	Rehabilitation planting is likely to use something similar to “Hunter Nude Seed Mix”. And Rehabilitate and revegetate temporary disturbance areas with species that are endemic to the area.	More detail is needed here or in a relevant protocol. For example, specifying management zones or mapping where the rehabilitation plantings will occur. Likewise for Summary of Monitoring column, where frequency and target of monitoring of the rehabilitation actions need to be specified. More information is provided in the recommendation for Section 4.10 Rehabilitation.	Rehabilitation throughout BMP now refers to Condition 12 Schedule 3, return site to agricultural use and grazing. Monitoring frequency updated.
Table 4-1 Site environmental risks, mitigation measures, monitoring responses and responsibilities	Regular (fortnightly) inspection and maintenance of fencing during construction and monthly during first year of operation.	Recommend updating fencing inspections to be conducted twice a week during construction to increase chances of locating and rescuing any injured fauna.	Updated to weekly due to size of the site and staged approach to fencing.

Section	Text	Recommendation	Response
Table 4-1 Site environmental risks, mitigation measures, monitoring responses and responsibilities	N/A	Will there be any fire management practices occurring within/around the vegetated no go zone? If so, create a new fire management row in Table 4- 1 and an associated protocol.	Section 6.13 now states "Lighting of fires is prohibited within the exclusion fencing/exclusion zones"
Table 4-2 Monitoring and reporting requirements	N/A	It is unclear where some of these monitoring actions will occur e.g. across the whole site, versus only within the main or all environmental exclusion zones. Please specify in the introductory text or split up table to show if actions will be different between certain zones across the project site. Provide additional mapping to show different management zones if required.	The monitoring will occur in the development area. Explanatory sentence added to Section 4.
Table 4-2 Monitoring and reporting requirements	Increase in weed density and distribution from baseline	Increase by how much specifically? Include a numerical threshold which would trigger an action. Is there a secondary threshold, for example emergence of certain priority weed species which could also trigger additional actions?	Table updated to incorporated numerical thresholds.
Table 4-2 Monitoring and reporting requirements	Feral pests are detected within the project site. And Feral pests are detected.	Does this mean any feral pest sighting is to be reported/actioned, or only specific species? Other refinement options could include restricting to evidence of new or increasing pest activities. Such as sightings of new pests, burrows/breeding activity or pests found in previously pest free areas.	Table updated with known feral species. Table updated to include potential new species.
Table 4-2 Monitoring and reporting requirements	Quarterly for first three years of operation then as required.	Recommend continued monitoring at specified intervals until revegetation goals are met, rather than after three years regardless of success. This would require success and performance criteria to be established in this BMP as mentioned in other comments.	Updated to include half-yearly inspections for the life of the project.

Section	Text	Recommendation	Response
Section 4.4 Summary of Reporting	Performance in relation to carrying out works in accordance with this BMP.	There are no performance criteria for this BMP. Short, medium and/or long term goals to measure success against are required. Include SMART goals for all relevant actions e.g. "Increase groundcover species diversity by 10% by 2025 in Management Zone A."	Section 4.5 has been included to address this comment.
Section 4.6 Review and Improvement	Continuous improvement of this BMP will be achieved by the ongoing evaluation of performance…	Recommend also specifying a timeframe for periodic review of BMP i.e. every X years.	Addressed in re-numbered section 4.7.
Section 4.10 Rehabilitation	The entire area will be re-seeded after construction using locally endemic seeds.	More detail is required, unless completely deferring any rehabilitation to a secondary end of operations BMP. Information can be detailed in the management protocol and Monitoring/Reporting sections, including: - Completion timeframe post construction - Locations (Is this just the project site i.e. not the vegetation exclusion zone?) - Will re-seeding be to achieve a certain PCT or agricultural pasture as per Schedule 3 condition 12 of the development consent? - What is the end goal e.g. certain ground cover percentage of native species. More detail of the intended species to be planted in overstory, shrub layer, understorey etc. - Are there any exclusions? - What are the triggers for additional revegetation e.g. loss of certain percentage of tube stock, additional plantings post fire/drought to maintain a certain baseline etc.	Section 4.10 revised and updated to align with Schedule 3, condition 12.

