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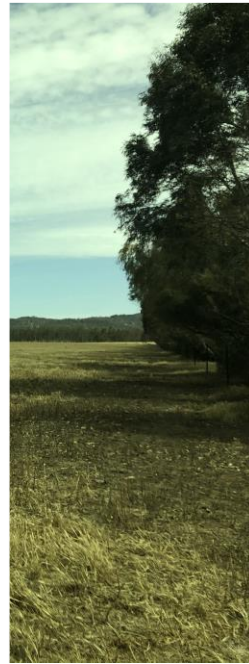


BIODIVERSITY MANAGEMENT PLAN

Gregadoo Solar Farm

December 2020

Project Number: 19-590



DOCUMENT VERIFICATION

| | |
|--------------------|--|
| Project Title: | Gregadoo Solar Farm |
| Project Number: | 19-590 |
| Project File Name: | 19-590 Gregadoo SF BMP_Final.v2.1_Clean.docx |

| Revision | Date | Prepared by | Reviewed by | Approved by |
|------------|------------|--------------------------------|---------------------|--------------|
| Final V1.0 | 24/08/2020 | Hannah Weiss | Hannah Weiss BCD | Erwin Budde |
| Final V2.0 | 23/10/2020 | Taylor Hume | Beth Noel DPIE | Erwin Budde |
| Final V2.1 | 22/12/2020 | Hanna Weiss (Minor Changes) | Sarah Hillis | Sarah Hillis |

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ACRONYMS AND ABBREVIATIONS

| | |
|-----------------|---|
| AC | Alternating Current |
| AS | Australian Standard |
| BC Act | <i>Biodiversity Conservation Act 2016 (NSW)</i> |
| BCD | <i>Biodiversity Conservation Division (part of DPIE)</i> |
| Biosecurity Act | <i>Biosecurity Act 2015 (NSW)</i> |
| CCP | Community Consultation Plan |
| CEEC | Critically Endangered Ecological Community |
| CEMP | Construction environmental management plan |
| CHMP | Cultural Heritage Management Plan |
| CoC | Conditions of Consent |
| Cwth | Commonwealth |
| DECCW | Refer to OEH |
| DPIE | (NSW) Department of Planning, Industry and Environment (incorporates BCD formerly known as OEH) |
| EEC | Endangered ecological community – as defined under relevant law applying to the proposal |
| EIS | Environmental Impact Statement |
| EMS | Environmental Management Plan |
| EPC | Engineering, Procurement and Construction |
| EPBC Act | (Cwth) <i>Environment Protection and Biodiversity Conservation Act 1999</i> |
| EP&A Act | (NSW) <i>Environmental Planning and Assessment Act 1979</i> |
| ESCP | Erosion and Sediment Control Plan |
| FM Act | (NSW) <i>Fisheries Management Act 1994</i> |
| ha | hectares |
| HBT | Hollow Bearing Tree |
| HSEQ | Health, Safety, Environment and Quality Control |
| km | kilometres |
| kV | kilovolt |
| LEP | Local Environment Plan |
| LGA | Local Government Area |
| m | Metres |

| | |
|---------|--|
| MW | Megawatt |
| NPW Act | <i>National Parks and Wildlife Act 1974 (NSW)</i> |
| NSW | New South Wales |
| OEH | (NSW) Office of Environment and Heritage, formerly Department of Environment, Climate Change and Water |
| PCT | Plant Community Type |
| PV | photovoltaic |
| SSD | State Significant Development |
| SWMP | Soil and Water Management Plan |
| TMP | Traffic Management Plan |

1. INTRODUCTION

1.1. PURPOSE AND OBJECTIVES

Gregadoo Solar Farm Pty Ltd (the proponent) received planning approval on 11 December 2018 for the construction and operation of a 47 megawatt (MW) alternating current (AC) photovoltaic (PV) solar farm, located around 13 km south-east of Wagga Wagga within the Wagga Wagga Local Government Area (LGA). The Gregadoo Solar Farm ('the Project') is a State Significant Development (SSD 8825) and represents an important contribution to renewable energy generation in New South Wales.

This Biodiversity Management Plan (BMP) has been prepared to comply with the Conditions of Consent (CoC) from the New South Wales Minister for Planning and all applicable legislation during the construction of the Project.

The BMP has been prepared using the *Draft Post Approval Guideline for Environmental Management Plans* (DPE 2018) as a guide in its preparation.

The purpose of this BMP is to provide a framework for the management of biodiversity issues during the construction and operation of the Project. Some management measures are only applicable during the construction period, while others continue throughout operation, as summarised in Table 1-1.

Table 1-1 Timeframe of environmental management measures.

| Construction | Operation |
|------------------------------------|-----------|
| Ground disturbance | N/A |
| Vegetation clearance | N/A |
| Re-use of resources protocol | N/A |
| Unplanned Threatened Species Finds | |
| Weed and Pest Management | |
| Vehicle Hygiene | |
| Vegetation Constraint Management | |

Implementing this BMP will ensure that the Project Team meets the Project requirements in a systematic manner and continually improves its performance.

1.2. THE PROJECT

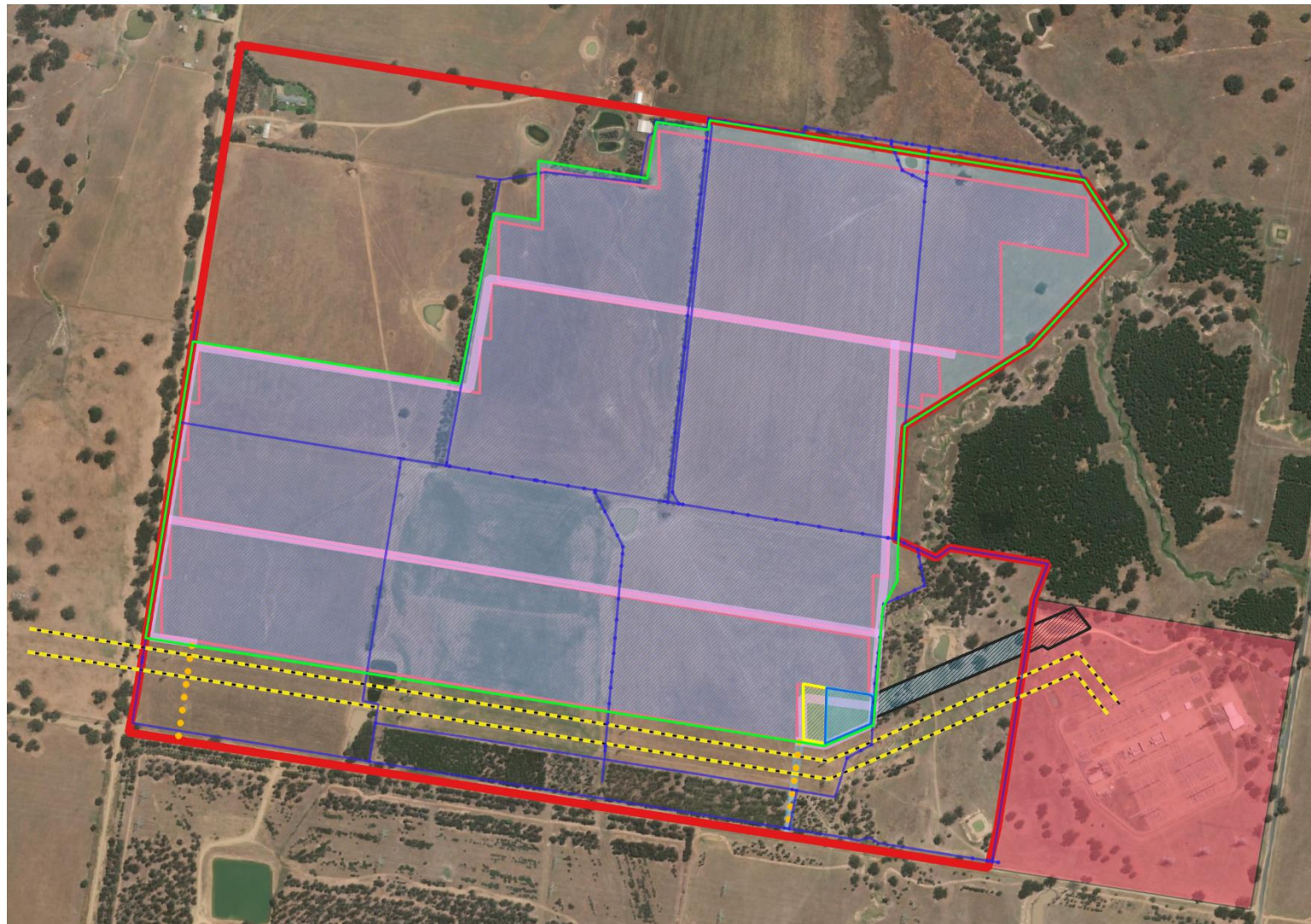
The scope of works under the contract includes all works necessary to design, construct, test, commission, energise, decommission, and train staff in the operation of an approximately 47 MW solar farm.

The scope of works consists of but is not limited to:

- Around 122,000 solar panels up to approximately 2.8 metres (m) in maximum height, mounted on a single axis tracking system
- Small operations and maintenance building with associated car parking
- Upgrade of existing farm access point from Boiling Down Road.
- Internal access tracks.
- 8 inverter units, standing about 3.5 m above ground surface.
- Electrical substation along Boiling Down Road.
- Underground electrical cable reticulation.
- Security fencing and CCTV.
- Native vegetation planting for visual screening.
- Filling in three farm dams.
- Laydown area and security fencing.
- Underground 33 kilovolt (kV) or 132 kV transmission cables connecting the onsite substation to the Transgrid substation.

During construction, the development site will be accessed from two access points, south of the development site along Boiling Down Road (Figure 1-1). Boiling Down Road and its intersection with Ashfords Road will be upgraded in accordance with Traffic Design Group Australia suggestions and Wagga Wagga City Council requirements identified in the Traffic Impact Assessment in the Project's Environmental Impact Statement (EIS).

The construction period of the solar farm will last approximately 12 months from the commencement of site establishment work.



Gregadoo Solar Farm

Development Footprint and Indicative Layout

-  Project Boundary
-  Development Footprint
-  Solar Array
-  New fence line
-  Compound Site
-  Onsite Substation
-  Existing Transgrid Substation
-  Connection Easement
-  Existing Transmission Line
-  Site Access
-  Existing Fences
-  Internal Access

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 © ESRI, 2020

Ref: 19-590 Gregadoo SF BMP 090120 \ Dev
 FP and Compound Site
 Author: T.Hume
 Date created: 07.08.2020
 Datum: GDA94 / MGA zone 55



0 100 200 300 m



Figure 1-1 Indicative Development Layout

1.3. ENVIRONMENTAL MANAGEMENT SYSTEMS OVERVIEW

Figure 1-2 below is a flow chart outlining the overall strategic framework for environmental management in delivering the proponent's scope for construction of the of works for the Gregadoo Solar Farm.



Figure 1-2 Strategic framework for environmental management

1.4. ENVIRONMENTAL POLICY

The Project will be constructed and operated in accordance with Hanwha's environmental policy. The environmental policy describes the Proponent's commitment to manage its activities in such a way that reduces their environmental impact to a practical minimum.

The environmental policy will be displayed at the site office and communicated to employees and other interested parties via inductions and ongoing awareness programs. A copy has been provided in Appendix E.

1.5. CONTINUAL IMPROVEMENT

Management reviews are undertaken as part of the continual improvement process. The review process will be detailed in the CEMP.

Continual improvement requires ongoing communication through multiple channels, as discussed in Section 11.1. Environmental management documents will undertake a continual improvement process.

1.6. CONSULTATION

Consultation has been undertaken with the NSW Biodiversity Conservation Division (BCD) and DPIE on early iterations of this plan. Agency comments and proponent responses are provided in Appendix C.

1.7. BIODIVERSITY CONSTRAINTS

As shown in Figure 1-3, the Biodiversity Assessment Report (BDAR) describes the biodiversity constraints of the development. A Superb Parrot recording within the vicinity of the development site suggests that HBT's within the development have potential to provide habitat for Superb Parrot. The larger hollow HBT's also have the potential to hold habitat value for Glossy-black Cockatoo and the Masked Owl.

A total of 12 HBT's within the development footprint are expected to be impacted, 4 of which are within an area of EEC to the south east of the development site. A total of 0.7 ha of EEC Grey Box Woodland and 0.2 ha Blakely's Red Gum-Yellow Box woodland is proposed to be impacted by the development of transmission lines. Remnant woodland along the Boiling Down Creek, within the area of EEC, has been avoided by the development footprint to the south east of the site to allow for the movement of threatened species across the landscape.

Habitat for the Sloane's Froglet occurs within the farm dams and Boiling Down Creek; three of these dams would be impacted by the proposal. An area of 0.6ha was calculated to be impacted which included the area of the three dams and a 30m buffer area.

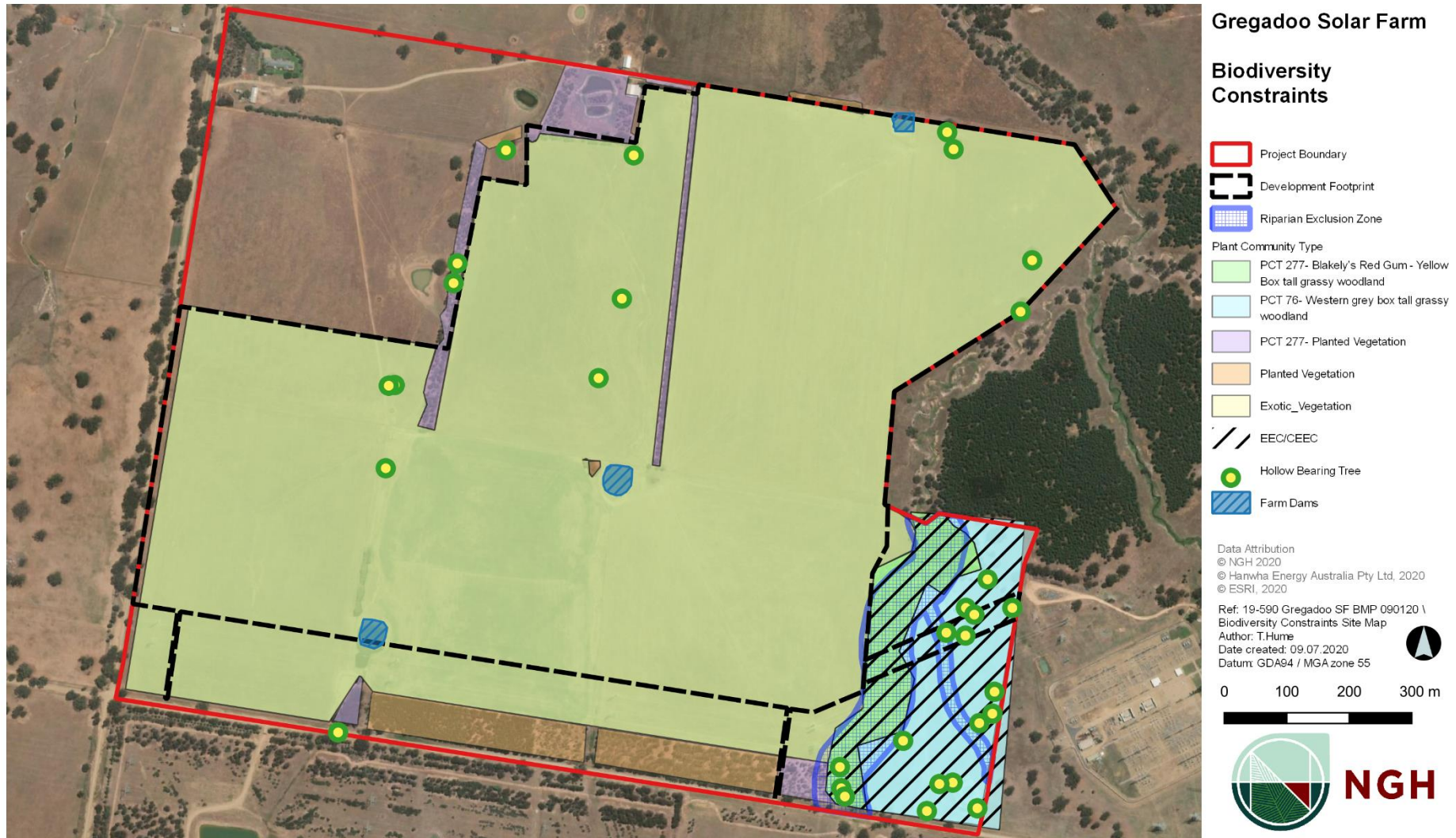


Figure 1-3 Site map showing biodiversity constraints

2. PLANNING

2.1. LEGISLATIVE AND OTHER ENVIRONMENTAL MANAGEMENT REQUIREMENTS

A register of requirements for the Project is contained in Appendix B. The registers are maintained as checklists. The registers will be reviewed at regular intervals e.g. during management reviews and updated with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider team where necessary through toolbox talks, specific training and other methods detailed in Section 10.

2.1.1. Legislation

Legislation relevant to biodiversity management includes:

- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *National Parks and Wildlife Act 1974* (NPW Act).
- *Biodiversity Conservation Act 2016* (BC Act).
- *Protection of the Environment Operations Act 1997* (POEO Act).
- *Fisheries Management Act 1994* (FM Act).
- *Biosecurity Act 2015*.
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in Appendix B of the EMS.

2.1.2. Guidelines and standards

The main guidelines, specifications and policy documents relevant to this BMP include:

- NSW National Parks & Wildlife Service. 2001. *Policy for the Translocation of Threatened Fauna in NSW: Policy and Procedure Statement No. 9* Threatened Species Unit, Hurstville NSW.
- Relevant recovery plans, priority action statements and best practice guidelines.
- DECCW. 2008. Hygiene protocol for the control of disease in frogs.
- Australian Standard AS 4373 Pruning of Amenity Trees.
- Australian Standard AS 4970 – 2009 Protection of Trees.

2.2. OBJECTIVES AND TARGETS

2.2.1. Objectives

Construction

The key objective of the BMP during construction is to ensure that the impacts of this project on biodiversity are managed and are within the scope permitted by the planning approval.

To achieve this objective, Hanwha Energy Australia Pty Ltd (Hanwha) will:

- Ensure appropriate controls and procedures are implemented during construction activities to avoid (where necessary) or minimise potential adverse impacts to biodiversity values in the Project footprint.
- Ensure appropriate measures are implemented to address the mitigation measures detailed in the EIS, BAR and CoCs.
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 2.1 and Section 8 of this BMP.

Operation

The key objective of the BMP during operation is to ensure that the impacts of this project on biodiversity are managed and the condition of site biodiversity values maintained over the lifetime of the project.

To achieve this objective, Hanwha will:

- Ensure appropriate controls and procedures are maintained during operation to manage potential adverse impacts to biodiversity values in the Project footprint.
- Protect areas outside the Project impact areas (but within the site boundaries).
- Ensure biodiversity monitoring is carried out regularly, particularly for vegetation under the panels and in exclusion zones, to maintain biodiversity values in these areas.
- Ensure the project continues to comply with all relevant legislation and other requirements.

2.2.2. Targets

As a means of assessing environmental performance during construction of the Project, environmental objectives and targets have been established. These objectives and targets have been developed with consideration of key issues identified through the environmental assessment and risk assessment process. The objectives and targets will be consistent with the EPC Contractor's environmental policy and will assist in monitoring whether the commitments of the environmental policy are being met.

The targets are incorporated into relevant environmental management plans.

The performance of the Project against the objectives and targets will be documented in the Project construction compliance reports and at least on a monthly basis as part of the management review.

Environmental objectives and targets for the Project are provided in Table 2-1 below. These are broader environmental objectives and targets that are partially covered by the BMP but are also met by other documents such as the CEMP, EMS, TMP, Landscape Plan, and CHMP.

Table 2-1 Environmental objectives and targets

| Objective | Target | Measurement Tool |
|---|--|--|
| Construction of the Project in accordance with environmental approvals and relevant licences. | Compliance with statutory approvals | Audits, construction compliance reporting, management review |
| Construction of the Project in accordance with approved environmental management plans | Compliance with EMS and Project management plans Compliance with relevant environmental procedures | Audits, construction compliance reporting, management review |
| Compliance with all legal requirements | No regulatory infringements (penalty infringement notices or prosecutions) No formal regulatory warning | Audits, construction compliance reporting, management review |
| Implement rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001 | Address non-conformances and corrective actions within specific timeframes | Audits, management review |
| Engage with the affected and broader community, minimise complaints and respond to any complaints within a suitable timeframe | Disseminate regular Project updates and other information through the Project website and other tools identified by the Community Consultation Plan (CCP). Record and respond to complaints within the timeframe specified in the CCP | Review complaints register, construction compliance report, audits |
| Continuously improve environmental performance | Develop and implement a program of ongoing environmental training Capture lessons learnt from environmental incidents to minimise repeat issues Encourage and reward innovation and effort throughout the workforce. | Construction compliance report, management review, audits |

2.3. CONDITIONS OF CONSENT

Preparation of a BMP prior to the commencement of the construction is a requirement of Condition 13 Schedule 3.

Prior to the commencement of construction, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with OEH, and to the satisfaction of the Secretary. This plan must:

d) Include a description of the measures that would be implemented for:

- *managing the remnant vegetation and fauna habitat on site;*
- *minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development;*
- *minimising the impacts to fauna on site (including fauna interaction with perimeter fencing) and implementing fauna management protocols;*
- *avoiding the removal of hollow-bearing trees during late winter and spring to avoid the main breeding period for hollow-dependent fauna;*
- *rehabilitating and revegetating temporary disturbance areas;*
- *protecting vegetation and fauna habitat outside the approved disturbance areas;*
- *maximising the salvage of vegetative and soil resources within the approved disturbance area for beneficial reuse in the enhancement or the rehabilitation of the site; and*
- *controlling weeds and feral pests; and*

e) Include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.

Following the Secretary's approval, the Applicant must implement the Biodiversity Management Plan

DPIE issued consent for the project on 11 December 2018. Each of the requirements of Condition 13 Schedule 3 and Condition 9 Schedule 9, and where they are addressed is detailed in Table 2-2 below.

Table 2-2 Relevant Conditions of Consent and where they are addressed

| CoC | Condition requirement | Relevant Section of BMP | Timing |
|----------------------|---|-------------------------|-----------------------------------|
| Biodiversity | | | |
| Schedule 3 CoC 13 | <i>d) Include a description of the measures that would be implemented for:</i> • <i>managing the remnant vegetation and fauna habitat on site</i> | Section 6, Section 7.7 | Pre construction and Construction |
| | • <i>minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development</i> | Section 6, Section 7.2, | Pre construction and Construction |
| | • <i>minimising the impacts to fauna on site (including fauna interaction with perimeter</i> | Section 7.7 | Pre construction and Construction |

| CoC | Condition requirement | Relevant Section of BMP | Timing |
|------------------------------|--|--|--|
| | <i>fencing) and implementing fauna management protocols</i> | | |
| | <ul style="list-style-type: none"> <i>avoiding the removal of hollow-bearing trees during late winter and spring to avoid the main breeding period for hollow-dependent fauna</i> | Section 5.1, Section 7.2.6 | Pre construction and Construction |
| | <ul style="list-style-type: none"> <i>rehabilitating and revegetating temporary disturbance areas</i> | Section 7.1, Appendix B.1 | Pre construction and Construction |
| | <ul style="list-style-type: none"> <i>protecting vegetation and fauna habitat outside the approved disturbance areas</i> | Section 6, Section 7.2.4 | Pre construction and Construction |
| | <ul style="list-style-type: none"> <i>maximising the salvage of vegetative and soil resources within the approved disturbance area for beneficial reuse in the enhancement or the rehabilitation of the site</i> | Section 7.3, Soil and Water Management Plan (SWMP) | Pre construction and Construction |
| | <ul style="list-style-type: none"> <i>controlling weeds and feral pests</i> | Section 7.5 | Pre construction and Construction |
| | <i>e) Include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions.</i> | Section 9 | Pre construction and Construction |
| Land Management | | | |
| <i>Schedule 3 CoC 11</i> | Following any construction or upgrading on the site, the Applicant must: <ul style="list-style-type: none"> restore the ground cover of the site as soon as practicable. maintain the ground cover with appropriate perennial species; and manage weeds within this ground cover. | Separate document: Landscaping Plan | Construction phase, post construction phase. |

2.4. COMMITMENTS

The safeguards and mitigation measures that were identified in the EIS will be implemented in the relevant phases including construction, operation and decommission, as presented in Table 2-3 below.

