

Prepared for GRS

Landscaping Plan

Blind Creek Solar Farm

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Acronyms and abbreviations

AC	Alternating current
APZ	Asset Protection Zone
AQF	Australian Qualifications Framework
BCSF Pty Ltd	Blind Creek Solar Farm Pty Ltd
BESS	Battery Energy Storage System
BMP	Biodiversity Management Plan
CCTV	Closed-circuit television
CoA	Conditions of Approval
DC	Direct current
DPE	(Former) Department of Planning and Environment (NSW) (now DCCEEW and DPHI)
DPHI	Department of Planning, Housing and Infrastructure (NSW) (formerly DPE)
EIS	Environmental impact statement
EMS	Environmental Management Strategy
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
EPC	Engineering, Procurement and Construction
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EWMS	Environmental Work Method Statements
GRS	Gransolar

ha	hectares
HMP	Heritage Management Plan
km	kilometres
Kv	kilovolts
LGA	Local government area
m	metres
MW	Megawatt
MW	Megawatt hours
NSW	New South Wales
O&M	Operation and Maintenance
PCUs	Power Conversion Units
PCT	Plant Community Type
PFC	Percent foliage cover
PV	Photovoltaic
QPRC	Queanbeyan Palerang Regional Council
SSD	State Significant Development
SWMP	Soil and Water Management Plan
The Project	Blind Creek Solar Farm
TMP	Traffic Management Plan
VIA	Visual Impact Assessment

1. Introduction

1.1. Background

Blind Creek Solar Farm Pty Ltd (BCSF Pty Ltd) (the Proponent) have approval for construction, operation and decommissioning of a 350 Megawatt (MW) alternating current (AC) / 420 MW direct current (DC), photovoltaic (PV) energy generation facility referred to Blind Creek Solar Farm (the Project). The Project is located 30 kilometres (km) northeast of Queanbeyan and 7 km north of Bungendore, New South Wales (NSW), on the shores of Lake George.

The Project was assessed in an Environmental Impact Statement (EIS) in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and Schedule 2 of the Environmental Planning and Assessment Regulation 2021 (EP&A Regulation). It is considered State Significant Development (SSD).

The Proponent received approval and Conditions of Approval (CoA) for the Project on 28 July 2023 from the Department of Planning and Environment (DPE), now referred to as Department of Planning, Housing and Infrastructure (DPHI).

As part of the EIS (NGH, 2022b) a Visual Impact Assessment (VIA; Moir, 2022) was prepared, which identified potential visual impacts of the development including views from receivers of solar farm infrastructure. Mitigation measures were outlined to minimise potential impacts including use of screening.

Post public exhibition of the EIS, further updates to the Project in response to public and agency submissions resulted in further reduction in visual impacts via removing infrastructure in elevated areas or bordering a neighbouring property. The VIA and mitigation measures were updated to reflect these changes and provided as part of the Project's Submission Report (NGH, 2022c) and Amendment Report (NGH, 2022a).

This Landscaping Plan has been prepared to address the updated mitigation measures outlined the Project's Submission Report (NGH, 2022), updated VIA (Moir, 2022) and CoA.

The BCSF Pty Ltd has engaged Gransolar (GRS) as the Engineering, Procurement and Construction (EPC) contractor to deliver the construction phase of the Project.

1.2. The Project

The Project will involve the construction and operation of a PV energy generation facility with an estimated capacity of up to 350 MWAC (420 MWDC).

The Project includes the following main infrastructure components:

- Approximately 850,000 PV single axis tracking solar modules (mounted on pile-driven foundations)
- Approximately 93 inverters and transformers
- A Battery Energy Storage System (BESS) including nominally 300 MW / 600 Megawatt hours (MWh) of lithium-ion batteries with inverters
- An onsite 330 kilovolts (kV) substation connected to the existing 330 kV transmission line that passes through the site
- Underground cabling to connect solar modules, combiner boxes, Power Conversion Units (PCUs) and batteries, data services and communications

- Buildings to house a site office, switchgear, protection and control facilities, maintenance facilities, storage and staff amenities
- A communications tower for high reliability grid operations
- Internal tracks, new and upgraded sections totalling approximately 27 km
- Perimeter security fencing (if required), closed-circuit television (CCTV) and security lighting at the switching station, BESS and Operation and Maintenance (O&M) building area, only
- Stock fencing and water
- Visual amenity plantings in specific locations
- Site access intersection upgrades off Tarago Road.