Section	Text	Recommendation	Response
Section 6.2 Protocol 2 – Habitat Tree Removal	The contractor should wait a minimum of two minutes between shaking the tree and felling the tree to allow time for fauna to emerge.	Recommend that tree shaking occurs multiple times before beginning to fell tree.	Included in protocol.
Section 6.2 Protocol 2 – Habitat Tree Removal	Felling will involve gently pushing the tree and lowering or felling using a forestry harvester to avoid sudden falling as this is likely to injure or kill wildlife.	Recommend staged felling of trees where possible. Removal of non-hollow bearing limbs should occur first.	Included in protocol.
Section 6.4 Protocol 4 – Stockpiles and Re-using Resources as Woody Debris	N/A	Recommend also including parameters for reuse of bushrock – see Guide 5 for examples https://roads- waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/biodiversity_guidelines.pdf	Included in protocol.
Section 6.5 Protocol 5 – Weed Management	Weed abundance and fuel load to be managed through monitored sheep grazing… And … with regimes based on annual vegetation surveys (BAM plots).	More detail is required around sheep management e.g. where this can/can't occur, maximum stock densities, any limitations (e.g. cannot occur in drought conditions of when groundcover drops below X%). The type and frequency of monitoring, and requirement for refining of any grazing strategy, should be specified in relevant sections of Part 4 of the BMP.	Sheep management included. Pre-construction weed survey will be completed and provide additional information.

Section	Text	Recommendation	Response
Section 6.6 Protocol 6 – Feral Pest Management	Measures to control feral and overabundant native herbivores:	Are there separate steps which are intended to be included for overabundant native herbivores other than erecting fencing? If not, suggest deleting this reference.	Reference deleted.
Section 6.6 Protocol 6 – Feral Pest Management	Species management will be determined by species specific culling requirements as follows:	Please define at the start of this protocol, which pest species are intended to be controlled under this BMP. Then include any other species-specific controls required, for example foxes, cats or birds in dot point below. See 'PestSmart' website for further details https://pestsmart.org.au/	Known species included.
Section 6.8 Protocol 8 – Erosion and Sediment Control	Install erosion and sediment control measures prior to any works.	Are any permanent/temporary controls needed for specific watercourses? General control descriptions are fine as detail will be in the Erosion and Sediment Control Plan.	Protocol now refers directly to ESCP.
Section 6.8 Protocol 8 – Erosion and Sediment Control	Avoid stockpiling of materials adjacent to native vegetation, use cleared/disturbed areas.	Recommend also expanding this sentence to include near watercourses.	Protocol now refers directly to ESCP.
Section 6.13 Protocol 13 – Exclusion Fencing/No-Go Zones	To reduce the potential for impacts to existing flora and fauna, it is recommended that the following exclusion fencing/ No-Go Zones construction and management protocol be implemented:	Additional controls needed for rubbish disposal, prohibition of wood collection and lighting of fires are needed here, as per commitments in Table 33 of BDAR.	Additional controls added.

8.4 APPENDIX 4: BCD LETTER RE REVISED BIODIVERISTY OFFSETTING REQUIREMENTS AND CONFIRMATION OF RETIREMENT OF CREDITS

On 7 June 2022, the Biodiversity Offsetting Targets of Condition 14 of Schedule 3 were revised, as set out in the letter below. On April 16 2023, ACEN provided payment into the Biodiversity Conservation Fund to meet its' offset obligations (to this revised Condition 14 of Schedule 3).