Table 2-3 Project Commitments (C= construction O= operation D=decommission)

| No. | Safeguards and mitigation measures | C | O | D |
|-----|--|---|---|---|
| BD1 | Time works to avoid critical life cycle events: <ul style="list-style-type: none"> Hollow-bearing trees would not be removed during breeding season (spring to early summer) to mitigate impacts on Superb Parrot. If clearing outside of this period cannot be achieved, pre-clearing surveys would be undertaken to ensure no impacts to fauna would occur. | C | | |
| BD2 | Implement clearing protocols during tree clearing works, including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecological or wildlife handler: <ul style="list-style-type: none"> Pre-clearing checklist. Tree clearing procedure. | C | | |
| BD3 | Relocate habitat features (fallen timber, hollow logs) from within the development site. Tree-clearing procedure including relocation of habitat features to adjacent area for habitat enhancement. | C | | |
| BD4 | Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed: <ul style="list-style-type: none"> Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. No stockpiling or storage within dripline of any native vegetation. In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery to minimise risk of unauthorised disturbance. | C | | |
| BD5 | Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise. CEMP will include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible. | C | | |
| BD6 | Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill: <ul style="list-style-type: none"> Avoid Night Works. Direct lights away from vegetation. | C | O | |
| BD7 | Adaptive dust monitoring programs to control air quality: <ul style="list-style-type: none"> Daily monitoring of dust generated by construction activities. Construction would cease if dust observed being blown from site until control measures were implemented. All activities relating to the proposal would be undertaken with the objective of preventing visible dust emissions from the development site. | C | | |
| BD8 | Temporary fencing to protect significant environmental features such as riparian zones. Prior to construction commencing, exclusion fencing and signage would be installed around habitat to be retained. | C | | |
| BD9 | Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas: | C | O | |

| No. | Safeguards and mitigation measures | C | O | D |
|------|---|----------|----------|---|
| | <ul style="list-style-type: none"> • A Weed Management Procedure would be developed for the proposal to prevent and minimise the spread of weeds. This would include: <ul style="list-style-type: none"> ○ Management protocol for declared priority weeds under the Biosecurity Act 2015 during and after construction. ○ Weed hygiene protocol in relation to plant, machinery, and fill. • Any occurrences of pathogens such as Myrtle Rust and Phytophthora would be monitored, treated, and reported. <p>The weed management procedure would be incorporated into the Biodiversity Management Plan.</p> | | | |
| BD10 | <p>Staff training and site briefing to communicate environmental features to be protected and measures to be implemented:</p> <ul style="list-style-type: none"> • Site induction. • Toolbox talks. | C | | |
| BD11 | <p>Preparation of a vegetation management plan to regulate activity in vegetation and habitat adjacent to the proposed development:</p> <ul style="list-style-type: none"> • Preparation of a Biodiversity Management Plan that would include protocols for: <ul style="list-style-type: none"> ○ Protection of native vegetation to be retained. ○ Best practice removal and disposal of vegetation. ○ Staged removal of hollow-bearing trees and other habitat features such as fallen logs with attendance by an ecologist. ○ Weed management. ○ Unexpected threatened species finds. • Rehabilitation of disturbed areas. | C | | |
| BD12 | <p>An erosion and sediment control plan would be prepared in conjunction with the final design and implemented.</p> | C | | |
| BD13 | <p>Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development site. Retained native vegetation would be considered as an offset site.</p> | | O | |
| BD14 | <p>Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment. An erosion and sediment control plan would be prepared in conjunction with the final design and implemented.</p> | C | | |
| BD15 | <p>Staff training and site briefing to communicate impacts of traffic strikes on native fauna:</p> <ul style="list-style-type: none"> • Awareness training during site inductions regarding enforcing site speed limits. • Site speed limits to be enforced. | C | O | |

3. EXISTING ENVIRONMENT

3.1. SOILS

Full details of the soil characteristics are contained in the Soil Survey Report (McMahon 2018) and the SWMP (separate document). Details below are relevant to this BMP.

The soils of the site are described as follows derived from eSpade (2020):

- O'briens Creek Alluvial (obb)– gently undulating plains of alluvial sediments. Extensive sloping plains adjacent to hillslopes, river channels and narrow drainage lines. Almost completely cleared tall woodland. Affected by recent alluvial erosion and deposition. Streambank erosion (localised), waterlogging (localised), strong acidity, hardsetting soil.
- Redbank (rb) – very gently inclined long piedmonts slopes. Local relief mostly <10m; slope gradients <3%. Long undulating slopes and narrow drainage lines. Almost completely tall woodland. High erosion hazard, foundation hazard (localised), water logging (localised), strong acidity.

3.2. FLORA

The site is dominated by cleared areas that are primarily used for cropping and grazing, which provide very little in terms of native fauna habitat. Around 105 ha (84.4%) of land within the solar farm development site is cleared.

The Project has been designed to minimise clearing of native woodland vegetation and threatened species habitats. In this regard, the development footprint comprises around 95 ha, the majority of which is composed of exotic vegetation.

3.2.1. Vegetation Communities

The native vegetation within the solar farm development site is comprised of two plant community types (PCTs):

- Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes and Riverina (PCT 76).
- Blakey's Red Gum Yellow Box Tall Grassy Woodland of the NSW South Western Slopes (PCT 277), remnant and planted.

PCT 76 and PCT 277 are classified as Endangered Ecological Communities (EECs) under NSW and Commonwealth legislation with Blakely's Red Gum Yellow Box declared Critically Endangered.

Western Grey Box Tall Grassy Woodland

A total of 7.93 ha occurs as remnant vegetation along the Eastern edge of the development site. The remnant woodland within the development site is degraded having been previously ploughed and grazed. Very few native understory species remain to use for identification of the PCT. The overstory dominated by remnant Grey Box trees is the main identification factor for the PCT.

Blakely's Red Gum Yellow Box Tall Grassy Woodland

A total of 3.65 ha occurs within the development site along Boiling Down Creek. This remnant woodland occurs along Boiling Down Creek. It has a disturbed understory and has previously been deep ripped for planting of understory shrubs and trees. Very few native understory species remain to use for identification of the PCT. The PCT was determined by the remnant overstory trees Yellow Box (*Eucalyptus melliodora*), Blakely's Red Gum (*Eucalyptus blakelyi*) and White Box (*Eucalyptus albens*).

3.3. FAUNA

During the fauna survey conducted in December 2017 for the BDAR prepared by NGH (2018b) identified the presence of Superb Parrot and Yellow-bellied Sheathtail Bat (*Saccolaimus flaviventris*) within the development site. Other threatened species habitat was identified within the development site, however it was not the correct time of year for surveying for these species and thus they were assumed to be present. These species are Sloane's Froglet (*Crinia sloanei*), Glossy Black Cockatoo (*Calyptorhynchus lathami*,) and Masked Owl (*Tyto novaehollandiae*). Hollow-dependent fauna are of particular focus to prevent impacts during works. Refer to Figure 3-1 for locations of threatened species habitat.

3.4. WEEDS AND PESTS

3.4.1. Pest Species

Common Starling (*Sturnus vulgaris*), Red Fox (*Vulpes Vulpes*), European Rabbit (*Oryctolagus cuniculus*), European Hare (*Lepus europaeus*) are present within the development footprint. Future monitoring should incorporate cameras traps to monitor and record pest species. A survey prior to construction commencement will be undertaken to detect pest species presence and abundance. Monitoring of pest species will ensure that numbers and distribution of pest species onsite are reduced below these measured baseline levels.

3.4.2. Weed Species

Twenty three exotic flora species were recorded within the development site see Table 3-1. Only Blackberry (*Rubus fruticosus sp*), a weed of national significance and priority weed for the Riverina has legislation that supports its management. Blackberry plants must not be imported into NSW or sold (with exceptions for varieties listed NSW DPI 2020a).

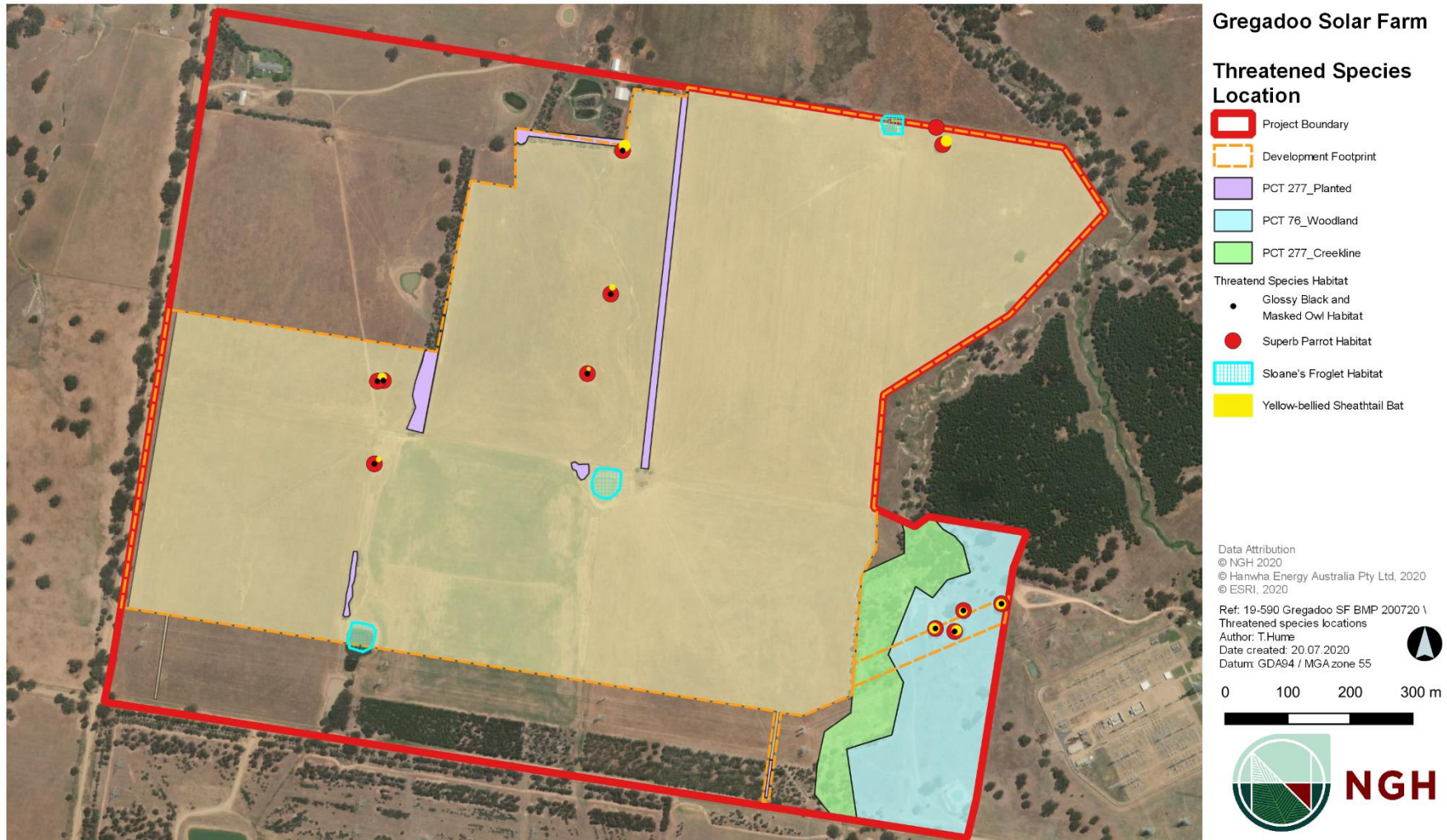


Figure 3-1 Location of threatened species habitat

Table 3-1 Exotic flora species observed within the development site

| Common Name | Scientific Name | Status |
|-----------------------|-------------------------------|---|
| Capeweed | <i>Arctotheca calendula</i> | - |
| Paddy Melon | <i>Cucumis myriocarpus</i> | - |
| Patterson's Curse | <i>Echium plantagineum</i> | - |
| Common Crowfoot | <i>Erodium cicutarium</i> | - |
| Common Heliotrope | <i>Heliotropium europaeum</i> | - |
| Catsear | <i>Hypochaeris radicata</i> | - |
| St John's wort | <i>Hypericum perforatum</i> | - |
| Small-flowered Mallow | <i>Malva parviflora</i> | - |
| White Horehound | <i>Marrubium vulgare</i> | - |
| Haresfoot Clover | <i>Trifolium arvense</i> | - |
| Clustered Clover | <i>Trifolium glomeratum</i> | - |
| Bathurst Burr | <i>Xanthium spinosum</i> | - |
| Wild Oats | <i>Avena fatua</i> | - |
| Great Brome | <i>Bromus diandrus</i> | - |
| Soft Brome | <i>Bromus hordeaceus</i> | - |
| Kikuyu | <i>Cenchrus clandestinus</i> | - |
| Barley Grass | <i>Hordeum leporinum</i> | - |
| Perennial Ryegrass | <i>Lolium perenne</i> | - |
| Phalaris | <i>Phalaris aquatica</i> | - |
| Onion grass | <i>Romulea rosea</i> | - |
| Wheat | <i>Triticum aestivum</i> | - |
| Rat's Tail Fescue | <i>Vulpia myuros</i> | - |
| Blackberry | <i>Rubus fruticosus</i> | Prohibition on dealings. Must not be imported into the state or sold. |

Note: any occurrences of pathogens such as Myrtle Rust and Phytophthora would be monitored, treated, and reported.

4. ENVIRONMENTAL ASPECTS AND IMPACTS

The construction and operation phases of the project have the potential to impact biodiversity values at the site in ways that cannot be avoided. This would occur through direct impacts such as habitat clearance and installation of infrastructure, and indirect impacts including weed ingress, soil and water contamination, and generation of excessive dust, light, or noise.

Key aspects of the Gregadoo Solar Farm that could result in impacts to biodiversity have been described in Table 4-1.

Table 4-1 Potential biodiversity impacts as a result of the Solar Farm

| Impact | Frequency | Intensity | Duration | Consequence |
|---|-----------|-----------|---------------------------|---|
| Direct | | | | |
| Vegetation clearance for permanent and temporary construction facilities (e.g. solar infrastructure, transmission lines, compound sites, stockpile sites, access tracks and road upgrades). | Regular | High | Construction | Direct loss of native flora and fauna habitat including hollow-bearing trees. Injury and mortality to fauna during clearing of fauna habitat. Introduction and spread of noxious weeds and pathogens. Disturbance to fallen timber, dead wood and bush rock. |
| Impacts to Boiling Down Creek and riparian vegetation. | Rare | Moderate | Construction | Loss of riparian vegetation. Bed and bank erosion. |
| Indirect | | | | |
| Accidental spills and contamination from construction activities (including compound sites) and maintenance works. | Rare | Moderate | Construction Operation | Pollution of soils and dams. |
| Earthworks | Regular | Moderate | Construction | Erosion and sedimentation and/or pollution of soils, dams and downstream habitats. |
| Noise | Regular | Low | Construction Operation | Construction machinery and activities and maintenance vehicles and works may disturb local fauna. |

| Impact | Frequency | Intensity | Duration | Consequence |
|---|------------------|------------------|---------------------------|--|
| Dust generation | Regular | Low | Construction Operation | Inhibit the function of plant species and communities, soils and dams. |
| Light spills during night works. | Rare | Low | Construction Operation | May alter fauna activities and/or movements. |
| Introduction/ encouragement of feral pests, weeds or pathogens. | Regular | Moderate | Construction Operation | Feral pest, weed and/or pathogen encroachment. |

5. WORK SCHEDULES

5.1. CONSTRUCTION AND OPERATION ACTIVITIES

Table 5-1 Schedule of construction works

| Project phase | Indicative Timeframe | Potential disturbance | Key actions and mitigation | Performance target |
|--------------------------|---|---|--|---|
| Construction site set up | Starting Q3 2021 for the length of construction phase | <ul style="list-style-type: none"> Disturbance to native groundcover from vehicle movements. Disturbance and removal of fauna habitat including woody debris. Spread of priority weeds. Collision with wildlife causing injury or death. Disturbance of native fauna by light or noise at night. | <ul style="list-style-type: none"> Prior to the commencement of work, a physical vegetation clearing boundary at the approved clearing limit is to be clearly demarcated and implemented. The delineation of such a boundary may include the use of temporary fencing, flagging tape, para-webbing etc. A riparian buffer zone of 40 m along Boiling Down Creek would be clearly delineated prior to works commencing. Works would be avoided in riparian buffer zone. No works would occur inside the exclusion zones. No stockpiling materials and equipment and parking vehicles will be within the dripline (extent of foliage cover) of any native tree. Wash and inspect plant and vehicles as per Vehicle Hygiene Procedure. Pre-clearing surveys will be carried out by an ecologist and will include general fauna surveys, general tree hollow inspections and dam/waterway inspections. Habitat trees will be clearly marked with flagging tape. Hollow-bearing trees within the development site would be cleared between March and August to avoid Superb Parrot breeding. | <ul style="list-style-type: none"> No disturbance to biodiversity outside the approved construction footprint. Minimise disturbance to biodiversity in the project area. Retain existing native riparian vegetation to the greatest extent possible in an undamaged and unaltered condition. Protect exclusion zones from adverse impacts during construction. Weeds and pests are controlled. Speed limits will be enforced. No native fauna mortalities during construction. No works causing light or noise impacts occurring near exclusion zones at night. Keep pest species numbers and distribution at or below baseline levels as measured prior to construction commencement. |

| Project phase | Indicative Timeframe | Potential disturbance | Key actions and mitigation | Performance target |
|----------------------------|--------------------------------------|---|---|---|
| | | | <ul style="list-style-type: none"> • If clearing within this period cannot be achieved, pre-clearing surveys of hollows and nests would be undertaken to ensure individual animals are not impacted. No clearing of any tree supporting an active nest of Superb Parrot would occur. • Include awareness training in site inductions regarding site speed limits. Site speed limits to be enforced. • Avoid night works. • Direct lights away from vegetation. • Noise-emitting plant will be oriented so that noise will be directed away from exclusion zones wherever possible. • When not in use, vehicles and plant will not be left idling near exclusion zones but will be switched off whenever possible. • Conduct pest species surveys, prior to construction commencement, to determine species present, estimate distribution and measure numbers. | |
| Internal road construction | Starting Q3 2021 lasting for 1 month | <ul style="list-style-type: none"> • Disturbance to native groundcover from vehicle movements. • Disturbance and removal of fauna habitat including woody debris. • Disturbance to native fauna from lights and noise. | <ul style="list-style-type: none"> • Wash and inspect plant and vehicles as per Vehicle Hygiene Procedure. • Stockpiling and storage of materials and machinery will occur only on designated areas. • Stockpiling materials and equipment and parking vehicles will be avoided within the dripline (extent of foliage cover) of any native tree. • Avoid night works. • Direct lights away from vegetation. | <ul style="list-style-type: none"> • No disturbance to biodiversity outside the approved construction footprint. • Minimise disturbance to biodiversity in the project area. • Retain existing native riparian vegetation to the greatest extent possible in an undamaged and unaltered condition. • Protect exclusion zones from adverse impacts during construction. • No mortality of native fauna during construction. |

| Project phase | Indicative Timeframe | Potential disturbance | Key actions and mitigation | Performance target |
|---|--|---|---|---|
| | | <ul style="list-style-type: none"> • Collision with wildlife causing injury or death. • Disturbance of groundcover from stockpiles. • Spread of priority weeds. • Spills from vehicles, plant, and storage facilities. • Pollution of waterways or native vegetation. | <ul style="list-style-type: none"> • Include awareness training in site inductions regarding site speed limits. • Site speed limits to be enforced. • Carry out refuelling of plant and equipment, chemical storage and decanting off site or at least 50 m away from farm dams in impervious bunds. • Ensure that dry and wet spill kits are readily available. | <ul style="list-style-type: none"> • Weeds and pests are controlled. • Speed limits will be enforced. • No native fauna mortalities. • No pollution or siltation of aquatic ecosystems, wetlands, endangered ecological communities or threatened species habitat. |
| Construction of solar farm infrastructure | Commencing after construction of internal roads lasting for 6-9 months | <ul style="list-style-type: none"> • Disturbance to native fauna from lights and noise. • Collision with wildlife causing injury or death. • Disturbance of groundcover from stockpiles. • Spread of priority weeds • Spills from vehicles, plant, and storage facilities. • Pollution of waterways or native vegetation. | <ul style="list-style-type: none"> • Implement ground disturbance permit procedure before any clearing activity. • Implement Vegetation Clearance Procedure for vegetation removal. • Place CWD in remaining vegetated areas where practicable. • Works occurring around Boiling Down Creek must be in accordance with the DPI Fisheries document <i>Policies and Guidelines for Fish Habitat Conservation and Management</i>. • Record clearing and ground disturbance via spatial mapping. • Provide awareness training during site inductions and toolbox talks – emphasise the importance of native habitat. • Machinery, trucks and equipment will be restricted to designated parking areas. No parking on roadside vegetation will occur. | <ul style="list-style-type: none"> • No disturbance to biodiversity outside the approved construction footprint. • Minimise disturbance to biodiversity in the project area. • Retain existing native riparian vegetation to the greatest extent possible in an undamaged and unaltered condition. • Protect exclusion zones from all adverse impacts throughout the construction period. • Survey weed abundance in exclusion zones seasonally during construction and use as basis for implementing seasonal targeted weed control measures in each zone. • Survey weed abundance across the project site seasonally during construction and use to implement |

| Project phase | Indicative Timeframe | Potential disturbance | Key actions and mitigation | Performance target |
|--|--------------------------------------|---|---|---|
| | | | <ul style="list-style-type: none"> • Stockpiles and storage of materials and machinery will avoid the dripline (extent of foliage cover) of any native tree. • Stockpiling and storage of materials will occur only on designated areas. • Plant and vehicles will be washed and inspected as per Vehicle Hygiene Procedure. • Avoid night works. • Direct lights away from vegetation. • Topsoil will be salvaged where possible within the approved disturbance area and stockpiled for beneficial reuse in the enhancement or the rehabilitation of the site, as per the Weed Management Procedure (Section 7.5) and Rehabilitation Plan (separate to this report, to be prepared and approved by DPIE at least 3 months prior to decommissioning). • Carry out refuelling of plant and equipment, chemical storage and decanting off site or at least 50 m away from farm dams in impervious bunds. • Ensure that dry and wet spill kits are readily available. | <p>targeted weed control measures to control weed infestations.</p> <ul style="list-style-type: none"> • Targeted weed control measures to be implemented for any seasonal weed outbreaks within a year of discovery. • No mortality of native fauna during vegetation removal. • Weeds and pests are controlled. • Speed limits will be enforced. • No native fauna mortalities during construction. • No pollution or siltation of aquatic ecosystems, wetlands, endangered ecological communities or threatened species habitat. |
| Removal of temporary construction equipment. | At the end of the construction phase | <ul style="list-style-type: none"> • Disturbance to existing native fauna from lights and noise. • Disturbance of groundcover from stockpiles. • Spread of priority weeds. | <ul style="list-style-type: none"> • Machinery, trucks and equipment will be restricted to designated parking areas. No parking on roadside vegetation will occur. • Stockpiles and storage of materials and machinery will avoid the dripline (extent of foliage cover) of any native tree. • Stockpiles and storage will occur only on designated direct disturbance areas. • Direct any lighting away from vegetation. | <ul style="list-style-type: none"> • Weeds and pests are controlled. • Speed limits will be enforced. • No native fauna mortalities during construction. • No pollution or siltation of aquatic ecosystems, wetlands, endangered ecological communities or threatened species habitat. |

| Project phase | Indicative Timeframe | Potential disturbance | Key actions and mitigation | Performance target |
|---------------|--|---|--|---|
| | | | <ul style="list-style-type: none"> Plant and vehicles will be inspected and washed as per Traffic Management Procedure. Install and maintain erosion and sediment controls. | <ul style="list-style-type: none"> Protect exclusion zones from adverse impacts during construction. |
| Revegetation | As soon as possible at the end of the construction phase | <ul style="list-style-type: none"> Loss of groundcover Spread of priority weeds | <ul style="list-style-type: none"> Restore the ground cover of the site as soon as practicable, but within 12 months of completing any construction or upgrades, using suitable species. Restore and maintain the ground cover with appropriate perennial species. Manage weeds within this ground cover. | <ul style="list-style-type: none"> Rehabilitate all disturbed areas not required for the operation of the solar farm. Revegetation of disturbed areas will have 70% ground cover over 90% of disturbed areas: <ul style="list-style-type: none"> - Failed vegetation patches greater than 5 m² will be revegetated. - Ground cover will achieve seed set across at least 80% of area. Native species will be for revegetation. |