During construction phase, temporary facilities would include a laydown area with secure compound, construction site offices and amenities, and car and bus parking areas for construction staff. The construction phase of the Project is expected to take approximately 18 to 24 months and the Project would have an operational life of nominally 35 years or more.

The approved Project layout is provided in Figure 1-1.

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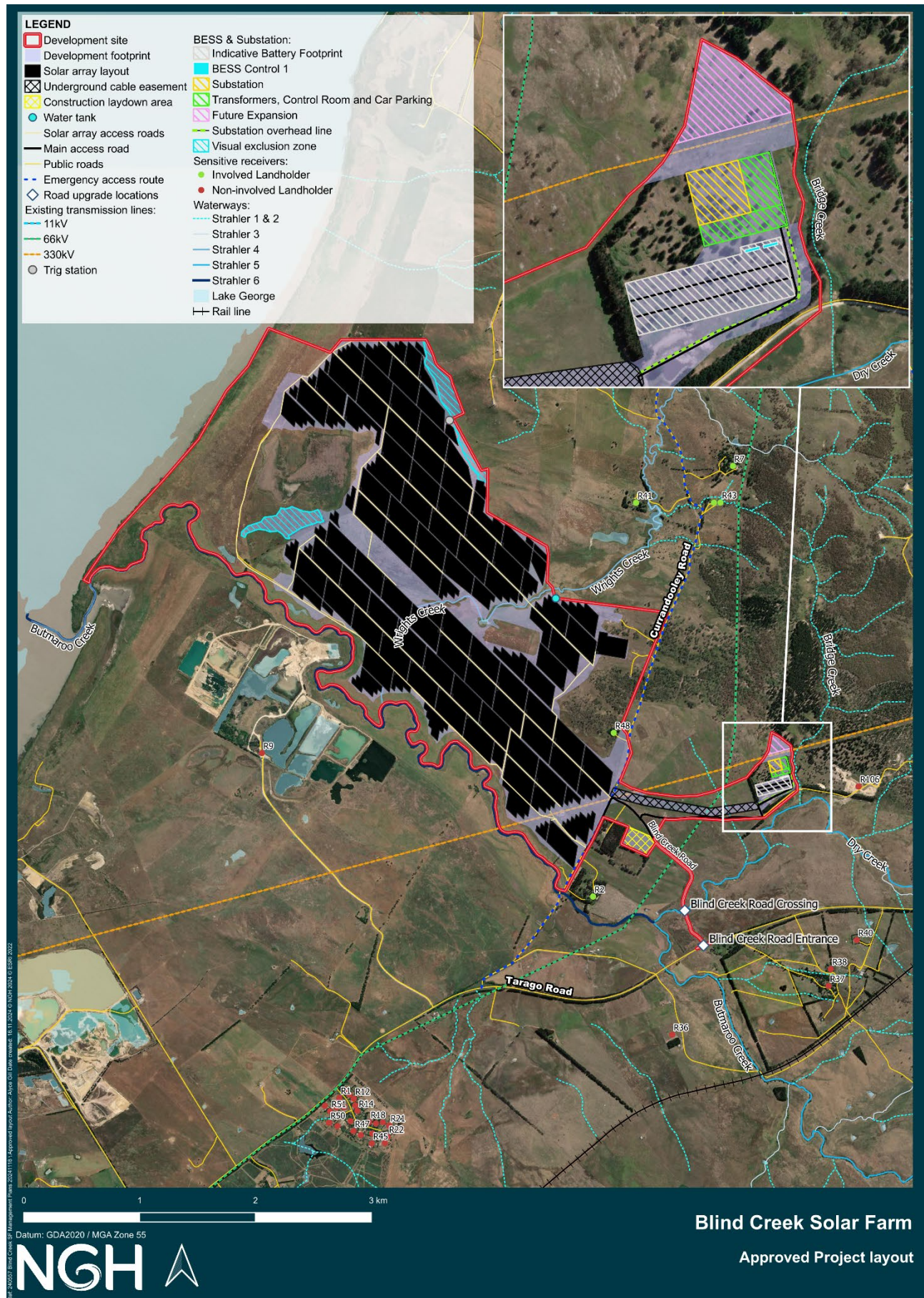


Figure 1-1 Approved Project layout

1.3. Purpose, objectives and targets

1.3.1. Purpose

The purpose of this report is to plan, establish and maintain landscaping to reduce visual impacts to sensitive receivers and road users during operation of the Project.