Department of Planning and Environment

Our ref: Stubbo Solar (SSD-10452-PA-1)

Mr Cedric Berge
Development Manager
UPC\AC Renewables Australia
Suite 2 Level 2
15 Castray Esplanade
Battery Point TAS 7005

Via email

07/06/2022

Subject: Review of biodiversity offset requirements

Dear Mr Berge

I refer to your letter dated 12 April 2022 requesting revision of the biodiversity offset requirements under condition 14 of Schedule 3 of development consent SSD 10452, following targeted biodiversity surveys.

The Department has carefully reviewed the information provided and notes that:

- project works have not yet commenced at the site;
- the request is supported by a Targeted Species Survey Report (Eco Logical Australia, 13 December 2021), including an updated Biodiversity Assessment Method Calculator (BAM-C) and updated spatial data;
- targeted survey work demonstrated absence of a number of species credit species for which presence was initially assumed (without targeted survey) for the project site;
- the Department's Biodiversity Conservation and Science Directorate (BCS) supports the proposed changes to biodiversity offset requirements noting the results of the survey work.

Accordingly, the Planning Secretary accepts the revised biodiversity offset requirements under condition 14 of Schedule 3, as set out in tables below.

***Table 1**: Ecosystem Credit Requirements*

PCT ID	Credits Required	
	Road Upgrades	Project Site
81	40	-
266	2	-
281	111	354
1177	19	-
1770	-	2

***Table 2**: Species Credit Requirements*

Species Credit Species	Credits Required	
	Road Upgrades	Project Site
Barking Owl *(Ninox connivens)*	-	195

If you wish to discuss the matter further, please contact Javier Canon on 02 9373 2821 or at Javier.Canon@planning.nsw.gov.au

Yours sincerely

Nicole Brewer
Director
Energy Assessments

ACEN Australia

ACN 634 831 262
Suite 2, Level 2, 15 Castray Esplanade
Battery Point, TAS, 7004

23 May 2023

The Secretary
Department of Planning and Environment

Stubbo Solar Farm (SSD-10452)
Schedule 3, Condition 14 – Biodiversity Offsets

In accordance with Condition 14 of Schedule 3 of the Development Consent, I am writing to confirm that ACEN has completed the biodiversity credits retirement process prior to the commencement of construction (Stage 2a).

As confirmed in the Secretary's letter dated 10 May 2023 (ref SSD-10452-PA-22), Stage 2a includes construction and commissioning of the solar facilities including solar array, substation and all ancillary infrastructure, including the switchyard and transmission line connection to be constructed by Transgrid.

Following targeted biodiversity surveys, the biodiversity offset requirements under Condition 14 of Schedule 3 were revised, as confirmed in the Department of Planning and Environment's letter dated 7 June 2022 (reference SSD-10452-PA-1, **Attachment 1**).

The retirement of the biodiversity credits is confirmed in the following certificates:

- BCF422 Section 6.33 certificate – 16 September 2022 (**Attachment 2**);
- BCF456 Section 6.33 certificate – 21 October 2022 (**Attachment 3**); and
- Retirement of Biodiversity Credits (RETIRE60) Approved – 18 May 2023 (**Attachment 4**)

As shown in Table 1 and Table 2 below, ACEN has met its obligations under Condition 14 of Schedule 3 to retire all associated Biodiversity credits prior to the commencement of construction (Stage 2a).

***Table 1**: Ecosystem Credit Requirements*

PCT ID	Credits Required	Credits Retired	Credits Retired	Credits Required	Credits Retired	Final Balance
	Road Upgrades	BCF 422	BCF 456	Project Site	RETIRE60	
81	40	-40	-	-	-	0
266*	2	-	-2	-	-	0
281*	111	-	-112	354	-354	-1
1177	19	-19	-	-	-	0
1770	-	-2	-	2	-	0

*Note: PCT IDs 266 & 281 are interchangeable credits

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ACEN Australia

Table 2: Species Credit Requirements

Species Credits	Credits Required Road Upgrades	Credits Retired BCF 422	Credits Retired BCF 456	Credits Required Project Site	Credits Retired RETIRE60	Final Balance
Barking Owl (Ninox connivens)	-	-195	-	195	-	0

Please do not hesitate to contact the undersigned on 0427 776 873 or email at Michael.Yeo@acenrenewables.com.au should you have any queries or require any additional information.