Table 5-2 Schedule of operational works

| Project phase | Potential disturbance | Key actions and mitigation | Performance target |
|---------------------------|--|--|---|
| Operation and Maintenance | <ul style="list-style-type: none"> Loss of groundcover. Spread of priority weeds. Disturbance to native groundcover from vehicle movements. Collision with wildlife causing injury or death. Disturbance of native fauna by light or noise at night. Decline in vegetation condition of exclusion zones. | <ul style="list-style-type: none"> Maintain ground cover with appropriate perennial species. Manage weeds within ground cover. Manage weeds within exclusion zones. Vehicles will be inspected and washed as per Vehicle Hygiene Procedure. Machinery, trucks and equipment will be restricted to designated parking areas. No parking on roadside vegetation will occur. Include awareness training in site inductions regarding site speed limits. Site speed limits to be enforced. Avoid night works. Direct lights away from vegetation. Noise-emitting plant will be oriented so that noise will be directed away from exclusion zones wherever possible. When not in use, vehicles and plant will not be left idling near exclusion zones but will be switched off whenever possible. Conduct annual pest species monitoring and control actions. | <ul style="list-style-type: none"> Groundcover will be maintained at 70% cover over 90% of disturbed areas throughout operation. <ul style="list-style-type: none"> a) Failed vegetation patches greater than 5 m² will be revegetated. b) Ground cover will achieve seed set across at least 80% of area. c) Native species will be used for revegetation. No disturbance to biodiversity outside the approved operational footprint. Minimise disturbance to biodiversity in the project area. Retain existing native riparian vegetation to the greatest extent possible in an undamaged and unaltered condition. No native fauna mortality or injury during operation. No pollution or siltation of aquatic ecosystems, wetlands, endangered ecological communities or threatened species habitat. Maintain or improve the baseline vegetation condition class of exclusion zones throughout the operation period. Survey and map weed abundance in exclusion zones annually during operation and use as a basis for implementing annual targeted weed control measures in each zone. No increase in weed abundance in exclusion zones from baseline levels at end of operation period. Annually survey and map weed distribution across the project site and use to implement targeted weed control measures. Demonstrate reduced weed distribution annually by at least 50% in mapped infestation areas. Targeted weed control measures to be implemented for any seasonal weed outbreaks within a year of discovery. No increase in distribution of weeds from baseline in the project site at end of operation period. No new invasive weeds recorded in project area compared to baseline surveys at end of operation period. African Boxthorn and listed priority weeds eradicated from project area before end of operation period. Maintain pest species numbers and distribution at levels at or below baseline survey results. |

6. ENVIRONMENTAL MANAGEMENT ZONES

The Project area has been divided into five discrete zones for the purposes of biodiversity management:

1. Exotic Areas that will be impacted by the project
2. Planted native vegetation that will be impacted by the project
3. Riparian areas that will be avoided and retained by the project
4. Areas of EEC/CEEC Woodland that will be avoided and retained by the project
5. Paddock trees and HBTs to be removed

These zones are described below and their location is shown in Figure 6-1 and Figure 6-2. These zones are referred to in the management protocols and procedures described in Section 7 and summarised in Section 6.1.

6.1. MANAGEMENT ZONES

Zone 1 – Exotic areas that will be impacted by the project

These are areas where much of the solar farm infrastructure will be constructed. These areas will require ongoing management particularly during operation to ensure adequate groundcover is retained and to manage weeds as per Section 8.

Zone 2 – PCT 277 Planted native vegetation that will be impacted by the project

These are areas where tree removal will be required during/prior to construction. Specific protocols will need to be employed to manage the impacts of vegetation clearance. These areas would then be managed as per Management Zone 1 for the operational phase of the project where a native ground cover is present.

Zone 3 – PCT 76 Woodland native vegetation (EEC/CEEC)

This is an area of native woodland that is made up of Zone 7 (impacted EEC/CEEC) within the footprint of the overhead transmission line, Zone 8 (exclusion EEC/CEEC zone) and Zone 9 (exclusion riparian zone) There are differing management actions required in each of these zones.

Zone 4 – PCT 277 planted native vegetation within the creekline (EEC/CEEC)

Similar to Zone 3, this is an area of native vegetation located along the creekline that is made up of Zone 7 (impacted EEC/CEEC) within the footprint of the overhead transmission line, Zone 8 (exclusion EEC/CEEC zone) and Zone 9 (exclusion riparian zone) There are differing management actions required in each of these zones.

Zone 5 – Paddock trees and HBTs to be removed

These are areas where tree removal will be required during construction. Specific protocols will need to be employed to manage the impacts of tree clearance as there is a high chance of fauna being present in these hollow bearing/paddock trees (see Figure 3-1 for details of threatened species that may be impacted). These areas would then be managed as per Management Zone 1 for the operational phase of the project where a native ground cover is present.

Zone 6- Farm dams

The three farm dams within the development footprint are to be removed. These may provide habitat for frogs including a potential for Sloane's Froglet. Pre clearance for frogs and other aquatic species such as turtles must be undertaken prior to drainage and filling of the dams.

Zone 7 – Areas of EEC/CEEC Woodland within the development footprint

This area is an area of EEC approved for removal underneath the overhead powerline. It differs from Zone 2 in that it is surrounded by EEC that is to be protected (Zone 8 and Zone 9) and thus precautions must be taken to minimise disturbance to surrounding EEC. Clearing of trees in this area will be conducted with chainsaws instead of machinery to avoid unnecessary damage to understorey which will be retained where possible and prevent impacts to adjacent exclusion Zones 8 and 9. Vehicles are excluded from this Zone to prevent impacts to groundcover and shrubs.

Zone 8 – Areas of EEC/CEEC Woodland that will be avoided and retained by the project

These are areas of conservation importance that are identified exclusion zones to be protected for the life of the project, no development in this area is to be undertaken. They are listed as State or Commonwealth EEC or CEEC. Ensuring these areas are not degraded for the life of the project, such as through weed invasion, is also particularly important. Enrichment and improvement of this zone can occur during construction and operation as detailed in Table 8-1. Habitat connectivity should also be maintained within this area. Vehicles are excluded from this Zone.

Zone 9 – Riparian areas that will be avoided and retained by the project

The riparian areas within the project area are exclusion zones and are to be protected for the life of the project, no development in this area is to be undertaken. This zone is particularly vulnerable to erosion, sedimentation and contamination. Enrichment and improvement of this zone should occur during construction and operation in order to retain and/or improve groundcover as detailed in Table 8-1. Vehicles are excluded from this Zone.

Zone 10 – Exclusion areas outside of the development footprint (not EEC)

These areas are outside of the development footprint and thus are designated exclusion zones. There may be some replanting and other actions within this zone as per the Landscaping Plan. Vegetation in this zone is not near the development footprint, however enrichment and improvement of this zone should occur during construction and operation in order to retain and/or improve groundcover and vegetation coverage as detailed in Table 8-1.

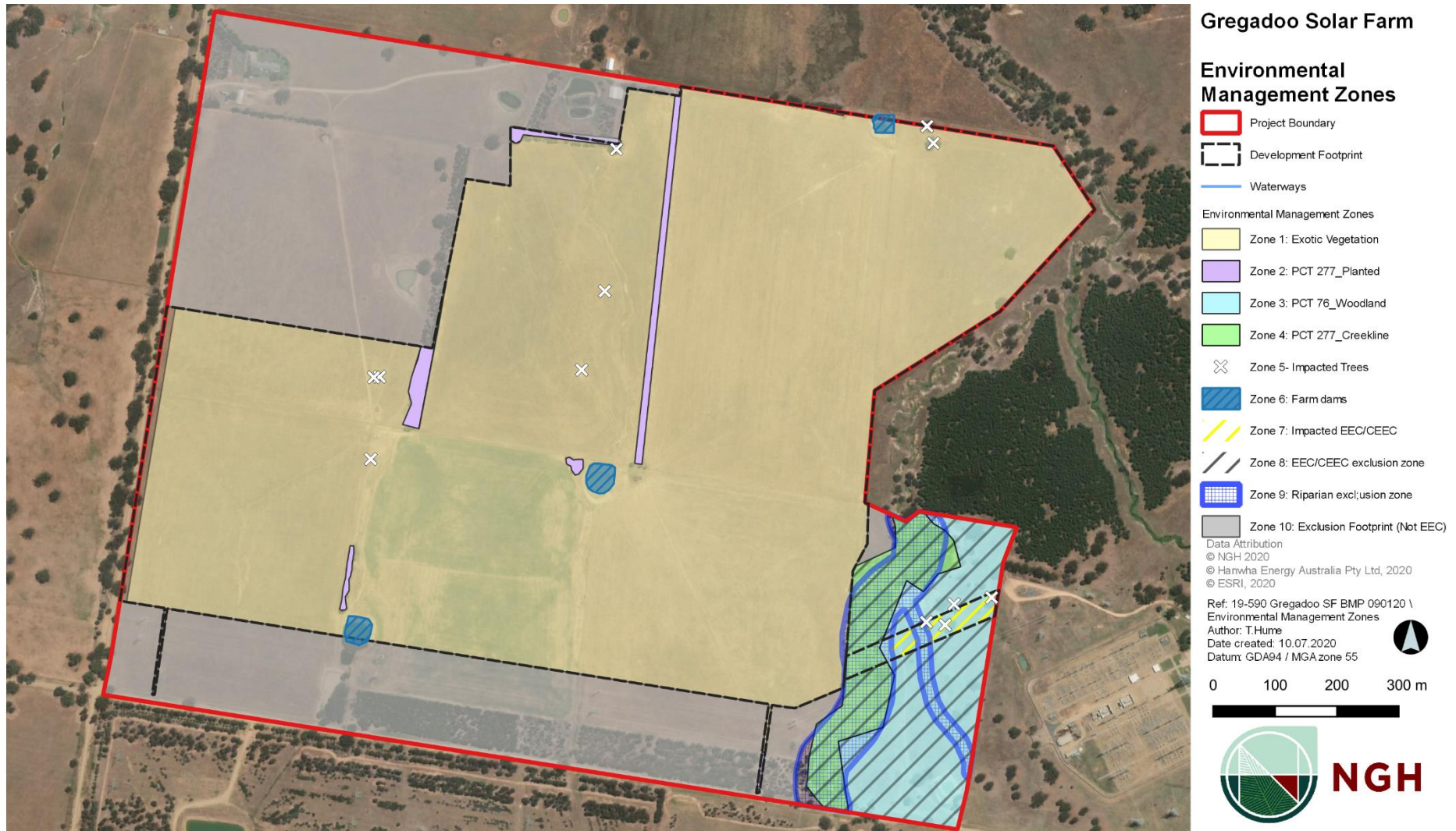


Figure 6-1 Environmental Management Zones

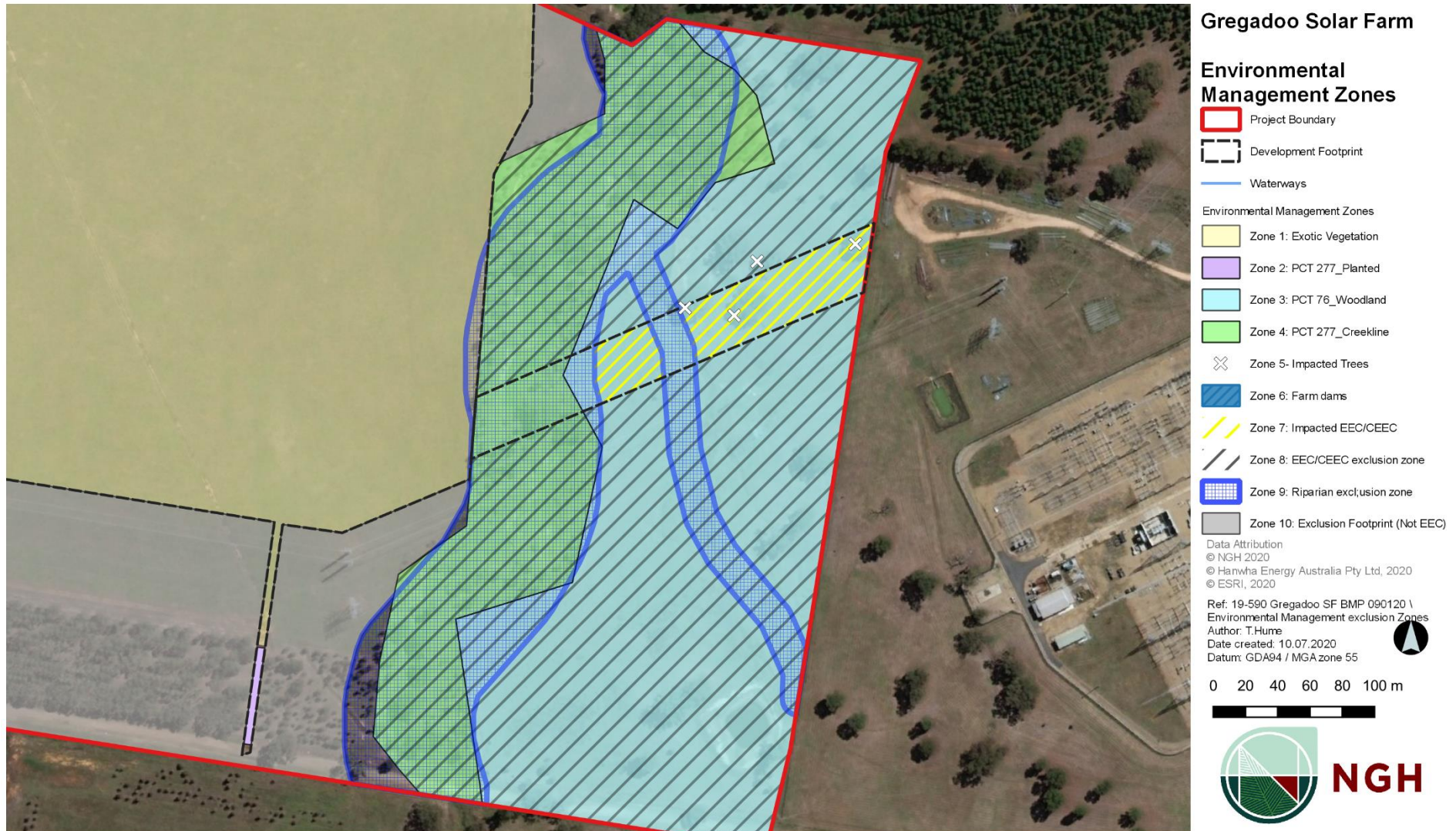


Figure 6-2 Environmental Management Zones – riparian area

7. ENVIRONMENTAL MANAGEMENT PROTOCOLS AND PROCEDURES

The following protocols and procedures have been developed to manage the impacts of the project on biodiversity. Table 7-1 below summarises the stage of the project to which the protocol/procedure applies.

Table 7-1 Summary of protocols

| Protocol | Construction | Operation |
|--|--------------|-----------|
| Ground Disturbance Protocol | Yes | NA |
| Vegetation Clearance Protocol | Yes | NA |
| Re-use of Resources Protocol | Yes | NA |
| Threatened Species Finds Procedure | Yes | Yes |
| Weed and Pest Management Protocol | Yes | Yes |
| Vehicle Hygiene Protocol | Yes | Yes |
| Vegetation Constraints Management Protocol | Yes | Yes |
| Noise Light and Dust Management | Yes | NA |

Each of these protocols/procedures is described in detail in this section below.

Risks to fauna from vehicle collision have also been identified however this is managed through the implementation of speed limits which is covered in the project's Safety Plan. Monitoring of fauna fatalities has been included as part of this BMP in Section 10 with appropriate triggers and responses included.

Table 8-1 provides a summary of the key performance criteria for the protocols and procedures detailed in this BMP and triggers for corrective actions. The actions to be implemented should the trigger arise are also described.

7.1. GROUND DISTURBANCE PROTOCOL

A ground disturbance permit process will be implemented during construction and applies to Management Zones 1, 2 and 5. The ground disturbance permit process is integral to communicate the distinction between vegetation protection areas and the ground disturbance footprints in which construction contractors will be working. This process is also vital to enable the construction contractor to track and control vegetation clearing on a daily, weekly, and monthly basis.

The ground disturbance permit process is managed by the Health, Safety, Environment and Quality Control (HSEQ) Manager and is summarised below.

- Contractors are informed in their contract and site induction that all ground disturbing activities require them to obtain a ground disturbance permit prior to undertaking the work.
- The ground disturbance permit must be submitted to the HSEQ Manager via email at least 48 hours before the work is undertaken.
- The HSEQ Manager will compare the proposed ground disturbance area to the project footprint detailed in the current approved development design.

- The HSEQ Manager will visit the site and conduct a pre-clearing survey (Section 7.2.2) to digitally capture and display clearance boundaries, with captured data uploaded to the project GIS database, and mark out vegetation projection areas.
- The HSEQ Manager will either issue the permit unamended or contact the contractor for further clarification.
- Once the permit has been issued, the construction contractor may undertake ground works as per their contract.
- Once the work has been completed (date specified in the permit), the HSEQ Manager will inspect the site, request any additional clean up or remediation activities and sign-off that the conditions of the permit have been met. This will include as a minimum, temporary groundcover to prevent erosion and reduce the potential for weed invasion.
- The HSEQ Manager will then record the disturbed area as part of a running total disturbed area for the Project.

An example of the ground disturbance permit form is provided in Appendix B.1

7.2. VEGETATION CLEARANCE PROCEDURE

The vegetation clearance procedure will be implemented for vegetation clearance during construction.

7.2.1. Monitoring Total Clearing Footprint

Vegetation clearance is only permitted in the areas identified in the BDAR 2018 (now delineated as Management Zones 1, 2 and 5). No more than 2.1 ha of native vegetation will be removed in total (comprising 0.7 ha of PCT 76, 0.2 ha of PCT 277, and 1.2 ha of planted native vegetation), otherwise the biodiversity credit requirement will be affected. Any additional clearance required will first require a project modification.

Prior to vegetation clearing, the HSEQ Manager will digitally capture and display clearance boundaries within the site. Survey teams and GIS databases will be used to inform and record vegetation clearing and site rehabilitation following construction.

The cumulative amount of vegetation cleared will be progressively monitored by the HSEQ Manager. Prior to undertaking any vegetation clearing, this value will be compared to the total approved area to be cleared. The clearing of vegetation will be in accordance with the approved development footprint, as per the conditions of consent.

Demarcation of the development footprint is the responsibility of the construction contractor and will be determined by them. Typical measures will include:

- Use of temporary fencing
- Flag tape or rope

7.2.2. Pre-clearing Surveys

Pre-clearing surveys will be carried out by an Ecologist prior to any vegetation clearing. Details are further explained in Appendix F.2. Pre-clearance checklists are provided in Appendix F2.1 and F2.2. BCD will be consulted on the checklists following their completion. The following pre-clearing surveys will be carried out when habitat trees are to be removed, including paddock and hollow-bearing trees and other woody vegetation:

- Identifying any potential breeding/roosting habitat
- Recording number, location and type of tree hollows present for use during hollow-bearing tree removal
- Clearly marking habitat trees with flagging tape and demarcating area to be cleared
- Remove any hollow bearing trees suitable for Superb Parrot outside of breeding season (i.e. between March and August)
- Review each dam, that requires removal, for the presence of Sloane's Froglet. All frogs detected should be relocated to dams or suitable habitat adjacent.

The results of these surveys will be provided to site staff (including equipment operators) involved in vegetation clearing, through site inductions, toolbox talks, and targeted training (Section 10), as well as through the issuing of ground clearance permits (Section 7.1).

7.2.3. General Process

When undertaking vegetation clearing, the process shown in Figure 7-1 will be followed to minimise the area of disturbance and the amount of vegetation to be cleared. Cleared vegetation will be mulched down where possible on site or used as fauna habitat in nearby areas and excess vegetation will be taken to a licence stockpile facility.