1.3.2. Objectives

The key objective of the Landscaping Plan is to ensure that the development will be carried out in accordance with the EIS and the conditions of approval, mitigation measures and licence/permit requirements relevant to visual impacts. These are described, scheduled, and assigned responsibility as outlined in:

- The Project EIS (NGH, 2022b)
- The Project Submissions Report (NGH, 2022c)
- The Project Amendment Report (NGH, 2022a)
- Updated VIA (Moir, 2022)
- Development Consent (determined 28 July 2023).

Additionally, the Landscaping Plan aims to:

- Ensure appropriate planning, controls and procedures are implemented during construction to facilitate the preparation and completion of landscape areas to be maintained during operation
- Maintain the land capability of the site for the life of the Project.

1.3.3. Targets

The following targets have been established for management of visual amenity impacts during construction and operation of the Project:

- Ensure full compliance with relevant legislative requirements, including CoA
- Landowners satisfied with the planting provided for their properties
- Effective screening of solar farm infrastructure within 3 years of commencement of construction.

1.4. Environmental Management System

The Landscaping Plan is part of the Project's overall Environmental Management Strategy (EMS). Mitigation and management measures identified in this Landscaping Plan will be incorporated into site or activity-specific Environmental Work Method Statements (EWMS).

When used concurrently, the overarching EMS, Landscaping Plan and other subplans, procedures and EWMS form management guides that clearly identify the necessary environmental management actions for reference by the Proponent's personnel and contractors.

The review and document control processes for this plan are described in the EMS and Section 9.6 and 10 of this plan.

1.5. Related documents

Project documents that have been prepared and are relevant to this Plan include:

- EMS
- Biodiversity Management Plan (BMP)
- Soil and Water Management Plan (SWMP)
- Heritage Management Plan (HMP).

The above plans will be implemented as part of the Project.

2. Planning

2.1. Legislation

Legislation relevant to landscaping management includes:

- *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act)
- Environmental Planning and Assessment Regulation 2021
- *Rural Fires Act 1997*
- *Biosecurity Act 2016*
- *Pesticides Act 1999*
- Pesticides Regulation 2017
- *Biodiversity Conservation Act 2016*.

How this legislation is relevant to the Landscaping Plan and Project is outlined in Appendix B of the EMS.

2.2. Guidelines and standards

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

- AS 4419-2003 Soils for landscaping and garden use: outlines the requirements for general purpose soils, top dressing, topsoil and landscaping mixes for domestic and commercial use
- AS 2303:2015 Tree stock for landscape use: outlines the tree specification process for ensuring quality tree stocks for landscaping uses
- Planning for Bushfire Protection 2019: provides standards and guidance for development on bush fire prone land, which needs to be considered with landscaping placement
- Groundcover Monitoring for Australia (DAFF, 2023)
- “Ag Facts” Maintaining groundcover to reduce erosion and sustain production (DPI, 2005).

2.3. Conditions of Approval

The CoA and mitigation measures relevant to the Landscaping Plan are listed in Table 2-1. A cross reference is also included to indicate where the requirement is addressed in this Plan.

Table 2-1 Project conditions of approval and mitigation measures relevant to the Landscaping Plan

Reference number	Condition requirement	Document reference
Conditions of Approval		
B10	Vegetation buffer The Applicant must establish and maintain a vegetation buffer (landscape screening) as per the draft landscape plan in Appendix 5. The landscape screening must: (a) be planted prior to commencing operation; (b) minimise views of the development from the north, south and west;	Appendix A Section 7