Kind Regards,
ACEN Australia

DocuSigned by:

Michael Yeo
Project Manager - Construction
Stubbo Solar Project

Attachment 1 – *Biodiversity offset requirements review Approval (DPE ref SSD-10452-PA-1 dated 7 June 2022)*
Attachment 2 – BCF422 Section 6.33 certificate – 16 September 2022
Attachment 3 – BCF456 Section 6.33 certificate – 21 October 2022
Attachment 4 – Retirement of Biodiversity Credits (RETIRE60) Approved – 18 May 2023

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ACEN Australia

Attachment 1 **Biodiversity offset requirements review Approval (DPE ref SSD-10452-PA-1 dated 7 June 2022)**

Page 3

Department of Planning and Environment

Our ref: Stubbo Solar (SSD-10452-PA-1)

Mr Cedric Berge
Development Manager
UPC\AC Renewables Australia
Suite 2 Level 2
15 Castray Esplanade
Battery Point TAS 7005

Via email

07/06/2022

Subject: Review of biodiversity offset requirements

Dear Mr Berge

I refer to your letter dated 12 April 2022 requesting revision of the biodiversity offset requirements under condition 14 of Schedule 3 of development consent SSD 10452, following targeted biodiversity surveys.

The Department has carefully reviewed the information provided and notes that:

- project works have not yet commenced at the site;
- the request is supported by a Targeted Species Survey Report (Eco Logical Australia, 13 December 2021), including an updated Biodiversity Assessment Method Calculator (BAM-C) and updated spatial data;
- targeted survey work demonstrated absence of a number of species credit species for which presence was initially assumed (without targeted survey) for the project site;
- the Department's Biodiversity Conservation and Science Directorate (BCS) supports the proposed changes to biodiversity offset requirements noting the results of the survey work.

Accordingly, the Planning Secretary accepts the revised biodiversity offset requirements under condition 14 of Schedule 3, as set out in tables below.

Table 1: Ecosystem Credit Requirements

PCT ID	Credits Required	
	Road Upgrades	Project Site
81	40	-
266	2	-
281	111	354
1177	19	-
1770	-	2

Table 2: Species Credit Requirements

Species Credit Species	Credits Required	
	Road Upgrades	Project Site
Barking Owl *(Ninox connivens)*	-	195

4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150
Locked Bag 5022, Parramatta NSW 2124

If you wish to discuss the matter further, please contact Javier Canon on 02 9373 2821 or at Javier.Canon@planning.nsw.gov.au

Yours sincerely

Nicole Brewer
Director
Energy Assessments

ACEN Australia

Attachment 2 **BCF422 Section 6.33 certificate (16 September 2022)**

Biodiversity Conservation Trust

Statement confirming payment into the Biodiversity Conservation Fund for an offset obligation

Pursuant to section 6.33 of the *Biodiversity Conservation Act 2016*, the NSW Biodiversity Conservation Trust confirms that the following payments have been made into the Biodiversity Conservation Fund under section 6.30(1) of the Act to satisfy an obligation to retire biodiversity credits.