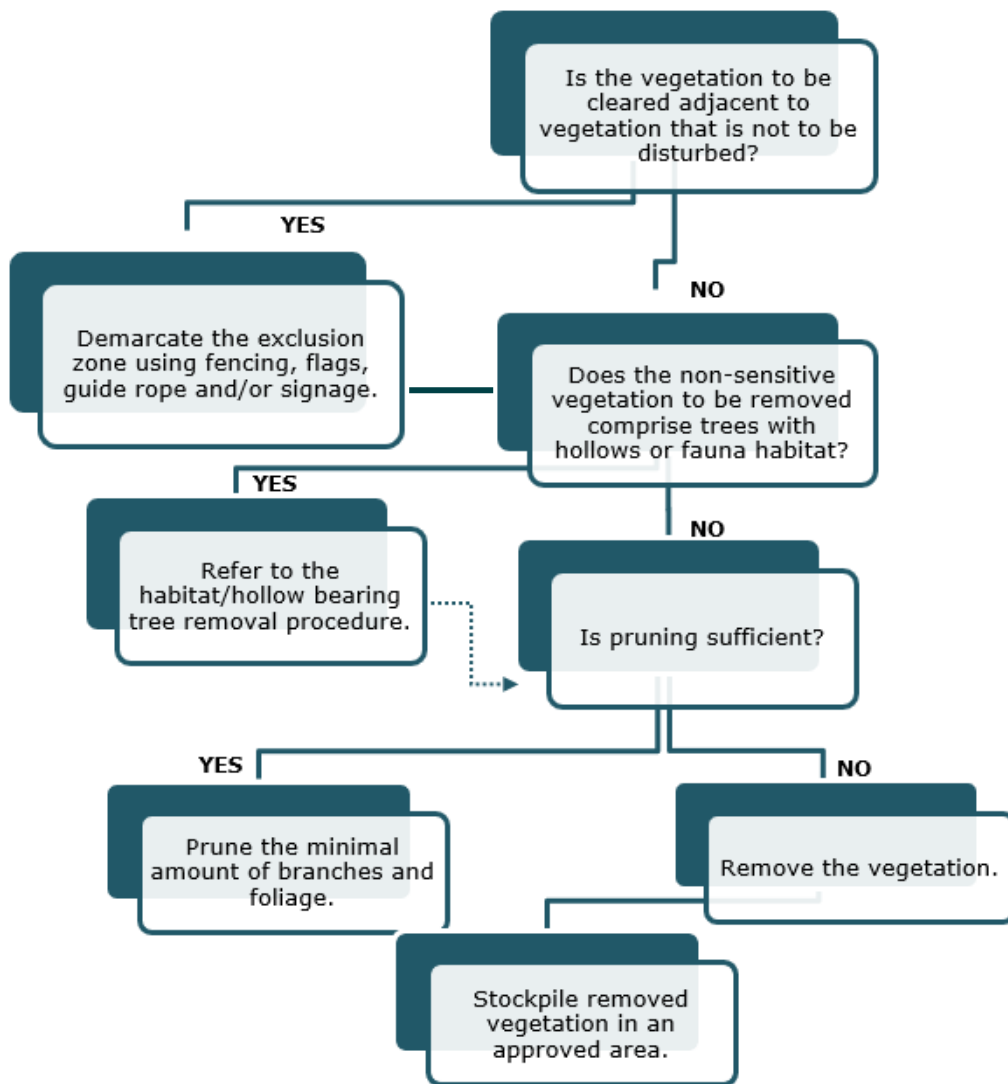


Figure 7-1 Vegetation clearance protocol

7.2.4. Clearing Near Exclusion Zones

Exclusion zones containing vegetation constraints are detailed in Figure 6-2 and must be protected from any project impacts. Prior to construction commencing, vegetation in these areas will be protected by exclusion fencing and signage (refer Figure 7-2 and Figure 7-3). These areas will be communicated to site staff (including equipment operators) through site inductions, toolbox talks and targeted training prior to works taking place in the vicinity. A vegetation exclusion zone will be established between vegetation constraints and protective fencing (no closer than the dripline of the vegetation) to ensure that vegetation constraints are not impacted accidentally. Additional exclusion fencing will define the boundary between vegetation to be removed and vegetation to be retained. Vegetation removal in these areas will be conducted with chainsaws rather than machinery to ensure minimal disturbance. This applies to Zone 8 and Zone 9.

Riparian constraint areas in the same figure comprise a 40 m riparian buffer zone along Boiling Down Creek. This will be clearly delineated prior to works commencing with exclusion fencing and signage. Works must be avoided within the riparian buffer zone.



Figure 7-2 Example of exclusion zone signage



Figure 7-3 Example of exclusion zone fencing

Following any vegetation clearing in the vicinity of a Vegetation Constraint Area, the HSEQ Manager will conduct an inspection of the area to confirm that the Constraint Area has not been impacted.

7.2.5. Lopping, Pruning and Trimming Procedure

An ecologist will be present for all lopping, pruning and trimming activities. Heavy machinery will not be used for pruning or trimming. Appropriate tools to use are loppers, chain saws and vehicle mounted saws.

In the first instance, hollow bearing limbs will be retained. If this is not possible the hollow bearing limb will be inspected by the Project Ecologist / suitably qualified expert on site and placed in adjacent undisturbed

vegetation to provide fauna habitat. Tree limbs are to be removed using the three-cut method as shown below in Figure 7-4

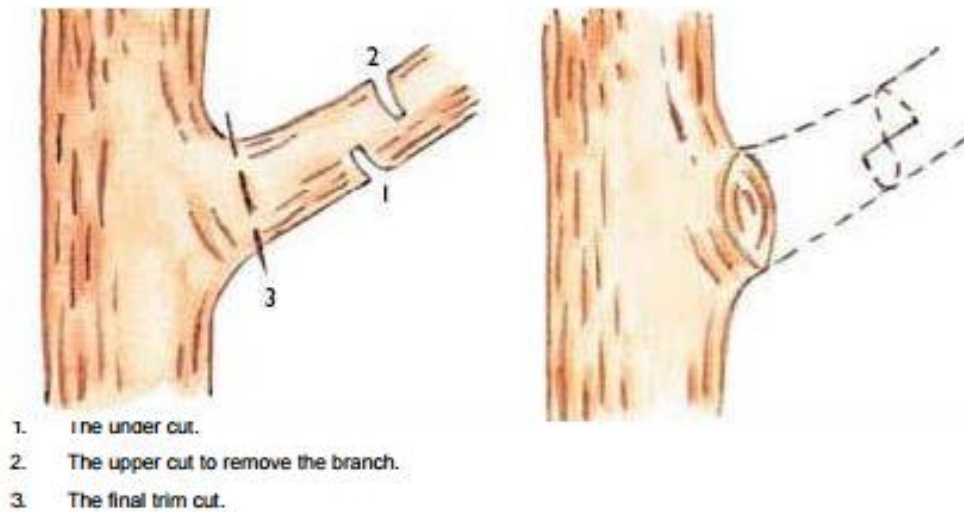


Figure 7-4 Three-cut method of removing branches

7.2.6. Hollow Bearing Tree Removal Procedure

Hollow-bearing trees occur within Management Zone 5. They are an important habitat feature for a variety of native animals such as possums, gliders, birds and bats. Before clearing any hollow-bearing or habitat trees, it is important to consider if animals are present. The following procedure (Figure 7-5) should be followed to give animals an opportunity to escape a hollow-bearing tree prior to it being removed. Hollow Bearing Tree removal procedures are further detailed in Appendix F.

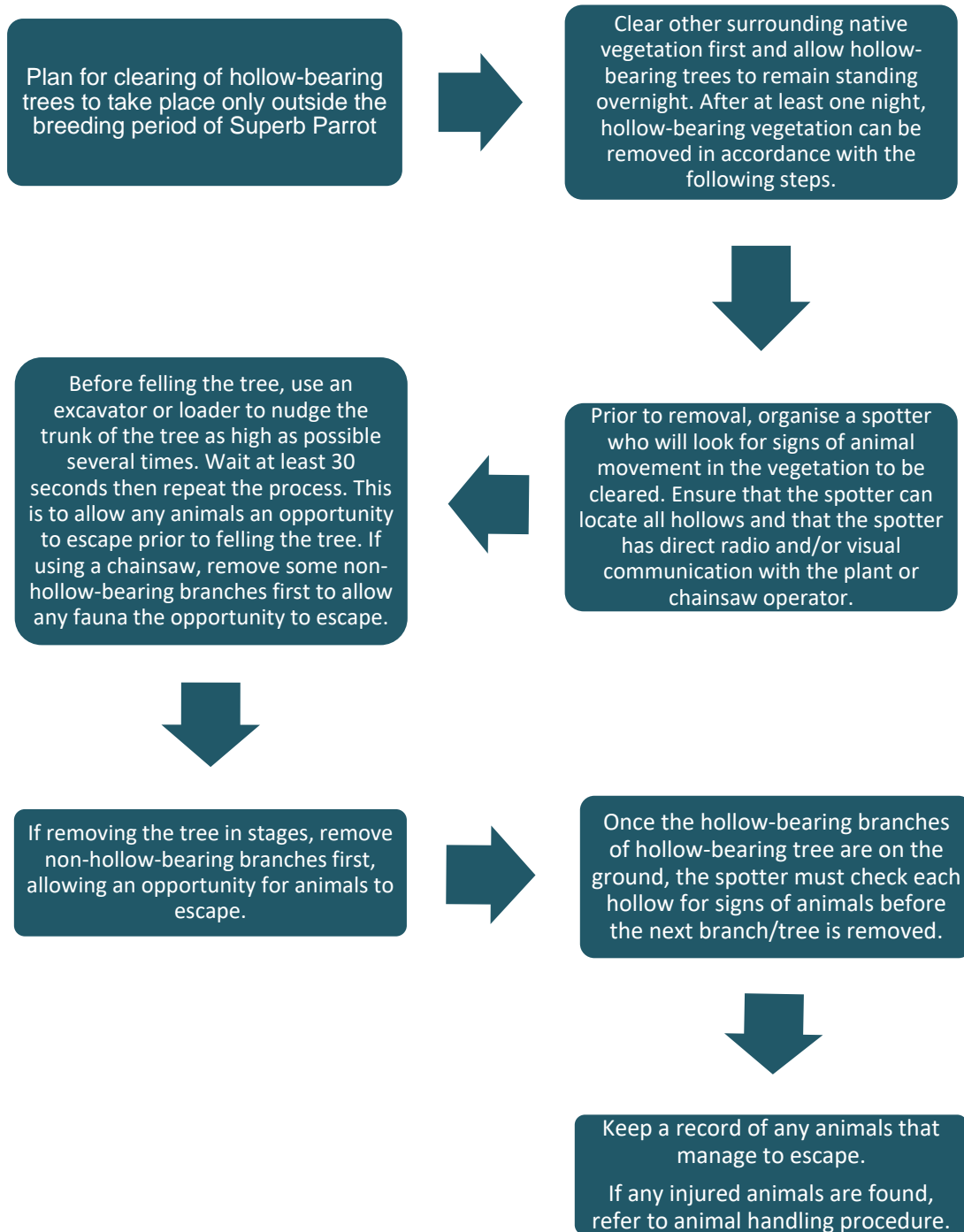


Figure 7-5 Hollow bearing tree removal procedure

7.2.7. Dam Removal Procedure

Dams occur in management Zone 6. They are an important feature for aquatic fauna including Sloane's Froglet. Before clearing dams are removed, it is important to consider if fauna is present. Each dam should have a pre clearance survey for Sloane's Froglet and any individuals relocated if detected along with other fauna such as turtles if detected.

7.2.8. Removal of Trees Outside the Approved Clearing Limits

The approved clearing limit is the line between the vegetation to be removed and the vegetation to be retained. It will be shown on all design plans as required. Some construction activities will require tree removal or trimming that has not been included in the design.

Circumstances in which additional clearing may be required outside of approved limits may include but are not limited to:

- Trimming of tree limbs that may be overhanging into the development footprint.
- Vegetation that was not identified as being impacted through previous assessment.
- The boundary of the development footprint may have unanticipated impacts on close by trees including branches and root zones.

Where additional impacts to trees are required, the following process will be followed:

1. The Site Manager will notify the HSEQ Manager of the location and need for the tree impact via the ground disturbance permit process
2. The HSEQ Manager will assess that the tree (or other vegetation type) is not heritage listed, part of an EEC, a habitat tree, nominated for retention or protected under relevant legislation and is legally able to be removed and/or trimmed. Alternatives to removing the tree will also be investigated at this stage.
3. The HSEQ Manager will consult a heritage specialist if heritage significance is suspected.
4. The Supervisor will await written confirmation from the HSEQ Manager prior to restarting works around the tree(s).

7.3. RE-USE OF RESOURCES

7.3.1. Re-use of Coarse Woody Debris (CWD)

Felled timber from Management Zones 2, 5 and 7 greater than 200 mm and less than 600 mm in diameter will be used as CWD for habitat enhancement and to maximise the salvage of resources within the disturbance area for beneficial reuse. CWD can be used to enhance habitat values in existing vegetation and rehabilitated areas including derived native grassland (either in offset areas or areas adjoining impacted areas). CWD can provide:

- Habitat for micro-invertebrates.
- Habitat for macro-invertebrates.
- Habitat for vertebrates using fallen timber for shelter, e.g. skinks, geckoes, dunnarts.
- Habitat for vertebrates using fallen timber for foraging, e.g. treecreepers, robins.
- A source of nutrients, microorganisms for native vegetation.
- Increased habitat complexity.

CWD will be placed within Management Zones 3 and 4 shown in Figure 6-1 as discrete logs rather than in piles to reduce fire risk and potential for use as shelter by feral animals such as foxes and rabbits. CWD will be placed at discrete intervals at densities to ensure that the CWD Benchmark for the receiving PCT is not exceeded. For PCT 76 (Western Grey Box tall grassy woodland) and PCT 277 (Blakely's Red Gum – Yellow Box grassy tall woodland), this benchmark is listed as 49 m per 1000 m². That is, in any 50 x 20 m plot, the total linear length of CWD greater than 10 cm in diameter will not exceed 49 m in total. The density of CWD must take into account existing fallen timber. Removal, transportation, and placement of CWD will be carried out in a manner that minimises disturbance to native vegetation, including the canopy, trees, shrubs, standing dead timber, fallen timber, and groundcover, as well as topsoil.

Felled timber greater than 600 mm in diameter (primarily tree trunks) will be used as CWD where practicable or left on site where it is too large to transport.

Felled timber between 10 and 200 mm in diameter will be chipped and used for disturbed area rehabilitation following construction.

7.3.2. Re-use of Rocks

Rocks greater than 300 mm diameter at their widest point removed during construction will be retained and relocated to areas in either Management Zone 3 or 4 based on the advice of an Ecologist. Removal, transportation, and placement of rocks will be carried out in a manner that minimises disturbance to vegetation constraints, including the canopy, trees, shrubs, standing dead timber, fallen timber, and groundcover, as well as topsoil.

7.3.3. Re-use of Soil Resources

Topsoil will be salvaged where possible within the approved disturbance area and stockpiled for beneficial reuse in the enhancement or rehabilitation of the site, as per the Weed Management Procedure (Section 7.5 and Rehabilitation Plan (separate to this report).

Stockpiles and storage of materials and machinery will avoid the dripline (extent of foliage cover) of any native tree.

7.4. THREATENED SPECIES FINDS PROCEDURES

The threatened species finds procedure will be implemented whenever a threatened species is unexpectedly found throughout construction and operation across Management Zones, 2, 5, 6 and 7.

Any nests found in habitat features to be removed during construction will be inspected by the Ecologist on site to determine whether fauna are using the nest, and whether relocation of the fauna and the nest to an adjacent area is viable.

As a general principle, any native animals found with the construction area will be avoided. Fauna will only be handled by a qualified ecologist or wildlife carer with relevant skills and experience (e.g. snake handling or bats), and only when absolutely necessary.

Should threatened fauna, or suspected threatened fauna, be encountered, the procedure outlined in Figure 7-6 will be followed. If capture is required by the Ecologist a procedure is provided below.

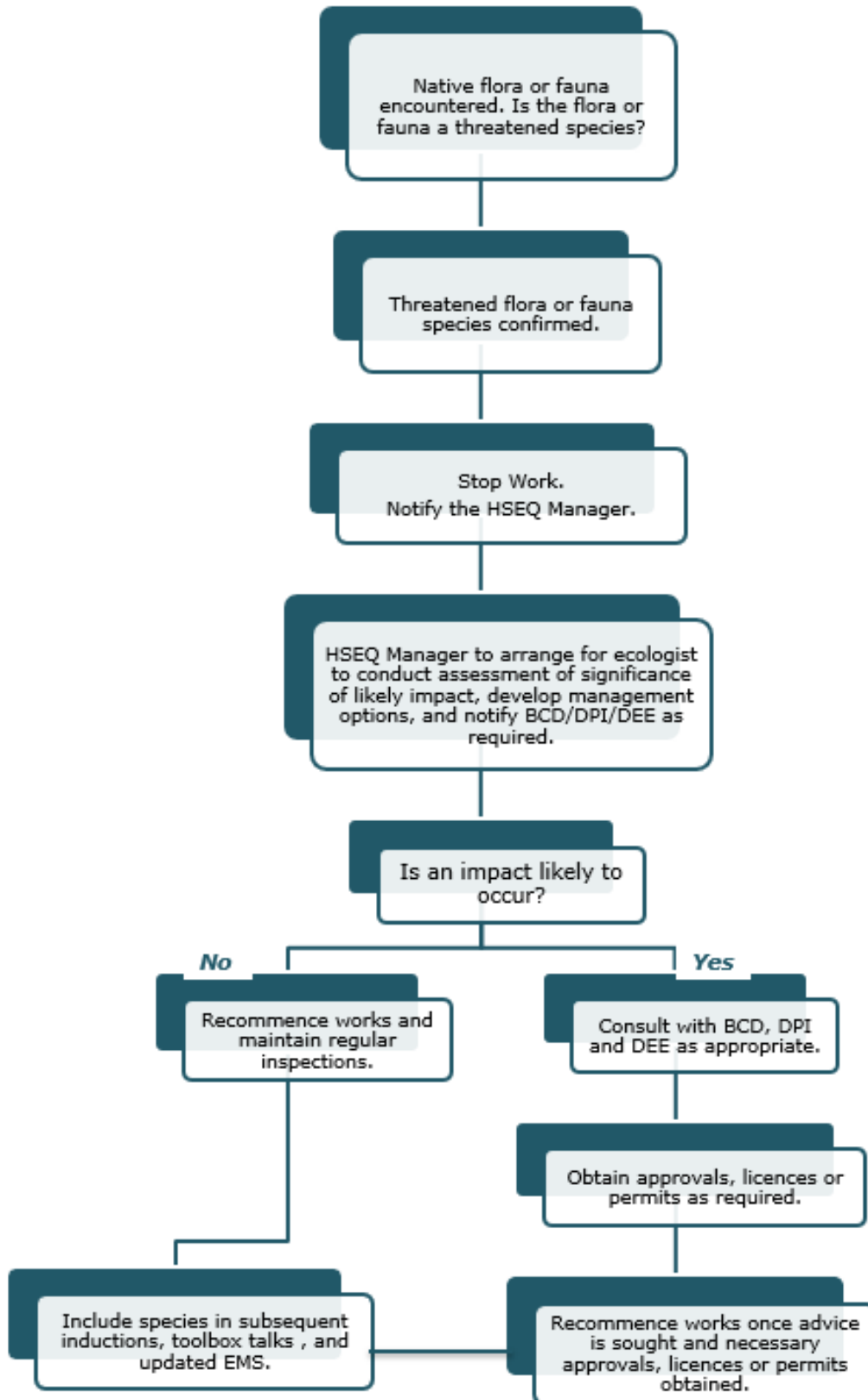


Figure 7-6 Threatened species finds protocol

7.4.1. Fauna Relocation Procedure (to be completed by an Ecologist)

Step 1

Remove any threat to the animal that could cause or exacerbate an injury.

Step 2

Use appropriate equipment to capture the animal. This may include:

- Frogs: disposable gloves, disinfectant on hands and equipment between animals, disposable plastic bags (one per animal, one use only).
- Mammals and birds: gloves, cloth bags/cotton pillow slips, up-to-date Australian Bat Lyssavirus vaccinations (for microbats), extendable net.

Step 3

Contain the animal to minimise stress using towels to cover them. Gently place the animal in a holding box specifically designed for holding the species (i.e. cotton bag for microbats, mesh cage for large mammals e.g. possums, soft lined enclosure for birds or hard cage for parrots). Cotton pillowslips may be used to cover mammals, or mammals may be placed inside them. Boxes will be placed in a quiet, safe, dark location (not in a vehicle unless temperature is constantly monitored). Do not give the animal food or water. If there are dependent young separated from their parents make sure they are kept warm.

Step 5

Call WIRES on 1300 556 686, who will provide advice on what to do until a trained WIRES rescuer can come to take the animal away. If you cannot contact WIRES, contact Wagga Wagga Veterinary Hospital on 02 6926 0900.

Step 6

Release fauna into similar habitats, as near as possible to their capture location. Day-active fauna will be released during the day of capture. Night-active fauna will be released at or after dusk. Arboreal (tree-dwelling) fauna will be slowly released from their bag onto the trunk of a tree, with bats and gliders placed on a tree with rough or peeling bark and hollows. Hollow dependent fauna will require a nest box to be placed where they are released as temporary accommodation until they relocate to a site of their choosing.

Step 7

Details of fauna captured and relocated will be recorded in a threatened species finds register (Appendix B.2). Any injury or death of a threatened species will be reported to the HSEQ Manager.

7.5. WEED AND PEST MANAGEMENT PROTOCOL

Weeds and pests will be controlled on site throughout construction and operation across all management zones. The Site Manager or HSEQ Manager will also initiate collaboration with adjoining landholders to control animal pests and weeds that may traverse property boundaries. These initial communications will inform collaborative pest and weed management measures during construction and operation.

7.5.1. Weed Management Procedure

Weeds in this BMP are defined as non-native flora species, and particularly refers to those listed in Table 3-1. Twenty-three species of weed were recorded in the project area. Only one of these species is listed on a Weed of National Significance. One invasive weed that was recorded is Blackberry (*Rubus fruticosus*), listed as having a prohibition on dealings in the Riverina and must not be imported into the state or sold. Although weed management will be partially controlled by grazing activities, in consultation with the land owner, there may be a need to control weed species not conducive to grazing or not able to be eliminated using grazing alone.

Blackberry (*Rubus fruticosus*)

Blackberry is a shrub with tangled, prickly stems. There are many species of *Rubus* however *Rubus fruticosus* is the most common. Leaves are alternate along the stem, in clusters of 3-5 with dark green on leaf tops, lighter green on the undersides of leaves, covered in short, curved prickles (DPI 2020b). The flowers are white or pink, 2-3cm in diameter and clustered at the end of the canes. Fruit are dark coloured berries (DPI 2020b).

Blackberry is present across much of Australia. Long-term control of Blackberry is an ongoing process, a combination of physical removal, biological control (leaf rust fungus), pasture management (strong pasture can help prevent pasture Blackberry invasion), grazing (by goats which prefer Blackberry over pasture), burning and chemical control (DPI 2020b).



Work for the Project has the potential to spread weeds through the movements of heavy machinery and light vehicles during construction, and the movements of light vehicles during operation.

Weeds will be controlled through:

- An adaptive management approach whereby management actions will be adjusted to optimise the groundcover growth addressing on-site observations as per the Landscape Plan.
- For more intensive infestations of weeds, the use of selective herbicides may be warranted to prevent seed set and promote weed control. The advice of an ecologist and agronomist will be sought to advise on the control of weed infestations. 10% non-native groundcover, any new weed species on site or the presence of priority weeds is the target requiring corrective action.
- Any supplementary feeding of livestock will use treated or processed feed to prevent viable weed seeds being introduced to the site.

A detailed weed management procedure is provided below.

Weed Inspection

During construction, the HSEQ Manager will do the following weed inspections:

- Survey weed distribution across the project site quarterly.
- Survey weed abundance in exclusion zones quarterly.
- Targeted weed inspections prior to clearing and grubbing in the affected area.
- Survey weed distribution and abundance where a previous weed infestation has been identified.

During operation, the HSEQ Manager will ensure the following occurs:

- Survey weed distribution across the project site quarterly, timed to identify weeds before they flower.
- Survey abundance in exclusion zones quarterly.
- Survey weed distribution and abundance particularly where a previous weed infestation has been identified.

Infestations of invasive weeds will be mapped with GPS, including noting the species and degree of infestation, and capturing an image for monitoring purposes. Data collected from inspections will be used as a basis for implementing seasonal targeted weed control measures.