Reference number	Condition requirement	Document reference
	(c) be comprised of species that are endemic to the area; (d) designed and maintained in accordance with RFS's Planning for Bushfire Protection 2019 (or equivalent); and (e) be properly maintained with appropriate weed management, unless the Planning Secretary agrees otherwise.	
B11	Landscaping Plan Prior to commencing the development, the Applicant must prepare a detailed Landscaping Plan for the development to the satisfaction of the Planning Secretary. This plan must include: (a) a description of measures that would be implemented to ensure that the vegetated buffer achieves the objectives of condition B10 (a) – (e) above; (b) a program to monitor and report on the effectiveness of these measures; (c) details of who would be responsible for monitoring, reviewing and implementing the plan, and timeframes for completion of actions; and Following the Planning Secretary's approval, the Applicant must implement the Landscaping Plan.	This plan Section 7
B12	Land Management (d) establishing the ground cover of the site within 3 months following completion of any construction or upgrading; (e) properly maintaining the ground cover with appropriate perennial species and weed management; (f) maintaining grazing within the development footprint, where practicable; Unless the Planning Secretary agrees otherwise.	Section 8
B17	The Applicant must minimise the dust generated by the development.	Table 6-1
B18	Visual The Applicant must: (a) minimise the off-site visual impacts of the development, including the potential for any glare or reflection; (b) ensure the visual appearance of all ancillary infrastructure (including paint colours) blends in as far as possible with the surrounding landscape; and (c) not mount any advertising signs or logos on site, except where this is required for identification or safety purposes.	Section 6.3 Table 6-1
B19	Lighting The Applicant must: (a) minimise the off-site lighting impacts of the development; and (b) ensure that any external lighting associated with the development: (i) is installed as low intensity lighting (except where required for safety or emergency purposes); (ii) does not shine above the horizontal; and (iii) complies with <i>Australian/New Zealand Standard AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting</i>, or its latest version.	Section 6.3

Reference number	Condition requirement	Document reference
Mitigation measures		
V1	A Landscape Management Plan is recommended will be developed in consultation with a landscape architect to address the 'as built' visual impacts of the proposed solar farm. The plan should include: - On-site vegetation screening generally in accordance with the plan presented in the Visual Impact Assessment, and the final constraints/layout map. This would include details of selected species aimed at 'breaking up' not blocking views of onsite infrastructure. - Vegetation screening along Butmaroo Creek would avoid Archaeological and ecological sensitive areas. Consultation with the RAPS will be undertaken to inform the location of this vegetation screening. - Vegetation screening along Butmaroo Creek will be in accordance with the Addendum ACHAR, including the following: - A surface collection of registered Aboriginal objects and unexpected finds within the planting corridor must take place prior to any works taking place - The planting of native vegetation must be performed by hand and using hand tools to minimise the potential impacts to unrecorded Aboriginal objects. - The proponent should consider engaging representatives from the local Aboriginal community to be present or assist with the vegetation planting for screening and the White Fronted Chat habitat offset associated with the proposed Blind Creek Solar Farm. - Location of planting locations, generally expected to be between the security fencing and the property boundary. - Band width, generally expected to be approximately 6m with three (3) rows of vegetation in high visual impact areas and two (2) rows in low / moderate visual impact areas. - Maintenance schedule for a period of 24 months. Maintenance should generally include the removal of weeds and replacement of dead or non-performing plants. - Measures to ensure effective screening within three years of commencing operations. The plan would be implemented nearing completion of construction and would be subject to agreement with the relevant landowner.	This Plan Appendix A Table 6-1 Section 6.2 Table 6-1 Section 7 Section 7.5.3 Section 7.7
V2	To ensure that the screen planting integrates into the existing landscape character, the bands will be planted with fast growing small trees and bushes, and low-lying vegetation to ensure a naturalistic effect whilst providing habitat and movement corridors for the native fauna.	Table 6-1 Section 7 Appendix A