Payment made by:	ACEN Stubbo Solar Farm Pty Ltd
Date received:	16 September 2022
NSW statutory obligation reference[1]	Mid-Western Regional Council
Commonwealth EPBC Act controlled action reference (if applicable)[2]	N/A
BCT Reference	BCF422

Biodiversity credit retirement obligations satisfied by payment to the Biodiversity Conservation Fund:

Biodiversity credit type (Credit ID and name)	Offset trading group	EPBC Act Controlled Action offset obligation (Y / N)	Number of credits	Cost per credit (Exc. GST)	Total payment per credit type (Exc. GST)
81 - Western Grey Box - cypress pine shrub grass shrub tall woodland in the Brigalow Belt South Bioregion	Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	N	40	$4,123.14	$164,925.70
1177 - Slaty Gum woodland of the slopes of the southern Brigalow Belt South Bioregion	Southern Tableland Dry Sclerophyll Forests ≥50% and <70% cleared	N	19	$4,969.29	$94,416.43
1770 - Narrow-leaved Ironbark - Red Stringybark - Black Pine woodlands on sandstone substrates of the Brigalow Belt South	Western Slopes Dry Sclerophyll Forests <50% cleared	N	2	$2,638.80	$5,277.60
10561 - *Barking Owl* (Ninox connivens)	*Barking Owl* (Ninox connivens)	N	195	$288.82	$56,319.48
Total (Exc. GST)					**$320,939.21**
GST					**$32,093.92**
Total (Inc. GST)					**$353,033.13**

20/09/2022

Emily McCosker
Director Strategy & Finance

[1]This refers to either; a development application number for a development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), a State significant infrastructure approval under the previous Part 5.1 (now Part 5, Division 5.2) of the EP&A Act, a decision of a determining authority to carry out or approve the carrying out of an activity under Part 5 of the EP&A Act, or a biobank statement number or biodiversity certification number.

[2] This refers to a controlled action under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* for which a biodiversity offset obligation has been met through payment into the BCF.

NSW Biodiversity Conservation Trust
4 Parramatta Square, 12 Darcy St Parramatta 2124 | Locked bag 5022, Parramatta NSW 2124 | ABN 37 151 321 702 | bct.nsw.gov.au

Attachment 3 **BCF456 Section 6.33 certificate (21 October 2022)**

NSW GOVERNMENT | Biodiversity Conservation Trust

Statement confirming payment into the Biodiversity Conservation Fund for an offset obligation

Pursuant to section 6.33 of the *Biodiversity Conservation Act 2016*, the NSW Biodiversity Conservation Trust confirms that the following payments have been made into the Biodiversity Conservation Fund under section 6.30(1) of the Act to satisfy an obligation to retire biodiversity credits.

Payment made by	ACEN Renewables
Date received	21/10/2022
NSW statutory obligation reference[1]	SSD10452
Commonwealth EPBC Act controlled action reference (if applicable)[2]	N/A
BCT Reference	BCF456

Biodiversity credit retirement obligations satisfied by payment to the Biodiversity Conservation Fund:

Biodiversity credit type (Credit ID and name)	Offset trading group	EPBC Act Controlled Action offset obligation (Y / N)	Number of credits	Cost per credit (Exc. GST)	Total payment per credit type (Exc. GST)
266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands	N	2	$8,532.96	$17,065.91
281 - Rough-Barked Apple - red gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands	N	112	$8,532.95	$955,690.82
Total (Exc. GST)					**$972,756.73**
GST					**$97,275.67**
Total (Inc. GST)					**$1,070,032.40**

24/10/2022

Emily McCosker

Director Strategy & Finance

[1] This refers to either; a development application number for a development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**), a State significant infrastructure approval under the previous Part 5.1 (now Part 5, Division 5.2) of the EP&A Act, a decision of a determining authority to carry out or approve the carrying out of an activity under Part 5 of the EP&A Act, or a biobank statement number or biodiversity certification number.

[2] This refers to a controlled action under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* for which a biodiversity offset obligation has been met through payment into the BCF.