Priority Weeds

Eliminate priority weed species as soon as practicable in accordance with recommended control methods and timing by Department of Primary Industries, NSW WeedWise. Increase targeted weed or pest animal control measures detailed below. Seek additional advice from Local Land Services and adhere to recommendations.

Weed Treatment

During construction, weed control will be based on data collected from survey and inspections of the project site and of exclusion zones. Targeted weed control measures for any recorded weed outbreaks will be implemented within a year of discovery. The aims of construction weed treatment include:

- Apply weed treatments to all mapped invasive weed infestation areas. This can include grazing control methods such as goats.
- Annual reduction in invasive weed distribution by at least 50% in mapped infestation areas from previous year's inspections.
- Occurrences of pathogens such as Myrtle Rus and Pytophthora would be monitored, treated and reported.

During operation, weed control will be based on data collected from the quarterly inspections of the project site and of exclusion zones. Targeted weed control measures for any recorded weed outbreaks will be implemented within a year of discovery, with priority given to African Boxthorn and any listed priority weeds. The aims of operational weed treatment include:

- Annual reduction in invasive weed distribution by at least 50% in mapped infestation areas from previous year's inspections.
- A general reduction in the abundance of weeds in exclusion zones during the operation period as evidenced by quarterly inspections.
- New invasive weeds detected in project area are controlled during operation.
- Blackberry and listed priority weeds eradicated from project area within 3 years of detection.

Clean fill will be sourced from a certified company in compliance with council approvals to prevent using weed contaminated fill on site. If topsoil is to be used to backfill, any undesirable grass/weed growth on topsoil stockpiles that is being re-used for site rehabilitation will be sprayed with a knockdown before use. More than

one application of herbicide may be required. Apply the last application of herbicide not less than 4 weeks before spreading the topsoil or as per manufacturer's instructions.

A procedure for weed control and management is presented above. More detailed information, including herbicide types and application rates, can be sought from the Project Ecologist or from the WeedWise website (<http://weeds.dpi.nsw.gov.au/>). Consultation with Local Land Services (LLS) will also be undertaken to ensure a coordinated approach with other landholders in the area.

The introduction and spread of weeds via vehicles and plant will be controlled by the Vehicle Hygiene Procedure provided in section 7.6.

Herbicide Application Record

Herbicide application will only be carried out by authorised personnel (i.e. ChemCert accreditation – AQF 3) in accordance with SafeWork requirements.

Herbicides will only be applied in accordance with the Safety Data Sheet (SDS) for that product.

A Herbicide Application Record (Appendix B.2) will be completed and public notifications made in accordance with relevant legislation, where herbicides are to be used in areas that could be accessed by members of the public.

Follow-up Inspection

The HSEQ Manager will ensure that a follow-up inspection is undertaken of identified weed infestation sites to ensure treatment was successful.

Weed Disposal

Where invasive weed areas are disturbed by construction activities, weeds and topsoil that may contain weed propagules will be removed and disposed of appropriately.

Where weeds cannot be effectively destroyed prior to topsoil stripping, weed contaminated topsoil will be isolated and either encapsulated by deep burying, or disposed of at an approved offsite licensed facility as directed by the HSEQ Manager.

Ongoing Management and Monitoring

Monitoring of weed infestations will occur as part of the routine environmental inspections throughout construction and operation to determine effectiveness of management controls. The presence of any weeds and the necessary management actions will be noted on the Environmental Inspection Checklist (to be included in the CEMP). Please note any occurrences of pathogens such as Myrtle Rust and Phytophthora would be monitored, treated, and reported as required.

7.5.2. Animal Pest Management Procedure

No animal pest species requiring specific control measures were recorded during site surveys. However, some may be present at the site. Monitoring of animal pests and signs of their activity will occur as part of routine inspections during construction, and operation to determine if activity increases past the baseline data that was collected during site surveys. A suitably qualified person will traverse the site to identify if vertebrate pests are present, including the following species as a minimum:

- European Rabbit
- European Hare
- Red Fox
- Feral Cat

The following data would be recorded and used to determine the need for pest animal control measures:

- Number and location of any tracks, traces or sightings
- Whether the level of activity is negligible, minimal, moderate or high.

If any animal pest species are identified that are required to be controlled, the appropriate management actions listed at <https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw> will be implemented, and noted on the Environmental Inspection Checklist.

Pesticide Application Record

As with herbicide applications, pesticides will only be administered by authorised personnel with ChemCert accreditation – AQF 3 and in accordance label instructions. A Pesticide Application Record (Appendix B.4) will be completed and public notifications made in accordance with relevant legislation, where pesticides are to be used in areas that could be accessed by members of the public. Only pesticides registered for use near water may be used near any waterways.

7.6. VEHICLE HYGIENE PROCEDURE

7.6.1. Vehicle Plant and Equipment Movement

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. The procedures include:

- Inspection upon arrivals in laydown area.
- Removal of dirt and/or plant matter from newly arrived vehicles at a designated washdown area by trained site personnel.
- Washing and inspection prior to vehicles being given the 'all clear' to enter indirect disturbance areas.
- Inspection and washing after leaving indirect disturbance areas and prior to leaving the site.
- Inspections and washdowns will be recorded on a Vehicle Hygiene Register. An example is shown in Appendix B.5 .

Any water from the washdown area will be managed in accordance with the ESCP.

7.7. VEGETATION CONDITION MANAGEMENT

7.7.1. Management Areas

The exclusion zones (Management Zone 8) contains vegetation constraints which are outside the approved disturbance areas (Figure 6-1). This vegetation includes remnant native Box-Gum Woodland, which is listed as an Endangered Ecological Community under the NSW *Biodiversity Conservation Act 2016* and Critically Endangered under federal *Environment Protection and Biodiversity Conservation Act 1999*. This area also contains remnant Grey Box Grassy Woodland which is an Endangered Ecological Community under the NSW *Biodiversity Conservation Act 2016* and federal *Environment Protection and Biodiversity Conservation Act 1999*. These areas will be managed throughout construction and operation to protect them from any impacts from the project.

The aim of vegetation constraint management is for the condition of this vegetation to be maintained or improved during the lifetime of the project (baseline conditions in Appendix A.1).

The following targets have been established:

- Maintain or improve the condition of vegetation in exclusion zones throughout construction and operation of the project including vegetation connectivity in accordance with baseline vegetation integrity plots (BAM plots).
- Quarterly surveys of weed abundance in vegetation exclusion zones and use as a basis for implementing targeted weed control measures in each zone throughout construction and operation.
- A general reduction in weed abundance in exclusion zones throughout the operational period.

7.7.2. Vegetation Condition

In order to monitor changes in the vegetation condition of exclusion zones, the baseline vegetation condition has been quantified using Biometric plots prior to construction commencing. Plots will be conducted immediately following construction to determine an updated condition assessment at the commencement of the operation phases. The exclusion zones will be included in the quarterly weed monitoring during construction to manage weed ingress during the construction phase.

An ecologist will conduct Biometric assessments within Zones 3 and 4 every five years throughout operation. If a noticeable decline in condition is recorded, this will trigger the need for an assessment to determine the appropriate management response. Current vegetation integrity scores are presented in Table 7-2.

Integrity plots are designed to provide a good representation of the vegetation condition on site. Through repetition of integrity plot assessments in the same location, over time, data will show a trend in the vegetation growth.

Table 7-2 Current vegetation integrity scores for each vegetation exclusion zone within the development site that are to be retained

| Zone ID | PCT code | Composition score | Structure score | Function score | Vegetation Integrity Score |
|---------|---------------|-------------------|-----------------|----------------|----------------------------|
| 3 | 76 woodland | 27.3 | 38.5 | 28.2 | 30.9 |
| 4 | 277_creekline | 41 | 44.1 | 44.7 | 43.2 |

7.7.3. Management Actions

Vegetation Exclusion Zones

Exclusion zones will be demarcated prior to clearing in accordance with the Vegetation Clearance Procedure (Section 7.2), including a 40 m exclusion zone around riparian vegetation along Boiling Down Creek, and at no closer than the dripline around terrestrial exclusion zones. These zones will be demarcated using protective fencing to ensure that vegetation is not impacted accidentally, which may consist of star pickets at 4 to 5 m intervals with a strand of plain wire and flagging tape. If stock are to be on site during operation, then stock-proof exclusion fencing will be required. The location of exclusion areas will be communicated to site staff (including equipment operators) through site inductions, toolbox talks and targeted training prior to works taking place in the vicinity.

Indirect impacts on vegetation constraints will be reduced by:

- Avoiding vehicle or plant access within exclusion zones.
- Where night works cannot be avoided, work must not take place within 100 m of exclusion zones.
- Directing lights away from exclusion zones.

- Noise-emitting plant will be oriented so that noise will be directed away from exclusion zones.
- When not in use, vehicles and plant will not be left idling near exclusion zones, but will be switched off whenever possible.
- Avoiding the use of machinery and vehicles within EEC, including areas to be cleared under transmission lines. The clearing will be undertaken using chainsaws where possible.

Weed Management

There is a risk of weed encroachment during construction and operation from infested areas into exclusion zones, and potentially from exclusion zones into disturbed areas following groundcover rehabilitation. To manage these risks, weed management as described in Section 7.5 will include monitoring exclusion zones and implementing weed control measures as required throughout construction and operation.

Weeds in the exclusion zones will be controlled in accordance with the Weed Management Procedure (Section 7.5).

Response to decline in condition

If monitoring shows vegetation condition is below baseline this determines the need for an additional management response, actions may include but are not limited to:

- Erect permanent fencing to exclude stock and human/vehicle access.
- Targeted weed or pest control.
- Groundcover rehabilitation and shrub/tree plantings for habitat enhancement.
- Ecological burns in consultation with appropriate authorities to reduce fuel loads or control over-dominant groundcover species, in accordance with relevant fire regime for the vegetation community.

Fauna Connectivity

Maintain connectivity of vegetation to be retained, this will involve the installation of fences with no barbed wire on the top strand and/or the use of fauna crossing structures to enable arboreal fauna movement through the site.

7.7.4. Noise, Light and Dust Management

Noise and light controls include noise and light shields or altering the timing of construction and operational activities to reflect the times of sunrise and sunset to reduce impacts of noise and light spill. Construction will avoid night work where possible, if night works are required lights will be directed away from vegetation and noise barriers will be in place.

Dust suppression measures are to be used during dry or windy conditions, or in response to visually sighting dust on site to reduce impacts upon surrounding residences. Dust suppression measures will include the use of a water cart on unsealed roads and progressive groundcover rehabilitation across any areas of disturbance.

Further details of noise, light and dust management will be detailed in the CEMP.

7.8. PERIMETER FENCING

Early in the construction program, the perimeter of the site will be fenced with 2.3 m high security fencing along the site boundaries. It will be constructed of cyclone fencing with a strand of barbed wire at the top. To improve fence visibility to fauna and therefore avoid impacts on wildlife moving along the boundary, one or more of the following mitigation measures will be implemented between Zone 1 and Zone 4:

- White electric fence tape strung adjacent to the barbed wire

- Installation of reflective tags on the fence line
- Installation of bunting along the fence line¹

No fencing is required within Zone 8.

Fauna mortalities and injuries along perimeter fencing will be monitored and recorded during all phases of the project (Table 10-2). Should fauna mortalities be reported along the perimeter fencing, measures to reduce further impacts will be implemented. This may include:

- Use single-strand, white horse sighter wire, such as white nylon wire or glow-in-the-dark Knightline²
- Mark top strand with wide, white, UV stabilised poly tape
- Double shade cloth over top strand of barbed-wire

Specific measures will depend on the species and nature of the fatality.

Construction of the fence will be as per best practice, and will involve the following steps:

- Assembly of fence panels and posts, with the laydown area inside the site boundary
- Excavation and preparation of fence post holes
- Erection of fence panels by hand

¹ Steve Amesbury (2007), *Wildlife Friendly Fencing*. Accessed August 2020.
<https://documentcloud.adobe.com/link/review?uri=urn:aaid:scds:US:93a3d871-4776-4ffa-af07-3335ab40bea8#pageNum=5>

² Wildlife Friendly Fencing Project, *Friendly Fencing – nylon wires*. Accessed August 2020.
https://www.wildlifefriendlyfencing.com/WFF/FF_nylon_wires.html

8. PERFORMANCE CRITERIA, TRIGGERS AND RESPONSES

Table 8-1 below provides a summary of the key performance criteria and triggers for corrective actions. The actions to be implemented should the trigger arise are also described. This combined with the monitoring described in Section 10.3 forms the Trigger, Action Response Plan (TARP) for the Project. The monitoring triggers have been used to inform the triggers for protocols and procedures that require monitoring in Table 8-1.

Table 8-1 Summary of performance criteria, triggers for actions and responses for environmental management protocols

| Management Protocol | Performance Criteria | Timing | Risk of not achieving performance criteria | Trigger for additional actions | Action Proposed | Responsibility |
|---|---|---|---|---|--|--|
| Ground disturbance protocol (Zones 1, 2, 5, 6 and 7) | <ul style="list-style-type: none"> Ground disturbance permit process implemented prior to construction. Remediation activities completed and conditions of the permit met. Final disturbed area recorded. | Prior to construction | Low – Standard construction procedure that contractor will be familiar with. | <ul style="list-style-type: none"> Permit not obtained. Remediation activities not completed. Final disturbance area not recorded. | Escalate matters above the HSEQ Manager to ensure compliance with this BMP. | Project Manager HSEQ Manager Site Manager Contractors |
| Vegetation clearance procedure (Zones 1, 2, 5, 6 and 7) | <ul style="list-style-type: none"> No more than 2.1 ha of native vegetation will be removed in total (comprising 0.7 ha of PCT 76, 0.2 ha of PCT 277, and 1.2 ha of planted native vegetation). Pre-clearance surveys conducted. No impacts on exclusion zones. Replanting of disturbed area as soon as possible to prevent erosion and weed invasion | During construction Prior to construction Post construction during operation ASAP | <p>Low – Clearing area will be clearly demarcated prior to clearing commencing.</p> <p>Pre-clearance requirements are detailed in this BMP.</p> <ul style="list-style-type: none"> Exclusion areas will be clearly identified. | <ul style="list-style-type: none"> Pre-clearance surveys not completed. Clearing outside of approved clearing areas. Clearing of trees not identified for removal. | <ul style="list-style-type: none"> Clearing works will not commence until required surveys are completed. If clearing occurs outside of marked clearing areas or of marked trees, works will cease immediately and advice sought from BCD as to whether further assessment/approval requirements are applicable. Instances | Site Manager HSEQ Manager |

| Management Protocol | Performance Criteria | Timing | Risk of not achieving performance criteria | Trigger for additional actions | Action Proposed | Responsibility |
|---|---|---------------------|--|--|--|---|
| | | | | | of over clearing will need to be reported to DPIE as a non-compliance (cond. 5, Sch. 4) and/or incident (Cond. 4 Sch. 4) | |
| Re-use of resources protocol (All Management Zones) | <ul style="list-style-type: none"> Coarse Woody Debris, Rocks and Topsoil (as described in Section 6.1) removed during construction are retained. Retained resources are relocated appropriately into Management Zones 3, 4, 8 and 9. | During construction | Low – Standard construction practice. | Resources stockpiled and not relocated. | Resources to be relocated immediately under the Guidance of an Ecologist to ensure minimal damage to Zones 3, 4, 8 and 9. | Site Manager HSEQ Manager |
| Unplanned Threatened Species Finds Procedure (Zones 1, 2, 5, 6 and 7) | <ul style="list-style-type: none"> Threatened Species Finds Procedure followed if threatened species found. No harm to threatened species. | During construction | Moderate – Not all personnel on site will have the skill to be able to identify threatened species. | Threatened species found to be present (living or dead) that was not previously identified. | Prepare and implement an education program for personnel working on site to increase awareness of threatened species that may be encountered. | Project Manager HSEQ Manager Site Manager |
| Weed and Pest Management Protocol (All zones) | <ul style="list-style-type: none"> Annual reduction in invasive weed distribution by at least 50% in mapped infestation areas from previous year's inspections. A general reduction in the abundance of weeds in exclusion zones during the operation period as evidenced by quarterly inspections. New invasive weeds detected in project area are controlled during operation. | During operation | Low to moderate – Weed abundance is highly dependent on seasonal conditions and the amount of seed stored within the seed bank. Similarly, Pest animal abundance | <ul style="list-style-type: none"> 10% non-native ground cover. Presence of priority weeds detected during quarterly or annual monitoring. | <ul style="list-style-type: none"> Eliminate priority weed species as soon as practicable in accordance with recommended control methods and timing. Increase targeted weed or pest animal | HSEQ Manager Site Manager Contractors |

| Management Protocol | Performance Criteria | Timing | Risk of not achieving performance criteria | Trigger for additional actions | Action Proposed | Responsibility |
|--------------------------------------|---|---|--|---|---|---|
| | <ul style="list-style-type: none"> Blackberry will be eradicated from project area within 3 years of detection. Pest animal populations maintained at a low level of activity. | | <p>is seasonally variable and influenced by external factors such as management by adjacent landholders.</p> <p>However, weeds and pests are manageable with appropriate treatment applied in a coordinated approach by trained personnel.</p> | <ul style="list-style-type: none"> New weed species on site detected during quarterly or annual monitoring. Moderate or High levels of observed pest animal activity. | <p>control measures (Section 7.5).</p> <ul style="list-style-type: none"> Seek additional advice from Local Land Services and adhere to recommendations. | |
| Vehicle Hygiene Procedure | <ul style="list-style-type: none"> Vehicle hygiene procedures implemented for all vehicles. | At all times for the course of the project. | Low – Standard site procedure. | Vehicle hygiene procedures not being implemented. | To be raised with HSQE management on site. Ensure it is included in site inductions, toolbox talks etc and that staff responsible are implementing the procedure. | All staff on site |
| Vegetation Exclusion Zone Management | <ul style="list-style-type: none"> Maintain or improve the condition of vegetation in exclusion zones throughout construction and operation of the project. Quarterly surveys of weed abundance in exclusion zones and use as basis for implementing targeted weed control measures in each zone throughout construction and operation. | During construction and operation | <ul style="list-style-type: none"> Moderate – Condition of vegetation in general is highly dependent on climatic conditions and is variable from | <ul style="list-style-type: none"> Decline in exclusion area condition as evidenced by monitoring. Weed abundance not decreasing | <ul style="list-style-type: none"> Investigation into reason for decline by suitable qualified person(s). Recommendations following investigation to be followed which | HSEQ Manager Site Manager Contractors |

| Management Protocol | Performance Criteria | Timing | Risk of not achieving performance criteria | Trigger for additional actions | Action Proposed | Responsibility |
|------------------------|--|-------------------|---|--|--|--|
| | <ul style="list-style-type: none"> A general reduction in weed abundance in exclusion zones throughout the operational period. | | <p>year to year. Active management measures can be implemented to improve the condition of vegetation in exclusion zones with a reasonable degree of confidence of success.</p> | <p>within exclusion zones.</p> <ul style="list-style-type: none"> Moderate to high pest animal activity recorded in exclusion zones. | <p>may include but not be limited to:</p> <ul style="list-style-type: none"> Erect permanent fencing to exclude stock and human/vehicle access. Targeted weed or pest control. Groundcover rehabilitation and shrub/tree plantings for habitat enhancement. <p>Ecological burns in consultation with appropriate authorities to reduce fuel loads or control over-dominant groundcover species, in accordance with relevant fire regime for the vegetation community.</p> | |
| Groundcover management | <ul style="list-style-type: none"> Rehabilitate all disturbed areas not required for the operation of the solar farm. Revegetation of disturbed areas and areas under panels will have 70% ground cover over 90% of disturbed areas and areas under panels within 12 months of establishment and maintained throughout operation until contract completion. Failed vegetation patches greater than 5 m2 will be revegetated. Ground cover will achieve seed set across at least 80% of area. | Post construction | <p>Moderate – Condition of groundcover will be dependent on climatic conditions and will also be affected by other management measures such as weed treatment.</p> | <ul style="list-style-type: none"> Groundcover below 70% cover of 90% of disturbed areas. Failed vegetation patches greater than 5 m2. Groundcover seed set below 80% of area after 3 months. | <ul style="list-style-type: none"> Remove grazing stock. Bare patches greater than 5 m2 will be recultivated and revegetated. Additional watering of seeded areas. Weeds controlled where required. Treat soil conditions such as compaction, frequency of traffic movements, low | <p>Site Manager HSEQ Manager Contractors</p> |

| Management Protocol | Performance Criteria | Timing | Risk of not achieving performance criteria | Trigger for additional actions | Action Proposed | Responsibility |
|---------------------|--|--------|---|---|---|----------------|
| | <ul style="list-style-type: none"> • Native species will be used for revegetation wherever practicable in areas identified as native grassland as well as exotic vegetation. • Failed vegetation patches greater than 5 m² will be revegetated. • Scours greater than 50 mm deep and 100 m long will be revegetated. • Targeted weed control measures will be implemented if weed cover exceeds 10% of groundcover or if priority weeds are detected. • Ground cover will achieve seed set across at least 80% of area. • Native species will be used for revegetation. • Establish perennial native pasture under solar panels prior to completion of construction. | | <ul style="list-style-type: none"> • Success of sowing and seed set will also be dependent on climatic conditions and other variables. | <ul style="list-style-type: none"> • Scours greater than 50 millimetres (mm) deep and 100 m long. • Grassland weed cover greater than 10%. • Presence of priority weeds. | <p>seedbank storage, lack of soil moisture and nutrient imbalance.</p> <p>Seek additional advice from an agronomist if seed set is not occurring.</p> | |

9. BIODIVERSITY MITIGATION AND MANAGEMENT MEASURES

A range of mitigation requirements and control measures are identified in the SSD Approval. Specific measures to address impacts to biodiversity are outlined in Table 9-1. The measures have been listed to cover broad activities, and as such there may be some repetition of mitigation measures.