Reference number	Condition requirement	Document reference
V3	Consult with landowners where landscaping has been proposed, in order to receive their feedback and adjust the mitigation measures accordingly.	Section 3, 7.7 and 7.8
V4	Plantings from the following species will be selected, as they match the Plant community type generally present at the site: • <i>Eucalyptus pauciflora</i> 12m. • <i>Eucalyptus mannifera</i> 10-20m. • <i>Eucalyptus viminalis</i> 50m. • <i>Eucalyptus stellulata</i> 15m. • <i>Casuarina cunninghamiana</i> 10-15m. • <i>Cassinia aculeata</i> 1.0-2.6m. • <i>Hakea laurina</i> 5m. • <i>Dodonea viscosa subsiata</i> 2m.	Section 7.3 Appendix A
V5	Consideration will be given to the colours, type and height of the PCUs, the battery facility, O&M facility buildings and storage shed to ensure minimal contrast and to help blend into the surrounding landscape to the extent practicable.	Table 6-1 Section 6.3
V6	Existing vegetation generally present around the site, and specifically to the eastern and southern boundary will be mostly retained and protected to maintain the existing level of screening.	Table 6-1
V7	External lighting would be installed to comply with Australian/New Zealand Standard AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version. All external operational lighting would be low intensity lighting (except where required for safety or emergency purposes) and would not shine above the horizontal.	Section 6.3
R1	General methods to reduce visual impact of buildings will centre on the colour and materials of infrastructure, to reduce the overall visual contrast and reflectivity of the Project.	Table 6-1 Section 6.3
R2	Back-Tracking software can address all of the identified potential reflection glare and/or visibility during operational, specifically, by avoiding the horizontal position of panels at the very start and end of each day. The precise limiting angle should be established during commissioning.	Section 6.3
R3	Avoid very low tilt angles either East or West.	Section 6.3

Reference number	Condition requirement	Document reference
R4	Potential glare conditions at ID7 and 8 will be addressed via vegetation screening or avoid low angle fixed tilt east (avoid tilt position less than 25 degrees east).	Section 6.3
R5	Lighting design AS 4282-1997 <i>Control of the Obtrusive Effect of Outdoor Lighting</i> will be implemented for lighting at the Project. Lights will be directed downward as much as possible and luminaires that are designed to minimise light spill will be used, e.g., full cut-off luminaires where no light is emitted above the horizontal plane, ideally keeping the main beam angle less than 70°. Less spill-light means that more of the light output can be used to illuminate the area and a lower power output can be used, with corresponding energy consumption benefits, but without reducing the illuminance of the area. Wherever possible use floodlights with asymmetric beams that permit the front glazing will be kept at or near parallel to the surface being lit.	Section 6.3
AH12	Where plantings are required for screening or as an offset habitat for the White Fronted Chat within the Development Site, the following is recommended: - A surface collection of registered Aboriginal objects and unexpected finds within the planting corridor must take place prior to any works taking place - The planting of native vegetation must be performed by hand and using hand tools to minimise the potential impacts to unrecorded Aboriginal objects. - The proponent should consider engaging representatives from the local Aboriginal community to be present or assist with the vegetation planting for screening and the White Fronted Chat habitat offset associated with the proposed Blind Creek Solar Farm. Any unexpected finds collected during the surface collection or hand digging stages of the works should be held in temporary storage by NGH until the Proponent and the local Aboriginal community come to an agreement on how they should be managed.	Section 6.2 White Fronted Chat offset area is addressed in the BMP.
S1	The solar array would be designed and installed to optimise the capacity of the solar array and maintain perennial groundcover (subject to climatic conditions). Groundcover management details (including any stocking levels etc) and rehabilitation of civil work completed during construction are to be included in the Construction Environmental Management Plan and Operational Environmental Management Plan.	Section 8

3. Consultation

3.1. During assessment

BCSF Pty Ltd undertook extensive consultation with the agencies, the local community and stakeholder groups during the development of the EIS and VIAs. Specific consultation was undertaken with households and landowners up to 6.5 km from the Project that could be impacted. The key issues raised that were a high level of concern for the households and landowners included the location and scale of the Project, visual impacts, glare, land values and impacts on Lake George. It was noted screening was also considered a medium level of concern by the households and landowners.

Further consultation in regards to visual impacts was undertaken with Queanbeyan Palerang Regional Council (QPRC) and near neighbours post exhibition of the EIS and summarised in the Submissions Report (NGH, 2022c).

3.2. Pre-construction and construction

The draft Landscaping Plan prepared as part of the VIA and used to prepare this Landscaping Plan was developed in consultation with a landscape architect to address the 'as built' visual impacts of the Project.

It is proposed to undertake consultation with receivers R12, R20, R21 and R92B to ensure the effectiveness of the landscaping. This is addressed in Section 7.8.

4. Existing environment

The Project is located within the Queanbeyan-Palerang Local Government Area (LGA), 30 km northwest of Queanbeyan and 7 km north of Bungendore, NSW, on the shores of Lake George. Accessed from Tarago Road, the site is an agricultural property with an agricultural history of cropping, sheep and cattle grazing. Nearby land uses include agriculture, residential development, two sand quarries, and Capital Wind Farm.