NSW Biodiversity Conservation Trust
Postal address: Locked Bag 5022, Parramatta NSW 2124 | ABN 37 151 321 702 | bct.nsw.gov.au

ACEN Australia

Attachment 4 **Retirement of Biodiversity Credits (RETIRE60) Approved (Email 18 May 2023)**

Page 6

From: **Anton Rohner** anton.rohner@acenrenewables.com.au
Subject: Fwd: Retirement of Biodiversity Credits (RETIRE60) Approved
Date: 18 May 2023 at 4:49 pm
To: Tim Greenaway tim.greenaway@acenrenewables.com.au

AR

Anton Rohner
+61 429909094

Begin forwarded message:

From: OEH ROD BOSCREDITS Mailbox <BOSCREDITS@environment.nsw.gov.au>
Date: 18 May 2023 at 4:25:39 pm AEST
To: Anton Rohner <anton.rohner@acenrenewables.com.au>
Cc: OEH ROD BOSCREDITS Mailbox <BOSCREDITS@environment.nsw.gov.au>
Subject: Retirement of Biodiversity Credits (RETIRE60) Approved

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Hi Anton,

The retirement of BOS credits for the purpose of complying with a requirement to retire biodiversity credits of a planning agreement under section 7.4 of the Environmental Planning and Assessment Act 1979 has been approved today. I am sending this to you as the authorised representative of this credit retirement (RETIRE60).

The retirements are registered on the BOS Public Register in the Transactions register. Section 6.30 *Biodiversity Conservation Regulation 2017* provides that retirement of a biodiversity credits is to be conclusively presumed if the retirement is recorded in the public register.

Below is further proof of retirement of BOS credits for your records.

Date of issue	18/05/2023
Credit Owner Name	ACEN Australia Pty Ltd
Retirement Case ID	00040574/CRE/RET
Source BSA	BS0020
Credit Holding ID	CH-376
Planning approval reference	SSD 10452
Ecosystem credits	
Credit ID	CR-22133
Number of credits	354
PCT Name	White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion
PCT ID	266
Offset trading group	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Ri
Vegetation class	Western Slopes Grassy Woodlands
Vegetation Formation	Grassy Woodlands
IBRA Subregion	Hill End

Hollow Bearing Trees	Yes (including artificial)

Kind Regards,
Biodiversity Offset Scheme Credits Team

Biodiversity & Conservation Division
Department of Planning and Environment
https://www.environment.nsw.gov.au/biodiversity/bos-help-advice.htm

NSW GOVERNMENT | Planning, Industry & Environment

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Need help? Visit Biodiversity Offsets Scheme Support at www.environment.nsw.gov.au/biodiversity/bos-help-advice.htm

dpie.nsw.gov.au

NSW GOVERNMENT | Planning, Industry & Environment

8.5 APPENDIX 5: BCD LETTER RE BMP STAGE 1 APPROVAL.

Department of Planning and Environment

Our ref: SSD-10452-PA-4

Mr Cedric Berge
Development Manager
ACEN Australia
15 Castray Esplanade
Battery Point, Tasmania 7004

29/09/2022

Biodiversity Management Plan (Stage 1) for Stubbo Solar Farm (SSD-10452)

Dear Mr Berge

I refer to your submission requesting approval of the Biodiversity Management Plan (Stage 1), which was submitted in accordance with Condition 15 of Schedule 3 for the development consent for the Stubbo Solar Farm.

The Department has carefully reviewed the document and is satisfied that it addresses the requirements of Condition 15 of Schedule 3 of the development consent.

Accordingly, as nominee of the Planning Secretary, I approve the Biodiversity Management Plan (Stage 1) (version 2, dated 27 September 2022).

You are reminded that if there are any inconsistencies between the approved document and the conditions of approval, then the conditions of approval prevail.

Please ensure you make the document and this approval letter publicly available on the project website.

If you wish to discuss the matter further, please contact Javier Canon on (02) 9373 2821 or at Javier.Canon@planning.nsw.gov.au.

Yours sincerely

Nicole Brewer
Director
Energy Assessments

As nominee of the Planning Secretary

4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150 www.dpie.nsw.gov.au 1
Locked Bag 5022, Parramatta NSW 2124