Table 9-1 Biodiversity management and mitigation measures

| Measure/Requirement | Addressed | Timing | Responsibility | Reference | | | | | | | | | |
|---|--|------------------|-----------------------------|---|----|----|---|-----|----|--|--|--|--|
| BIODIVERSITY CREDITS | | | | | | | | | | | | | |
| <p>Prior to the commencement of construction, unless otherwise agreed by the Secretary, the Applicant must retire biodiversity credits of a number and class specified in Table 1 and Table 2 below to the satisfaction of OEH. The retirement of these credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme and can be achieved by:</p> <ol style="list-style-type: none"> acquiring or retiring 'biodiversity credits' within the meaning of the Biodiversity Conservation Act 2016; making payments into an offset fund that has been developed by the NSW Government; or providing supplementary measures. | <p>Retirement of 11 biodiversity credits of PCT 76 and 25 credits of PCT 277.</p> <p>Retirement of 7 Sloane's Froglet, 3 Superb Parrot, 2 Gloss Black Cockatoo and 2 Masked Owl credits.</p> | Pre-construction | Project Development Manager | Schedule 3 condition of consent 12. | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Table 1 Vegetation Community</th> <th>PCT ID</th> <th>Credits Required</th> </tr> </thead> <tbody> <tr> <td>Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes Bioregion</td> <td>76</td> <td>11</td> </tr> <tr> <td>Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion</td> <td>277</td> <td>25</td> </tr> </tbody> </table> <p>Table 2</p> | Table 1 Vegetation Community | PCT ID | Credits Required | Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes Bioregion | 76 | 11 | Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion | 277 | 25 | | | | |
| Table 1 Vegetation Community | PCT ID | Credits Required | | | | | | | | | | | |
| Western Grey Box tall grassy woodland on alluvial loam and clay soils in the NSW South Western Slopes Bioregion | 76 | 11 | | | | | | | | | | | |
| Blakely's Red Gum – Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion | 277 | 25 | | | | | | | | | | | |

| Measure/Requirement | | Addressed | Timing | Responsibility | Reference |
|--|-------------------------|---|-------------------------|------------------------------------|------------------------------------|
| Species | Credits Required | | | | |
| Sloane's Froglet (<i>Crinia sloanei</i>) | 7 | | | | |
| Superb Parrot (<i>Polytelis swainsonii</i>) | 3 | | | | |
| Glossy Black Cockatoo (<i>Calyptrhynchus lathamii</i>) | 2 | | | | |
| Masked Owl (<i>Tyto novaehollandiae</i>) | 2 | | | | |
| <p><i>Note: Following repeal of the Threatened Species Conservation Act 1995 of 25 August 2017, credits created under that Act are to be taken to be "biodiversity credits" under the Biodiversity Conservation Act 2016 by virtue of clause 22 of the Biodiversity Conservation (Savings and Transitional) Regulation 2017.</i></p> | | | | | |
| MANAGEMENT PLANS | | | | | |
| <p>Prior to the commencement of construction, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with DPIE, and to the satisfaction of the Secretary. This plan must:</p> <p>(d) include a description of the measures that would be implemented for:</p> <ul style="list-style-type: none"> • managing the remnant vegetation and fauna habitat on site; • minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development; • minimising the impacts to fauna on site (including fauna interaction with perimeter fencing) and implementing fauna management protocols; • avoiding the removal of hollow-bearing trees during late winter and spring to avoid the main breeding period for hollow-dependent fauna; • rehabilitating and revegetating temporary disturbance areas; • protecting vegetation and fauna habitat outside the approved disturbance areas; | | <p>This document in its entirety Table 10-2</p> | <p>Pre-Construction</p> | <p>Project Development Manager</p> | <p>Schedule 3 Condition 13</p> |

| Measure/Requirement | Addressed | Timing | Responsibility | Reference |
|---|---|---------------------|-----------------------------|-------------------------|
| <ul style="list-style-type: none"> maximising the salvage of vegetative and soil resources within the approved disturbance area for beneficial reuse in the enhancement or the rehabilitation of the site; and controlling weeds and feral pests; and (e) include details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions. Following the Secretary's approval, the Applicant must implement the Biodiversity Management Plan | | | | |
| A Rehabilitation Plan would be prepared to ensure the array site is returned to its pre-solar farmland capability. The plan would be developed with reference to base line soil testing and with input from an agronomist to ensure the site is left stabilised, under a cover crop or other suitable ground cover. The plan would reference: <ul style="list-style-type: none"> Australian Soil and Land Survey Handbook (CSIRO, 2009). Guidelines for Surveying Soil and Land Resources (CSIRO, 2008). The land and soil capability assessment scheme: second approximation (OEH, 2012). | Rehabilitation Plan (separate to this report) | Pre-decommissioning | Project Development Manager | Schedule 3 Condition 29 |
| The Construction Environmental Management Plan will include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible. | CEMP (separate document) | Pre-construction | Site Manager | Submissions Report |
| CONSTRUCTION AND OPERATION | | | | |
| Time works to avoid critical life cycle events: <ul style="list-style-type: none"> Hollow-bearing trees would not be removed during breeding season (spring to early summer) to mitigate impacts on Superb Parrot. If clearing outside of this period cannot be achieved, pre-clearing surveys would be undertaken to ensure no impacts to fauna would occur. | Section 7.2.6 Section 7.2.2 | Construction | Site Manager | Submissions Report |
| Implement clearing protocols during tree clearing works, including pre-clearing surveys, daily surveys and staged clearing, the presence of a trained ecological | | Pre Construction | Site Manager | Submissions Report |

| Measure/Requirement | Addressed | Timing | Responsibility | Reference |
|---|--|--|---------------------|---------------------------|
| <p>or wildlife handler:</p> <ul style="list-style-type: none"> Pre-clearing checklist. Tree clearing procedure. | <p>Section 7.2.2 Section 7.2.6</p> | | | |
| <p>Relocate habitat features (fallen timber, hollow logs) from within the development site:</p> <ul style="list-style-type: none"> Tree-clearing procedure including relocation of habitat features to adjacent area for habitat enhancement. | <p>Section 7.3</p> | <p>Pre Construction Construction</p> | <p>Site Manager</p> | <p>Submissions Report</p> |
| <p>Clearing protocols that identify vegetation to be retained, prevent inadvertent damage and reduce soil disturbance; for example, removal of native vegetation by chainsaw, rather than heavy machinery, is preferable in situations where partial clearing is proposed:</p> <ul style="list-style-type: none"> Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. No stockpiling or storage within dripline of any native vegetation. In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery to minimise risk of unauthorised disturbance. Vehicular access to the Box-Gum Woodland EEC is not be permitted via vehicles. Weed management protocol must be observed at all times. | <p>Section 7.2.1 and 7.2.4 Section 7.3.3 Section 6.1 and 7.2.4 Section 7.7</p> | <p>Pre Construction Construction</p> | <p>Site Manager</p> | <p>Submissions Report</p> |
| <p>Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise:</p> <ul style="list-style-type: none"> Construction Environmental Management Plan will include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible. | <p>CEMP Section 7.7.4</p> | <p>Construction</p> | <p>Site Manager</p> | <p>Submissions Report</p> |
| <p>Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill:</p> <ul style="list-style-type: none"> Avoid Night Works. Direct lights away from vegetation. | <p>CEMP Section 7.7.4</p> | <p>Construction</p> | <p>Site Manager</p> | <p>Submissions Report</p> |

| Measure/Requirement | Addressed | Timing | Responsibility | Reference |
|---|--|---|----------------|----------------------------|
| <p>Adaptive dust monitoring programs to control air quality: Daily monitoring of dust generated by construction activities.</p> <ul style="list-style-type: none"> Construction would cease if dust observed being blown from site until control measures were implemented. All activities relating to the proposal would be undertaken with the objective of preventing visible dust emissions from the development site. | CEMP Section 7.7.4 | Construction | Site Manager | Submissions Report |
| <p>Temporary fencing to protect significant environmental features such as riparian zones:</p> <ul style="list-style-type: none"> Prior to construction commencing, exclusion fencing and signage would be installed around habitat to be retained. | Section 7.2.4 | Pre Construction Construction | Site Manager | Submissions Report |
| <p>Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas:</p> <ul style="list-style-type: none"> A Weed Management Procedure would be developed for the proposal to prevent and minimise the spread of weeds. This would include: <ul style="list-style-type: none"> Management protocol for declared priority weeds under the Biosecurity Act 2015 during and after construction Weed hygiene protocol in relation to plant, machinery, and fill Any occurrences of pathogens such as Myrtle Rust and Phytophthora would be monitored, treated, and reported. The weed management procedure would be incorporated into the Biodiversity Management Plan. | Section 3.4.2, Section 7.5, Appendix B.5 | Pre Construction Construction Operation | Site Manager | Submissions Report |
| <p>Staff training and site briefing to communicate environmental features to be protected and measures to be implemented:</p> <ul style="list-style-type: none"> Site induction. Toolbox talks. | Section 10 | Pre Construction Construction | Site Manager | Submissions Report |
| <p>Preparation of a management plan to regulate activity in vegetation and habitat adjacent to the proposed development:</p> <ul style="list-style-type: none"> Preparation of a Biodiversity Management Plan that would include protocols for: <ul style="list-style-type: none"> Protection of native vegetation to be retained. | Section 7.2.4, Section 7.2.5, | Pre Construction | Site Manager | Schedule 3 Condition 13 |

| Measure/Requirement | Addressed | Timing | Responsibility | Reference |
|---|--|---|----------------|--------------------|
| <ul style="list-style-type: none"> ○ Best practice removal and disposal of vegetation. ○ Staged removal of hollow-bearing trees and other habitat features such as fallen logs with attendance by an ecologist. ○ Weed management. ○ Unexpected threatened species finds. ○ Exclusion of vehicles in sensitive areas. ○ Best practice clearing of overstorey vegetation for construction of the transmission line to avoid understorey impacts. ● Rehabilitation of disturbed areas. | <p>Section 7.3.1 Section 7.2.6 Section 7.5 Appendix B.2</p> <p>Section 7.7.3 Rehabilitation Plan (separate document)</p> | | | |
| <p>Erosion and sediment controls:</p> <ul style="list-style-type: none"> ● An erosion and sediment control plan would be prepared in conjunction with the final design and implemented. <p>Sediment barriers or sedimentation ponds to control the quality of water released from the site into the receiving environment:</p> <ul style="list-style-type: none"> ● Sediment control plan would be prepared in conjunction with the final design and implemented | <p>SWMP and ESCMP (separate document)</p> | Pre Construction | Site Manager | Submissions Report |
| <p>Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development site:</p> <ul style="list-style-type: none"> ● Retained native vegetation would be considered as an offset site. | <p>Section 5.1, Section 7.7.3</p> | Construction Operation | Site Manager | Submissions Report |
| <p>Appropriate landscape plantings of local indigenous species to replace loss of planted vegetation.</p> | <p>Landscaping Plan (separate document)</p> | Construction Operation | Site Manager | Submissions Report |
| <p>Staff training and site briefing to communicate impacts of traffic strikes on native fauna:</p> <ul style="list-style-type: none"> ● Awareness training during site inductions regarding enforcing site speed limits. ● Site speed limits to be enforced. | <p>EMS (separate document) Section 10</p> | Pre Construction Construction Operation | Site Manager | Submissions Report |

10. COMPLIANCE MANAGEMENT

10.1. ROLES AND RESPONSIBILITIES

The Hanwha Project Team’s organisational structure and overall roles and responsibilities are outlined in the EMS. The Environmental Management Team includes the roles and responsibilities identified in Table 10-1 below.

Table 10-1 Roles and responsibilities – Environmental Management Team

| Role | Responsibility | Authority |
|---|--|---|
| EPC Contractor Project Manager | <ul style="list-style-type: none"> • Ensure resources are made available to enable works to comply with EMS and other environmental management requirements. • Ensure that all procedures are followed adequately. • Ensure appropriate approvals and licences are held. • Ensure all staff and contractors are aware of environmental compliance requirements and environmental controls. • Responsible for reporting pollution incidents. | <ul style="list-style-type: none"> • Order Stop-work for an activity that may cause material or environmental harm. • Release of environmental hold points, if required. |
| EPC Contractor Health Safety and Environment and Quality Manager (HSEQ) | <ul style="list-style-type: none"> • Maintaining all environmental management documents. • Identifying where environmental measures are not meeting the targets and where improvements can be achieved. • Monitoring and reporting environmental compliance. • Reviewing Project environmental documents. • Reporting of pollution incidents. | <ul style="list-style-type: none"> • Recommend Stop-work for an activity that may cause material or environmental harm. • Release of environmental hold points, if required. |
| EPC Contractor Site Manager | <ul style="list-style-type: none"> • Responsible for the implementation of environmental management plans. • Responsible for the induction of staff and contractors. • Responsible for all aspects of the worksite including the coordination and management of all staff and contractors. • Undertake routine environmental site inspection. • Maintaining environmental records. | <ul style="list-style-type: none"> • Order Stop-work if any items in the CEMP are in danger of breach. • Approve and accept waste disposal methods requested by staff or contractors. • Approve minor changes to environmental sub-plans, including Erosion and Sediment Control Plans (ESCP). |

| Role | Responsibility | Authority |
|---|--|--|
| | <ul style="list-style-type: none"> Receiving plant, materials and chemicals and ensuring all items are appropriately stored. Responsible for addressing corrective actions arising from Environmental Inspections. | |
| <p>All EPC staff:</p> <ul style="list-style-type: none"> Project Manager/Site Superintendent Steering Committee Technical Team | <ul style="list-style-type: none"> Ensure contractors are working in accordance with the requirements of the EMS, as required under the EPC contract. Undertake site visits during construction to monitor compliance with EMS requirements. Report and raise any issues that arise that may have an environmental impact. Report and raise the discovery of any artefacts, Aboriginal relics or places and cease work until the matter has been addressed. | <ul style="list-style-type: none"> Report any issues that may have the potential to cause material or environmental harm. Report any incidents or near-misses that may impact on the environment or breach conditions set-out in this EMS. |
| Hanwha Project Development Manager | <ul style="list-style-type: none"> Coordination of the drafting and approval of this Biodiversity Management Plan Coordination of the drafting and approval of the Rehabilitation Plan (to be developed prior to decommissioning) Coordination of the discharging of the condition relating to the retirement of biodiversity credits Ensure proponent and EPC contractor compliance with Development Consent and related documentation Ensure EPC Contractor Project Manager and Site Manager has access to all necessary documentation and works according to Hanwha policies | <ul style="list-style-type: none"> Approval of management plan to be submitted to relevant authorities Oversight of compliance with Development Consent |

10.2. TRAINING

Employees, contractors and utility staff working on site will undergo site induction training relating to biodiversity issues. Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in biodiversity management, including vegetation clearing which will include information on the outcomes of pre-clearing surveys, constraints mapping, and digitally-captured clearance boundaries (Section 7.2). Targeted training would address the requirements of the environmental management measures (Section 7), legislative requirements (Section 2.1), and all conditions and commitments relating to

biodiversity (Section 2.3 , Section 2.4). Further details regarding staff induction and training are outlined in the EMS.

It will be emphasised to staff during toolbox talks and training that appropriate fauna management onsite is critical to the project. This includes:

- Pre clearance surveys and hollow bearing tree clearing protocols
- Driving carefully onsite and adhering to site speed limits
- Appropriate handling of fauna if required.
- Threatened species finds reporting.

10.3.MONITORING AND INSPECTION

Regular monitoring and inspections will be undertaken during construction and operation. The tables below include monitoring and inspection requirements during construction and operation (Table 10-2), with the trigger and response columns contributing to the TARP for the project.

Table 10-2 Monitoring and inspection requirements during construction and operation.

| Requirement | Timing | Responsibility | Trigger for additional action | Response proposed |
|---|--|------------------------------|--|--|
| CONSTRUCTION | | | | |
| Pre-clearing inspections including checking for roosting/breeding habitat, recording tree hollows, marking habitat trees, demarcating area to be cleared, and targeted bat surveys between June and January, and dam/waterway inspections. | Before vegetation clearing | Site Manager Ecologist | Pre-clearing surveys not carried out or not in all areas required | Supplementary surveys undertaken |
| Progressive monitoring of the cumulative amount of vegetation cleared (Section 7.2.1), including inspecting exclusion zones to confirm that they have not been disturbed (Section 7.2.4). Prior to undertaking any vegetation clearing, this value will be compared to the total approved area to be cleared. | Before and after all vegetation clearing | HSEQ Manager Site Manager | Clearing outside approved clearing limits | HSEQ Manager to manage incident as required by EMS and relevant legislation/ approvals |
| Monitoring of high disturbance areas, groundcover, exclusion zones and boundary fence lines | Monthly during construction | HSEQ Manager Site Manager | Damaged exclusion fencing or signage Storage or infrastructure underneath tree driplines. | Exclusion fencing/ signage replaced |
| Details of resource re-use placement | Recorded as it occurs | HSEQ Manager Site Manager | Resources stacked, not distributed | Resources to be moved under direction of an Ecologist |
| Inspection of waterways. | Monthly during construction | HSEQ Manager Site Manager | Evidence of siltation or pollution | Rehabilitate waterway and review spill procedures. |
| A review of any fauna killed or injured on site. Threatened fauna mortalities will be reported to BCD and deaths of any birds | Monthly during construction | HSEQ Manager Site Manager | Presence of injured or deceased fauna | Report where necessary, record details of incident. |

| Requirement | Timing | Responsibility | Trigger for additional action | Response proposed |
|---|---|------------------------------|---|---|
| <p>from contact with fences or solar panels will be recorded.</p> <p>Fauna relocations due to vegetation clearing will be recorded.</p> | | | | Implement mitigation measures along perimeter fence if required (Section 7.8) |
| Weed and pest survey and mapping across project site (Section 7.5). | <p>Quarterly during construction.</p> <p>Annually during operation</p> <ul style="list-style-type: none"> •October for weeds •August for feral animals. | HSEQ Manager Site Manager | <p>10% non native ground cover.</p> <p>Presence of priority weeds.</p> <p>New weed species on site.</p> | Implement targeted weed and pest control measures (Section 7.5). |
| <p>Quantitative assessment of condition of vegetation constraints</p> <p>Biometric plots would be conducted at the locations of plots conducted during the assessment process. Additional plots would be established if required.</p> | <p>Immediately following completion of construction (spring).</p> <p>Every five years during operation (spring).</p> | HSEQ Manager Site Manager | Vegetation condition declining | Investigation into reasons for decline by suitable qualified person(s) and adherence to recommendations. |
| <p>Groundcover monitoring, including:</p> <p>Groundcover would be monitored using 1m x 1m quadrats placed at 30 random locations within Zone 1, Zone 2, Zone 5, Zone 6 and within all landscaped or seeded areas.</p> | <p>Fortnightly for first six months after establishment.</p> <p>6 months after establishment.</p> <p>Annually throughout operation (spring).</p> | HSEQ Manager Site Manager | <p>Groundcover below 70% cover of 90% of disturbed areas.</p> <p>Groundcover seed set below 80% of area .</p> <p>Scours greater than 50 millimetres (mm) deep and 100 m long.</p> <p>Grassland weed cover greater than 10%.</p> <p>Presence of priority weeds</p> | <p>Bare patches greater than 5 m² will be recultivated and revegetated.</p> <p>Additional watering of seeded areas.</p> <p>Weeds controlled where required.</p> <p>Treat soil conditions such as compaction, frequency of traffic movements, low seedbank storage, lack of soil moisture and nutrient imbalance.</p> |
| OPERATION | | | | |

| Requirement | Timing | Responsibility | Trigger for additional action | Response proposed |
|--|---|------------------------------|---|--|
| Monitoring of high disturbance areas, groundcover, exclusion zones and boundary fence lines, including: | Annually throughout operation | HSEQ Manager Site Manager | | |
| A review of any fauna killed or injured on site. Threatened fauna mortalities will be reported to BCD and deaths of any birds from contact with fences or solar panels will be recorded. | Annually throughout operation | HSEQ Manager Site Manager | Presence of injured or dead animals | Report where necessary, record details of incident Implement mitigation measures along perimeter fence if required (Section 7.8) |
| Areas of priority weeds across project site will be mapped and controlled on a seasonal basis (Section 7.5). | Before spring, annually throughout operation | HSEQ Manager Site Manager | Presence of priority weeds | Targeted weed control measures (Section 7.5) |
| A suitably qualified person will walk over the site to identify if vertebrate pests are present. The following data would be recorded and used to determine the need for pest animal control measures: <ul style="list-style-type: none"> Number and location of any tracks, traces or sightings Whether the level of activity is negligible, minimal, moderate or high | Annually throughout operation (August) | HSEQ Manager Site Manager | Moderate or High levels of observed feral animal activity | Targeted pest animal control measures (Section 7.5.2) |
| Groundcover monitoring, including: <ul style="list-style-type: none"> Grass cover would be monitored using 1m x 1m quadrats placed at 30 random locations within Zones 1, 2, 5 and 6 and within all landscaped and seeded areas. | Fortnightly for first six months after establishment. 6 months after establishment. Annually during operation (spring). | HSEQ Manager/Site Manager | Groundcover below 70% of 90% of disturbed areas. Groundcover seed set below 80% of area. Scours greater than 50 millimetres (mm) deep and 100 m long. | Bare patches greater than 5 m ² will be recultivated and revegetated. Additional watering of seeded areas. Weeds controlled where required. |

| Requirement | Timing | Responsibility | Trigger for additional action | Response proposed |
|-------------|--------|----------------|---|---|
| | | | Grassland weed cover greater than 10%. Presence of priority weeds. | Treat soil conditions such as compaction, frequency of traffic movements, low seedbank storage, lack of soil moisture and nutrient imbalance. |

10.4.ADAPTIVE IMPLEMENTATION

This BMP will be reviewed every 5 years during operation following monitoring of the exclusion areas to ensure that it is still relevant and appropriate for the management of the site and that required adaptations have been included as required. Where additional actions have been implemented, they would be incorporated as required.

10.5.INCIDENT MANAGEMENT

All incidents will be managed in accordance with the incident response procedures contained in the EMS.

10.6.AUDITING

Audit requirements are detailed in the EMS.

10.7.REPORTING

Reporting requirements and responsibilities are outlined in the EMS

11. REVIEW AND IMPROVEMENT

11.1. CONTINUOUS IMPROVEMENT

Continuous improvement of this BMP will be achieved by the ongoing evaluation of performance against the BMP environmental policies, objectives and targets to identify opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances 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.

Review procedures are contained in the EMS.

11.2. BMP MONITORING, UPDATE AND AMMENDMENT

This BMP will be monitored and updated upon the need for significant changes in methodology dependant on the success outcomes of the mitigation measures. A new plan would then be implemented to improve the outcomes of the mitigation measures that are currently in place.

This BMP will need to be revised whenever the construction program, scope of work, or work methods change, whenever the work methods are found to be ineffective, or if directed by the Proponent. This will occur as needed and in accordance with the process outlined in the EMS.

A copy of the updated BMP and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure identified in the EMS.

11.3. DOCUMENT CONTROL

Document control procedures are outlined in the EMS.

12. REFERENCES

eSpade (2020) <https://www.environment.nsw.gov.au/eSpade2Webapp>

McMahon DM (2018) *Soil Survey Report Gregadoo Solar Farm* prepared by McMahon Earth Science.

DPI, NSW WeedWise. NSW Department of Industry. <https://weeds.dpi.nsw.gov.au/>

NGH Environmental Pty Ltd (2018a) *Environmental Impact Assessment Gregadoo Solar Farm*

NGH Environmental Pty Ltd (2018b) *Biodiversity Development Assessment Report (BDAR) Gregadoo Solar Farm*

NSW DPI (2020a) Priority Weeds for the Riverina as accessed 21 January 2020
<https://weeds.dpi.nsw.gov.au/WeedBiosecurities?Areald=130>

NSW DPI (2020b) Blackberry (*Rubus fruticosus* species aggregate) weed profile
<https://weeds.dpi.nsw.gov.au/Weeds/Blackberry>

APPENDIX A BASELINE PLOT DATA FROM BDAR

A.1 BIOMETRIC PLOT RESULTS

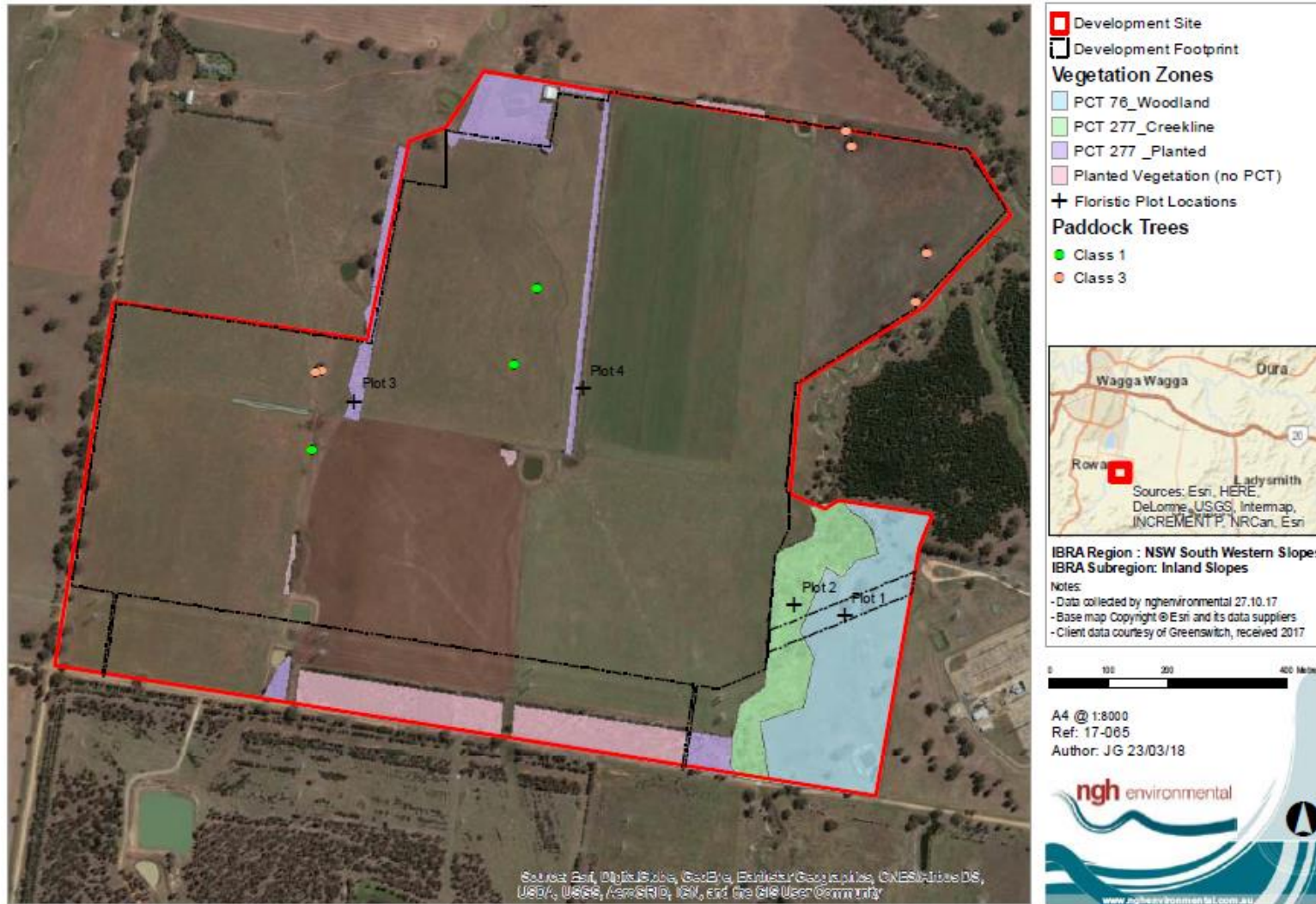
Numbers indicate percentage cover of species in each 20 x 20 m Biometric Plot. Plots in **bold** were located in or near exclusion zones), and provide baseline vegetation conditions for managing vegetation constraints in these areas. The location of each plot is shown in Appendix A.2 below.

| Scientific name | Common name | Plot 1 | Plot 2 | Plot 3 | Plot 4 |
|---------------------------------|-----------------------|--------|--------|--------|--------|
| Trees | | | | | |
| <i>Casuarina cunninghamiana</i> | River She-oak | | | 0.1 | |
| <i>Eucalyptus albens</i> | White Box | | 8 | 5 | |
| <i>Eucalyptus camaldulensis</i> | River Red Gum | | | 30 | 40 |
| <i>Eucalyptus leucoxydon</i> | Yellow Gum | | | 1 | |
| <i>Eucalyptus melliodora</i> | Yellow Box | | 24 | 20 | |
| <i>Eucalyptus microcarpa</i> | Western Grey Box | 3 | 4 | 5 | |
| <i>Eucalyptus sideroxydon</i> | Mugga Ironbark | | 4 | | |
| Shrubs | | | | | |
| <i>Acacia buxifolia</i> | Box-leaved Wattle | | 8 | | |
| <i>Acacia cultriformis</i> | Knife-leaved Wattle | | | | 5 |
| <i>Acacia decora</i> | Western Silver Wattle | | 5 | | |
| <i>Acacia implexa</i> | Hickory Wattle | | | 5 | |
| <i>Acacia linearifolia</i> | Narrow-leaved Wattle | | | | 6 |
| <i>Acacia pendula</i> | Acacia pendula | | | | 3 |

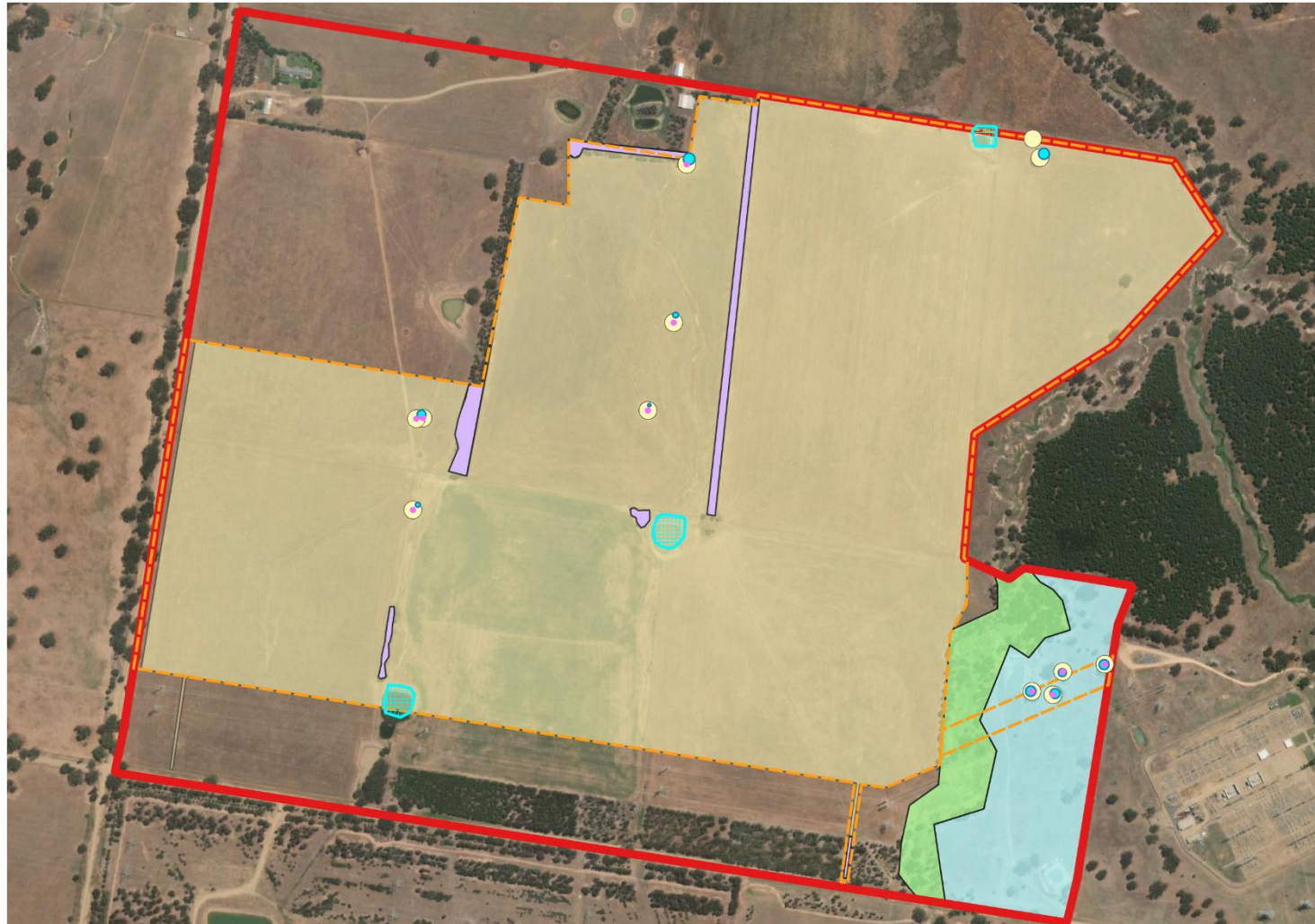
| Scientific name | Common name | Plot 1 | Plot 2 | Plot 3 | Plot 4 |
|-------------------------------------|----------------------|--------|--------|--------|--------|
| <i>Acacia sp</i> | Wattle (grazed) | | | 0.3 | |
| <i>Acacia verniciflua</i> | Varnish Wattle | | 1 | | |
| <i>Callistemon sieberi</i> | River Bottlebrush | | | 0.1 | 1 |
| <i>Callistemon spp.</i> | Bottlebrush (grazed) | | 0.2 | | |
| Forbs | | | | | |
| <i>Arctotheca calendula</i> * | Capeweed | 0.1 | 0.1 | | |
| <i>Echium plantagineum</i> * | Patterson's Curse | 0.1 | 0.1 | | |
| <i>Erodium cicutarium</i> * | Common Crowfoot | 10 | 2 | | |
| <i>Hypochaeris radicata</i> * | Catsear | 0.3 | 0.5 | | |
| <i>Juncus spp.</i> | A Rush | 0.1 | 2 | 0.5 | |
| <i>Lepidium pseudohyssopifolium</i> | Peppergrass | 0.1 | | | |
| <i>Marrubium vulgare</i> * | White Horehound | | 0.1 | | |
| <i>Oxalis perennans</i> | | | 0.1 | 0.1 | |
| <i>Rumex brownii</i> | Swamp Dock | 0.1 | 0.1 | 0.1 | |
| <i>Sida cunninghamii</i> | Ridge Sida | | 0.1 | | |
| <i>Trifolium arvense</i> * | Haresfoot Clover | 0.3 | 2 | | |
| <i>Trifolium glomeratum</i> * | Clustered Clover | 0.3 | 0.1 | | |
| Grass and grass-like | | | | | |
| <i>Austrostipa scabra</i> | Speargrass | 20 | 8 | | |
| <i>Avena fatua</i> * | Wild Oats | 0.5 | 2 | | |
| <i>Bromus diandrus</i> * | Great Brome | | 10 | 2 | 3 |

| Scientific name | Common name | Plot 1 | Plot 2 | Plot 3 | Plot 4 |
|--------------------------------|--------------------|--------|--------|--------|--------|
| <i>Bromus hordeaceus</i> * | Soft Brome | 20 | 5 | 1 | 0.1 |
| <i>Cenchrus clandestinus</i> * | Kikuyu | | 0.1 | | |
| <i>Chloris truncata</i> | Windmill Grass | 0.2 | | | |
| <i>Cynodon dactylon</i> | Common Couch | 0.5 | | | |
| <i>Hordeum leporinum</i> * | Barley Grass | 4 | 2 | | |
| <i>Lolium perenne</i> * | Perennial Ryegrass | 20 | 5 | 10 | 25 |
| <i>Phalaris aquatica</i> * | Phalaris | 0.3 | | 50 | |
| <i>Rytidosperma spp.</i> | | 0.3 | 0.1 | | |
| <i>Vulpia myuros</i> * | Rat's Tail Fescue | 25 | 2 | | |

A.2 LOCATION OF BASELINE BIOMETRIC PLOTS



A.3 THREATENED SPECIES LOCATION



Gregadoo Solar Farm

Threatened Species Location

- Project Boundary
 - Development Footprint
 - PCT 277_Planted
 - PCT 76_Woodland
 - PCT 277_Creekline
- Threatened Species Habitat
- Glossy Black Habitat
 - Superb Parrot Habitat
 - Sloane's Froglet Habitat
 - Sheathtail Bat/Masked Owl Habitat

Data Attribution
 © NGH 2020
 © Hamwha Energy Australia Pty Ltd, 2020
 © ESRI, 2020

Ref: 19-590 Gregadoo SF BMP 090120 \\
 Threatened species locations
 Author: T.Hume
 Date created: 17.07.2020
 Datum: GDA94 / MGA zone 55

0 100 200 300 m



APPENDIX B SAMPLE REGISTERS

B.1 SAMPLE GROUND DISTRUBANCE PERMIT

Project: Gregadoo Solar Farm

Project No:

Requested By:

Habitat Clearing Start Date:

Expected Completion Date:

HABITAT CLEARING LOCATIONS – ATTACH DRAWINGS / SKETCHES IF NECESSARY

| Location | Comments |
|---|---|
| | |
| | |
| <p>This section to be completed by Ecologist and HSEQ Manager for clearing of trees, logs, rocky features, and other habitat features, with reference to constraints mapping.</p> | |
| <p>Has the limit of clearing been clearly delineated?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>All trees / vegetation / habitat to be retained identified and exclusion zones fenced off?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>State how identified:</p> | |
| <p>Have habitat trees been identified and appropriately marked?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A |
| <p>State how identified:</p> | |
| <p>Are specific targeted surveys required?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>State how survey was completed, including results:</p> | |
| <p>Is there a risk of weed infestation or spread?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>Are any animals present? (If Yes, relocation required)</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>Are any active nests/burrows present? (If Yes, relocation required)</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <p>If soil disturbance is to occur, has an Erosion and Sediment Control Plan been created, and have these controls been installed?</p> | <input type="checkbox"/> Yes <input type="checkbox"/> No |

| Location | Comments |
|--|--|
| Following clearing works is planting required to stabilise the soil and prevent weed invasion? This is a requirement unless approved by the HSEQ | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Have relevant workers been given toolbox talks on limit of clearing, fauna handling procedures and any other SHE Controls? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Can habitat features be re-used for habitat enhancement? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Can the habitat feature be re-used immediately? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| If not re-used immediately, where will it be stockpiled*? | |
| Comments: | |

APPROVALS

Inspection completed by Ecologist (if required):

Date:

Ecologist Signature Required

Approval by HSEQ Manager:

Date:

HSEQ Manager Signature Required

* Stockpiles must not be placed within the dripline (extent of foliage cover) of any native tree.

SIGN-OFF (ONCE WORKS COMPLETED)

Have the conditions of the permit been met?

Date:

HSEQ Manager Signature Required

B.2 SAMPLE THREATENED SPECIES REGISTER

| Date | Species | Location and time captured | Location and time released | Behaviour and condition on release | Details of any injuries/ death | Contact details of vet/wildlife handler if transferred to their care |
|------|---------|----------------------------|----------------------------|------------------------------------|--------------------------------|--|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

B.3 SAMPLE HERBICIDE APPLICATION RECORD



Industry & Investment

Location, Applicator, Date of Application

| | | | | | | | | | | | | |
|--|--------------|--------|---------|---|--------|--|--|---|--|---|--------------|---|
| Property/Holding: (residential address) | | | | | Date: | | | | | | | |
| Applicator's Full Name: | | | | Owner (if not applicator): | | | | | | | | |
| Address: | | | | Address: | | | | | | | | |
| | | | Phone: | | Phone: | | | | | | | |
| Mobile: | Fax: | Email: | Mobile: | Fax: | Email: | | | | | | | |
| Sensitive Areas (including distances, buffers): | | | | Comments (including risk control measures for sensitive areas): | | | | | | | | |
| <table border="1" style="margin: auto;"> <tr> <td></td> <td>N</td> <td></td> </tr> <tr> <td>W</td> <td>Treated Area</td> <td>E</td> </tr> <tr> <td></td> <td>S</td> <td></td> </tr> </table> | | | | | | | | N | | W | Treated Area | E |
| | N | | | | | | | | | | | |
| W | Treated Area | E | | | | | | | | | | |
| | S | | | | | | | | | | | |

Host/Pest

| | | | | | |
|-----------------------|--|---------------|---|----------------------------|--|
| Paddock Number/Name: | | Paddock Area: | | Order of Paddocks Sprayed: | |
| Crop/Situation: | | | Type of Animals: | | |
| Crop/Pasture Variety: | | | Age/Growth Stage: | | |
| Growth Stage: | | | Mob/Paddock/Shed: | | |
| Pest/Disease/Weed: | | | Animals — Number Treated: | | |
| | | | Pest Density/Incidence: Heavy <input type="checkbox"/> Medium <input type="checkbox"/> Light <input type="checkbox"/> | | |

Application Data

| | | | | | | |
|--------------------------|--|------------------------------------|--------------|--------------------|-------------------------|-----------|
| Full Label Product Name: | | | Rate/Dose: | | Water Rate L/ha: | |
| Permit No.: | | Expiry Date: | | Additives/Wetters: | | |
| Total L or kg: | | WHP: | ESI*: | | Date Suitable for Sale: | |
| Equipment Type: | | | Nozzle Type: | | Nozzle Angle: | Pressure: |
| Date Last Calibrated: | | Water Quality (pH or description): | | | | |

Weather

| | | | | | |
|--|----------------|-----------------------|------------|-----------|----------------------------|
| Showers <input type="checkbox"/> Overcast <input type="checkbox"/> Light Cloud <input type="checkbox"/> Clear Sky <input type="checkbox"/> | | | | | |
| Rainfall (24 hours before and after) | | | | | |
| Before: mm | | During: mm | | After: mm | |
| Time (show time in this column) | Temperature °C | Relative Humidity (%) | Wind Speed | Direction | Variability (e.g. gusting) |
| Start | | | | | |
| | | | | | |
| Finish | | | | | |
| Comments: | | | | | |

* When using herbicides in mixtures with fungicides and insecticides, an ESI may apply to the non-herbicide component of the mixture.

B.4 SAMPLE PESTICIDE APPLICATION RECORD

Pesticide Application Record Sheet



Industry &
Investment

Location, Applicator, Date of Application

| | | | | | | | | | | | | | | |
|---|--------------|--------|---|------|--------|---|--------------|---|--|---|--|--|--|--|
| Property/Holding: (residential address) | | | | | Date: | | | | | | | | | |
| Applicator's Full Name: | | | Owner (if not applicator): | | | | | | | | | | | |
| Address: | | | Address: | | | | | | | | | | | |
| | | Phone: | | | Phone: | | | | | | | | | |
| Mobile: | Fax: | Email: | Mobile: | Fax: | Email: | | | | | | | | | |
| Sensitive Areas (including distances, buffers): | | | Comments (including risk control measures for sensitive areas): | | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td>N</td> <td></td> </tr> <tr> <td>W</td> <td>Treated Area</td> <td>E</td> </tr> <tr> <td></td> <td>S</td> <td></td> </tr> </table> | | | | N | | W | Treated Area | E | | S | | | | |
| | N | | | | | | | | | | | | | |
| W | Treated Area | E | | | | | | | | | | | | |
| | S | | | | | | | | | | | | | |

Host/Pest

| | | |
|-----------------------|---------------|---|
| Paddock Number/Name: | Paddock Area: | Order of Paddocks Sprayed: |
| Crop/Situation: | | Type of Animals: |
| Crop/Pasture Variety: | | Age/Growth Stage: |
| Growth Stage: | | Mob/Paddock/Sheed: |
| Pest/Disease/Weed: | | Animals — Number Treated: |
| | | Pest Density/Incidence: Heavy <input type="checkbox"/> Medium <input type="checkbox"/> Light <input type="checkbox"/> |

Application Data

| | | | | |
|--------------------------|------------------------------------|--------------------|-------------------------|-----------|
| Full Label Product Name: | | Rate/Dose: | Water Rate L/ha: | |
| Permit No.: | Expiry Date: | Additives/Wetters: | | |
| Total L or kg: | WHP: | ESI*: | Date Suitable for Sale: | |
| Equipment Type: | | Nozzle Type: | Nozzle Angle: | Pressure: |
| Date Last Calibrated: | Water Quality (pH or description): | | | |

Weather

| | | | | | |
|--|----------------|-----------------------|------------|-----------|----------------------------|
| Showers <input type="checkbox"/> Overcast <input type="checkbox"/> Light Cloud <input type="checkbox"/> Clear Sky <input type="checkbox"/> | | | | | |
| Rainfall (24 hours before and after) | | | | | |
| Before: mm | | During: mm | | After: mm | |
| Time (show time in this column) | Temperature °C | Relative Humidity (%) | Wind Speed | Direction | Variability (e.g. gusting) |
| Start | | | | | |
| | | | | | |
| | | | | | |
| Finish | | | | | |
| Comments: | | | | | |

* When using herbicides in mixtures with fungicides and insecticides, an ESI may apply to the non-herbicide component of the mixture.

APPENDIX C AGENCY INPUT ON BMP

C.1 BCD

Biodiversity Conservation Division (BCD) comments on the draft BMP were received 25 June 2020. These recommendations and where they are addressed in this report are identified below.

| BCD Recommendation | NGH Response |
|--|--|
| Recommendation 1: Include a map (or maps if necessary) of the development site at an appropriate scale that clearly show the development footprint and ancillary infrastructure outlined in Section 1.2 of the BMP e.g. solar array, internal roads, fences, buildings. | Figure 1-1 has been inserted in Section 1.2. The map details the project boundary, development footprint, proposed fence line, compound site, onsite substation, TransGrid substation, connection easement, existing transmission line, site access, internal access, and existing fences. |
| Recommendation 2: Include EIS mitigation commitments in Section 2.4 (or append them and refer to them in Section 2.4). | The biodiversity mitigation commitments that were identified in the EIS have been included as Table 2-3 in Section 2.4. |
| Recommendation 3: List all the consent conditions that are relevant to actions in the BMP, i.e. land management and rehabilitation similar to the Sebastopol Solar Farm BMP | Included as Table 2-3 in Section 2.3. |
| Recommendation 4: Change the maps to show the vegetation management zones from the BDAR (PCT/condition) that can be linked to PCT descriptions in the text. | The maps in Section 6.1 have been amended to provide more detail and to better describe the management zones and to better reflect the BDAR. The number of zones has increased from 6 to 10 (Figure 6-1). Each includes a detailed explanation of the zone. A detailed close up of the riparian area has been provided in Figure 6-2. |
| Recommendation 5: Show all vegetation management zones and exclusion zones as overlays. | The exclusion zones are now shown as overlays in Figure 6-1. |
| Recommendation 6: Include vegetation condition baseline data in the BMP | Included as Table 7-2 in Section 7.7.2 showing baseline data as calculated by the BAM calculator. |
| Recommendation 7: Describe the vegetation condition assessment process to be used for adaptive management. | A paragraph providing further detail describing the vegetation condition assessment process has been added in Section 7.7.2. |
| Recommendation 8: Include maps showing locations of threatened species – baseline ecological data | A map has been included in Appendix A3 showing threatened species habitat on site. |

| BCD Recommendation | NGH Response |
|--|---|
| Recommendation 9: Clarify the circumstances for additional clearing outside approved limits | A dot point explanation has been added to Section 7.2.8 with example circumstances that may influence additional clearing. |
| Recommendation 10: Update section 7.8 to describe perimeter fence construction and initial mitigation measure to minimise fauna impacts | A paragraph on the construction of perimeter fencing has been added to Section 7.8, including the mitigation measures that have been put in place during fence design to avoid impacts to wildlife. |
| Recommendation 11: Update Tables 8.1 and 9.1 with more specific information about the Responsible party for management actions. | Table 8-1 and Table 9-1 have been updated to include more specific information about the responsible party for management actions. Table 10-2 has also been updated to include more detail. |
| Recommendation 12: Express the targets for controlling pest animals relative to their baseline abundance e.g. Pest animal populations reduced below baseline levels detected during surveys and maintained at a low level of activity during operation. | Pest animal targets are described in Section 7.5.2. The Animal Pest Management procedure identifies that no animal pest species require control measures, as per the pest species survey on site. If there are any signs of pest animal activity (i.e. tracks or sightings), appropriate managements procedures will be undertaken. |
| Recommendation 13: Express effort to maintain or improve the condition of vegetation in exclusion zones against measurable targets e.g. Maintain Vegetation Integrity scores from BAM plots in Vegetation Exclusion Zones above baseline (or updated baseline) levels during operation. | A paragraph describing the management response to an observed decline in vegetation condition has been included in Section 7.7.3. |
| Recommendation 14: Develop a ‘Hollow-bearing tree removal guideline’. | A Hollow-bearing tree removal guideline has been included as Appendix F. |

C.2 DPIE

DPIE comments on the draft BMP were received 21 September 2020. Additional comments were received from DPIE on 18 December 2020. These recommendations and where they are addressed in this report are identified below.

| DPIE comment | NGH Response |
|---|------------------------------------|
| Comments received 21 September 2020 | |
| Remove the repeated section ‘Response to decline in condition’ | The extra section has been deleted |

| DPIE comment | NGH Response |
|--|---|
| Clarify section 7.2.1 to ensure that any clearing would be in accordance with the approved site layout, as per the conditions of consent. | An additional sentence has been included in section 7.2.1 stating that vegetation clearing will not exceed the approved development footprint. |
| Provide timeframes for completion of actions relating to completing actions of: <ul style="list-style-type: none"> Monitoring, reviewing and implementing the plan Completing any actions identified within the monitoring or review of the project. | Added a new column ("timing") into Table 8-1. Table 9-1 already includes information regarding timing – this has been made clearer. Section 11.2 has been updated to further address the monitoring and implementation of the BMP. |
| Amend Land Management condition number | The management condition number in Table 2-2 has been amended. |
| Please provide: <ul style="list-style-type: none"> a pre-clearing checklist Details for daily surveys associated with clearing activities; and Any activities/ requirements associated with staged clearing | The following have been provided in Appendix F.2: <ul style="list-style-type: none"> Pre-clearing flora and fauna checklist Permit to clear" checklist |
| Please amend wording from 'will be avoided' to more appropriately reflect the commitment. | The wording in Table 5-1 has been amended to: "No stockpiling materials and equipment and parking vehicles will be within the dripline (extent of foliage cover) of any native tree.' |
| Ensure that appropriate mitigation measures are detailed in CEMP – such as noise barriers | The mitigation measures for noise have been included in section 7.7.4. |
| Ensure that appropriate mitigation measures are detailed in CEMP – such as light shields | The mitigation measures for light have been included in section 7.7.4. |
| Ensure that appropriate measures are detailed in CEMP shields | The mitigation measures for dust have been included in section 7.7.4. |
| Provide detail on what should occur if a declared priority weed does occur on site during construction or operation | Mitigation measures detailed in Table 8-1 have been added to section 7.5.1 under the heading "Priority Weeds." |
| Address weed hygiene in relation to fill | Fill hygiene has been added to section 7.5.1. |
| Include the pathogens such as Myrtle Rust and Phytophthora in this and ensure that they are appropriately detailed in the CEMP | Included in section 7.5.1. "Weed Treatment" |
| Provide clearer detail in S 7.2.5 and S 7.4 that an ecologist or fauna spotter will be in attendance for these activities. | Small details were added to section 7.2.5 and section 7.4 to make it more apparent that an ecologist will be onsite for all these activities during construction phase. |

| DPIE comment | NGH Response |
|--|--|
| Ensure that appropriate measures are detailed in this Rehabilitation Plan | The rehabilitation plan has not been written yet. In accordance with the requirements, it will be written for the decommissioning of the project and the appropriate measures will be included. |
| Table identifies erosion and sediment controls to be detailed in Surface Water management plan and Erosion (SWMP) and sediment control management plan (ESCMP) Ensure that appropriate measures are detailed in the SWMP and ESCMP | These measures will be detailed in the SWMP and ESCMP. These documents will be written post-approval of this BMP. |
| The EMS are cited in Table 9-1 of the document. Section 10, particularly 10.2 addresses training and awareness, and the traffic management plan should also address this. Ensure that appropriate measures are detailed in the EMS | These measures will be detailed in the EMS. The EMS is the overarching document in the environmental management system for the Project which includes a number of management documents and sub-plans. This BMP forms part of these management documents. We recommend signing off on this upon review of the EMS which will be provided to DPIE upon review. |
| Please provide estimated time frames within Table 5-1 for the construction works, and where multiple activities may be occurring at any one time | An extra column defining timeframes has been added to Table 5-1. |
| Please provide detail relating to these comments. | A sentence referring to cleared vegetation has been added to section 7.2.3 General process. |
| Please amend to incorporate notification to the Department as relevant | A statement has been included saying that DPIE will also need to be notified in Table 8-1. |
| Comments received 18 December 2020 | |
| Statement of Commitment BD2 – request that Biodiversity Conservation Division are consulted on the pre-clearing checklist and permit to clear checklist. | Section 7.7.2 has been updated to include this measure. |
| Statement of Commitment BD5 – Section 7.7.4 identifies that construction will ‘cease if dust is observed blowing from site until control measures...’ This details a different approach to dust to each of the other management plans that have been reviewed. Please provide a more consistent approach to the management of dust across the suite of management plans. | Dust management measure sin Section 7.7.4 have been updated to match those in the project’s Landscaping Plan. |
| Statement of Commitment BD11 – it appears that there may be confusion of the terminology of rehabilitation of disturbed areas. Please provide | Section 1.1 states: “The purpose of this BMP is to provide a framework for the management of |

| DPIE comment | NGH Response |
|--|---|
| <p>details of any requirement for the rehabilitation of disturbed areas post construction, not associated with decommissioning, if appropriate.</p> | <p>biodiversity issues during the construction and operation of the Project.”</p> <p>This plan is in relation to construction and operation activities, not decommissioning. The requirements for rehabilitation of disturbed areas in this plan refer to post-construction. This plan is not a Rehabilitation Plan. As is stated throughout the plan, rehabilitation of the entire site will be outlined in the Rehabilitation Plan.</p> |
| <p>The management plan states that a rehabilitation plan will be written for the decommissioning of the project. Please provide details of the time scale for the preparation of this rehabilitation plan prior to decommissioning.</p> | <p>References to the Rehabilitation Plan (Table 5-1, Table 9-1, and Table 10-1) have been updated to identify the plan will be developed prior to decommissioning. Table 5-1 has been updated to provide a timeframe for the plan.</p> |

APPENDIX D AGENCY APPROVAL OF BMP

D.1 BIODIVERSITY CONSERVATION DIVISION

From: ROG South West Region Mailbox <rog.southwest@environment.nsw.gov.au>

Sent: Friday, 21 August 2020 9:12 AM

Subject: DPIE BCD Response RE: Gregadoo Solar Farm SSD 8825 - revised BMP

Hi Hannah,

Thank you for providing the updated Gregadoo Solar Farm Biodiversity Management Plan (BMP) for BCD review.

We are satisfied that our comments have been adequately incorporated into the revised BMP.

The structure of the plan is appropriate. Including a section on management procedures that link to mitigation measures is a helpful way to deal with describing process details.

While the presentation of the BMP is not something that we would normally comment on, this is a working document, so making it as simple and concise as possible will make it more user friendly for those with specific responsibilities in the plan. For instance, it is fairly long so we recommend that you take a final look at the content and if possible reduce duplication (e.g. mitigation and responsibility information is spread across multiple tables - presenting it as succinctly as possible would help the user).

Also, Section 2 on Planning has a lot of general information. The management plan should be streamlined to suit the needs of the user so keeping things very relevant to onsite biodiversity management is important. Elements in Section 2 that are dealt with at a higher management level do not need to be in the BMP.

If any changes are made based on the above we would appreciate being provided with a final version.

We can accept this plan as satisfying the consultation requirements with OEH (now DPIE-BCD) as per Condition 13 of Schedule 3.

If you have any further questions about this please contact Simon Stirrat on 03 5021 8930.

Regards

Andrew Fisher

Senior Team Leader, Planning – South West

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**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.

APPENDIX E ENVIRONMENTAL POLICY

Environmental Policy Statement

Gregadoo Solar Farm Pty Ltd is committed to minimising the impact of our operations on the environment. We are committed to the principles of sustainable development and to ensure all business operations are conducted with the priority of protecting the environment around us.

To achieve this Gregadoo Solar Farm Pty Ltd will:

- comply with all applicable state and federal Environmental legislations;
- reduce the impacts of our business and operations on the environment and community;
- minimise pollution, reduce consumption, and focus on strategies that promote sustainability, recycling and waste minimisation
- continuously improve our Environmental Management System and our performance through developing and reviewing objectives and targets, policies and practices;
- protect, conserve and improve the environment through procurement of programs, partners, products and services which take into account their environmental impacts, and are aligned with our own Environmental Policy Statement;
- ensure our employees receive the required training to ensure they are appropriately equipped to carry out the principles of this policy statement;
- share our objectives and commitments with employees and stakeholders and ensure that those are achieved.



Tae Hong Kim
Director

Date: 05 June 2020

APPENDIX F HOLLOW BEARING TREE GUIDELINE

This guideline provides instruction on how to remove Hollow Bearing Trees (HBTs) in a way that minimises the impacts on fauna inhabiting trees and includes;

- Optimum timing for tree removal to minimise impacts on hollow-dependant fauna.
- Detailed information about felling hollow bearing trees (staged felling protocol).

F.1 CLEARING TIMING

1. Avoid breeding or core hibernation period (between September and February) for fauna inhabiting HBT such as the Superb Parrot, Glossy Black Cockatoo, Sheathtail Bat, and Masked Owl. If clearing within breeding and core hibernation period is to occur, specific controls are to be implemented as detailed below.
2. During summer/hot days (greater than 30°C), HBT are left in situ until the end of the day, so any captured animals are not subjected to heat stress before release. Wildlife is not to be held in a vehicle on hot days, unless the engine and air conditioning is on.

F.2 PRE-CLEARING SURVEY

1. Prior to works commencing, the fauna spotter³ /ecologist is to undertake a brief site inspection to ensure that each HBT to be removed is (still) clearly marked so that machinery operators and site construction workers are aware of their presence. This is to avoid any indirect impacts occurring beyond, or in a manner not consistent with the methodology specified in this or other regulatory documents. Marking of the HBTs to be removed and/or retained is to be clear and must differentiate between removed/retained trees such as through the use of different coloured flagging tape or spray paint.
2. All known hollows must be individually inspected for occupancy and current use. This would require a pole mounted inspection camera or support from an arborist on an Elevated Work Platform. If hollows are found to be occupied, then a plan for how to minimise impacts to the fauna would be prepared (by the fauna spotter/ecologist) specific to the species and its lifecycle and implemented prior to tree removal commencement.
3. A fauna spotter/ecologist will undertake a visual inspection of all hollows and habitat features within 24 hours of clearing to identify resident fauna species that might require relocation.
4. Contact veterinarian/wildlife carers in the area prior to clearing starting. At least one must confirm to be willing to accept wildlife if orphaned or injured fauna are encountered.
5. The fauna spotter/ecologist must assess the surrounding area for alternative hollows suitable for fauna relocation. If these are not present then nest boxes should be made available, and if fauna detected, installed so that mobile hollow dependent fauna have alternative locations to relocate. Nest boxes should be installed within 100m of the tree removal site and must be suitably sized and designed to accommodate the species of concern⁴.

³ The 'fauna spotter'/ ecologist must be trained and experienced in handling fauna, , and recognise fauna species and required habitats. If handling microbats the spotter/ ecologist must be appropriately vaccinated.

⁴ Common Brushtail Possum are the most common species encountered in tree removal, therefore this sized nest box should be made available as a minimum if no suitable hollows exist within 100m. If other species are encountered, then alternative nest boxes must be sourced.

F2.1 Pre-Clearing and Ground Disturbance “Permit to Clear” Checklist

Checklist to be submitted to BMD Environmental Manager/Officer at least two (2) days prior to clearing commencement. Clearing must not commence in any part of the area until this vegetation clearing permit has been approved.

| | | | |
|--|---|-------------------------|------------------------------------|
| Project: | | Inspection Date: | |
| Vegetation Clearing Locations – Attach drawings/sketches/maps if required | | | No of Attachments: |
| Ch From | Ch To | Location | Comments |
| | | | |
| # | Control Measures | Y/N/NA | Comments/Corrective Actions |
| 1 | Have the clearing limits been established by the Survey Team? | | |
| 2 | Has the limit of clearing been clearly fenced off? | | |
| 3 | Is protective fencing installed around EECs and heritage items? | | |
| 4 | Have areas of weed infected topsoil been identified? | | |
| 5 | Have habitat trees and/or trees to be preserved been identified and marked and defined by survey? | | |
| 6 | Has Hold Point G40 Cl 2.4 detailing pre-clearing information been submitted at least seven (7) days prior to commencement of clearing? | | |
| 7 | Has Wagga Wagga Council Weeds Officer been contacted? If yes, have all requested actions been undertaken? | | |
| 8 | Have the trees to be salvaged for milling, coarse woody debris and Glider poles been marked and identified? | | |
| 9 | Have all residents with potential to be disturbed been advised at least two (2) weeks prior to clearing vegetation? | | |
| 10 | Have the relevant construction personnel been briefed on the 2 stage clearing process and any specific area issues? | | |
| 11 | Have boundary limits been established and clearly marked from rivers, creeks, watercourses and drainage lines to indicate to the clearing contractors where to stop clearing? | | |
| 12 | Have the limit of clearing at proposed fauna crossings been minimised? | | |
| 13 | If near a creek or waterway crossing, ensure riparian zone is managed in accordance with FFMP - <i>Management and Mitigation Measures</i> | | |
| 14 | Have sediment control measures been installed before clearing as required by the Soil and Water Management Plan? | | |
| 15 | Has the Project Ecologist been notified and scheduled to undertake pre-clearance and clearance activities? Have fauna release sites been identified? | | |
| 16 | Is a copy of <i>Fauna Handling and Rescue Procedure</i> available? | | |
| Comments: | | | |

| | | |
|---|-------------------|--------------|
| Completed by: | Signature: | Date: |
| I have reviewed the “Permit to Clear” checklist and all measures have been implemented as required. The clearing between the above mentioned chainages may proceed in accordance with this procedure. | | |
| Hold Point Signoff: | | |
| Environmental Site Representative Sign-off | | |

F2.2 Pre-Clearing “Fauna and Flora” Assessment – Part A (7 Days Prior)

Pre-clearing assessment and completed Checklist (Part A) must be submitted to BMD Environmental Site Rep. at least seven (7) days prior to clearing commencement. Checklist and any other relevant information are to be submitted to RMS for approval as a Hold Point (G40 cl 2.4). Clearing must not commence in any part of the area until this vegetation clearing permit has been approved.

| | | | | | | | |
|--|---|--------------|--|-------------------------|--|-----------------|--|
| Project: | | | | Inspection Date: | | | |
| Ch From | | Ch To | | Location | | Comments | |
| | | | | | | | |
| # | Control Measures | | | Y/N/NA | Required Actions Undertaken/ Relevant Information Provided/Comments | | |
| Project Ecologist | | | | | | | |
| 1 | Have the clearing limits been established by Survey Team? | | | | | | |
| 2 | Has the limit of clearing been clearly fenced off? | | | | | | |
| 3 | Have all areas of weed infestations been identified and clearly marked (i.e. flagging tape)? If yes, provide details of location and species on a plan. | | | | | | |
| 4 | Have EECs been identified and marked in the field? If yes, provide details of location and EEC on plan. | | | | | | |
| 5 | Have all habitat trees been identified and clearly marked on site? Trees are to be tagged with tape with an individual number/ID (i.e. H01). Provide a map and details of identified habitat trees (i.e. ID, species, DBH, height, no/size/type of hollows). | | | | | | |
| 6 | Were any fauna identified during the pre-clearing assessment? If yes, follow the <i>Fauna Handling and Rescue Procedure</i> in Appendix D of the FFMP. Provide a brief description of fauna and any actions taken. | | | | | | |
| 7 | Were any threatened fauna species identified during the survey? If yes, mark clearly on site (i.e. flagging tape) and follow the <i>Unexpected Threatened Species Find Procedure</i> outlined in Appendix I of the FFMP. | | | | | | |
| 8 | Were any threatened flora species identified during the survey? If yes, clearly mark on site (i.e. flagging tape) and follow the <i>Unexpected Threatened Species Find Procedure</i> outlined in Appendix I of the FFMP. | | | | | | |
| 9 | Have any trees outside the clearing limit been deemed unsound? If yes, clearly mark on site. | | | | | | |
| Comments: | | | | | | | |
| Environmental Site Representative | | | | | | | |
| 1 | Are any weed mitigation measures required? | | | | | | |
| 2 | Have EECs identified by the Project Ecologist been marked with appropriate fencing/signage? | | | | | | |
| 3 | Have all habitat trees been marked appropriately? | | | | | | |
| 4 | Were any previously unidentified threatened flora and/or fauna species identified? Are any further surveys/approvals required? | | | | | | |
| 5 | Have any trees deemed to be unsound clearly marked? | | | | | | |
| 6 | Are there any areas of contaminated soil on site? If yes, have relevant mitigation measures been undertaken? | | | | | | |
| Environmental Site Representative Signoff | | | | | | | |
| Completed by: | | | | Signature: | | | |
| | | | | | | Date: | |
| | | | | | | | |
| I have reviewed the above checklist and relevant information and all measures have been implemented as required. | | | | | | | |

F2.3 Pre-Clearing “Fauna and Flora” Check – Part B (24 Hours Prior)

Pre-clearing check is to be undertaken by the Project Ecologist 24 hours prior to commencement of clearing. This check is only to cover an area which can be cleared in one day. The below checklist must be completed and provided to the Environmental manager/Officer. Clearing must not commence in any part of the area until this pre-clearing check has been undertaken.

| | | | | | | | |
|--------------------------|---|--------------|--|-------------------------|--|-----------------|--|
| Project: | | | | Inspection Date: | | | |
| Ch From | | Ch To | | Location | | Comments | |
| | | | | | | | |
| # | Control Measures | | | Y/N/NA | Required Actions Undertaken/ Relevant Information Provided/Comments | | |
| Project Ecologist | | | | | | | |
| 1 | All clearing limit, protective fencing and exclusion fencing are in place | | | | | | |
| 2 | All habitat trees are clearly marked | | | | | | |
| 3 | A thorough check has been undertaken to detect and remove fauna present within the identified area. Enter any details in the below data sheet | | | | | | |
| 4 | Any detected fauna have been relocated in accordance with the <i>Fauna Handling and Rescue Procedure</i> in the FFMP | | | | | | |
| 5 | No previously unidentified threatened fauna or flora species were detected | | | | | | |
| Comments: | | | | | | | |

| | | | |
|---|--|-------------------|--------------|
| Project Ecologist Signoff | | | |
| Completed by: | | Signature: | |
| | | | Date: |
| I have undertaken a thorough check of the identified vegetation and have reviewed that all relevant measures have been implemented as required. | | | |

F.4 CLEARING OF HABITAT FEATURES

1. The fauna spotter/ecologist must have appropriate catching, handling and housing equipment present on site in the event of the need to detain fauna. This includes enclosures suitable for common and suspected threatened species of varying needs and sizes. Housing and transport of wildlife must be in accordance with the Code of Practice for Injured, Sick and Orphaned Protected Fauna: <https://www.environment.nsw.gov.au/research-and-publications/publications-search/code-of-practice-for-injured-sick-and-orphaned-protected-fauna>. Remove non-habitat adjacent trees and understorey (if applicable) 24-48 hours prior to the felling of the habitat trees. Ensure that the entire area within the drop radius of habitat tree is cleared of debris.
2. Prior to clearing hollow-bearing trees, use an excavator (preferable) or loader to hit the trunk as high up the tree as possible several times. Wait at least 30 seconds. Repeat this process several times. The use of machinery noise can also encourage any resident fauna to vacate the tree. These disturbance actions are best performed at the end of the day to encourage nocturnal species to relocate overnight. The tree is to be left overnight (at a minimum) before being removed. Any HBT that has been left for longer than 48 hours since being shaken/tapped, is to be re-shaken/tapped at least the day prior to removal.
3. When removing hollow-bearing trees, a fauna spotter/ecologist should be present at each tree to be removed to look for signs of animal movement in the tree to be cleared. The fauna spotter should be able to communicate directly with plant operators, ideally utilising a UHF radio. If an excavator or large machinery (as opposed to a chain saw) is used to clear hollow bearing trees, an inspection of each hollow must be undertaken by the fauna spotter/ecologist prior to commencement of clearing even if tapping has occurred the night before.
4. The excavator or equivalent machinery operator will slowly lower HBT trees. HBTs must not be pushed and left to fall under their own weight as this can cause direct injury or death to resident fauna.
5. If taking the tree down in stages, remove non-hollow-bearing limbs first. Then remove hollow-bearing limbs
6. Once the hollow-bearing limbs or hollow-bearing tree are on the ground, the fauna spotter/ecologist must check each hollow for signs of wildlife before the next limb/tree is removed. Remove any fauna into a handling bag or suitable secure housing. The fauna spotter will release any adult uninjured fauna into the designated release area (a distance of ~50m outside the clearing footprint at the appropriate time of day for the species).
7. Where practical, relocate fauna in their hollow by relocating entire hollow sections to areas of retained vegetation.
8. If dependent young or injured fauna are discovered following or during tree felling then fauna must be delivered to a licensed wildlife carer or veterinarian (previously notified of the works).
9. Records of any animals removed or injured must be retained.
10. Once felling, if uninjured fauna is detected within the felled tree and the hollow is in good condition, the fallen tree will be marked and left in situ over night to allow the fauna to self-relocate. The following day fallen trees would be left in place or moved to a nearby area to retain fauna habitat once the fauna has relocated.

F.5 HANDLING WILDLIFE

1. Direct contact with any wildlife should be avoided wherever possible. Wildlife should be encouraged to leave hollows through controlled disturbance as detailed above.
2. Any uninjured wildlife that does not include dependent young (unless in the company of its healthy parent) must be encouraged to leave the development site.
3. If wildlife is injured, WIRES or similarly qualified and licensed Wildlife care organisation should be contacted to collect and treat any injured or orphaned individuals. This organisation would be notified of the tree removal works, prior to works commencing.

4. No handling of microbats unless trained and vaccinated for Australian Bat Lyssavirus with current titre levels.

F.6 CLEARING DURING JUNE TO JANUARY

1. Should clearing of hollow-bearing trees be required during the breeding or hibernation periods of threatened species, consultation is to be undertaken with local wildlife carers and/or specialist carers for those faunal groups (e.g. microbats, parrots). Confirmation is to be sought from these groups that they would accept rescued fauna.
2. Should inspections identify threatened parrots attending hollows, a detailed assessment is to be undertaken of their activity within the hollow. If investigating only, clearing may proceed with the above measures employed. Where parrots are actively building nests (i.e. bringing material to hollows), it is recommended that clearing be postponed until fledging. Where parrots are attending eggs, it is recommended that clearing be postponed until fledging. Where parrots are attending young, it is recommended that clearing be postponed until fledging.
3. Hibernating microbats are likely to occur throughout the winter months, and bats in torpor may occur year-round. Where it is considered highly likely that microbats would be in hibernation, it is recommended that supervised clearing occur, and that recovered bats are relocated to a dedicated bat carer to ensure they are sufficiently fed throughout the remainder of winter, prior to release back to the site in spring. The removal of bats from hibernation puts excessive stress on their fat reserves, which may be depleted prior to them being able to forage effectively in spring, thus intervention is recommended.