Lake George (known as Weereewa and Lake Ngungara to the Traditional Owners) is the most significant natural feature in the locality and is mapped as a wetland of National Significance. It is an ephemeral lake with its 20th century maximum extent being 21 km long, north to south, and 10 km wide, east to west. The lakebed is 674 metres (m) above sea level.

The majority of the Project site and much of the surrounding land has been extensively modified by a long agricultural history. Pockets of mature vegetation are visible predominantly outside the Project site on the eastern edge. A cluster of snow gum woodland (*Eucalyptus pauciflora*) is within the Project site and will be retained. Elm trees (non-native) are found in several locations within the Project site and will also be retained.

Screening planting has already been undertaken along Blind Creek (approximately 5,000 trees between 2013-2020), refer to Appendix A, and this vegetation will not be impacted by the Project.

The Project site is generally flat, bordered by undulating hills with some granite outcrops. Site elevation ranges from approximately 670 m to 720 m. Surrounding areas rise up to form elevated undulating ridges to an elevation of 870 m overlooking the Project site. Capital Wind Farm is on higher elevation, approximately 740-870 m, and overlooks the Project site.

Several dwellings are located on higher elevation overlooking the Project site to the south and southwest, and to the northeast of the Project. The closest of these, to the north, are associated residences.

A description of soils onsite is provided in the Project SWMP.

5. Visual impact assessment

5.1. Project EIS

The results of the VIA undertaken as part of the EIS concluded that there are very limited opportunities to view the Project, and the Project overall would result in minor modifications to the existing visual landscape.

Publicly accessible viewing locations are generally limited to local roads which transverse the landscape. The Project Site is set back from all roads with an exception along a small portion of Tarago Road where the entrance to the Site is located within 45 m of the road, however, roadside vegetation and direction of travel along this road would limit opportunities to view the Project. Fleeting views may be available to the Site along the existing cleared transmission line easement when travelling in a north direction along Tarago Road.

The assessment identified a total of 12 dwellings located within 2,000 m of the Project. Eight of these dwellings are involved residences and four dwellings were identified as non-involved residences (R36, R37, R38 and R40). The visual impact for these non-involved residences were found to be negligible to nil. No mitigation measures were proposed. Planting was recommended for two involved residences (R41 and R48) at the residences and therefore not have been included within this LP.

Outside of the 2,000 m buffer of the Project site is Bungendore, the most populated area 8 km south of the Project site and the locality of Bywong approximately 9 km west of the Project. Dwellings along The Forest Road in Bywong are elevated and are considered to have views of the Project. Vegetation screening was recommended along the perimeter of the Project site, Currandooley Road and Butmaroo Creek for the following sensitive receivers outside of 2,000 m of the Project site, as they have potential to have views of the Project:

- R12
- R20
- R21
- R92B.

Due to the relatively isolated location of the Project, very few existing sources of light (e.g., dwelling and vehicle lights) are present in the night-time landscape. As such, isolated receptors surrounding the Project site experience a dark night sky with minimal light. Measures were proposed and included in this Landscaping Plan to reduce any potential impacts from the Project's lighting on local receivers.

A reflective glare assessment was undertaken as part of the EIS for the Project. It found that the glare from the solar panels at normal +62 degree tracking operations would not be visible to residential receivers surrounding the Project site or traffic along Tarago Road, Quarry Access Road and Bombala Rail lines. If panels are left parked in a horizontal or near horizontal position, panel reflections from the Project site may be visible for short periods of time in the early morning or late afternoon for certain months of the year for receivers and motorists along Currandooley Road. Measures were proposed and are included in this LP, and with the implementation of these measures it is considered there would be no glare impacts. The Project is unlikely to create glare impacts for aerodromes or adjacent Bungendore Sand Mine and Paragalli Sand operation.

5.2. Post lodgement of EIS

Following lodgement of the EIS and receipt of submissions, the VIA and Glare and Glint Assessment were updated to address feedback from the public and potential reduction in pitch/spacing between panels from 5.75 m to 5.25 m.

The updated VIA assessed the viewpoints from nine dwellings to ascertain the potential visual impact. Three were rated at negligible, three had a low rating and three had a moderate to low rating. It acknowledged that visual impacts associated with the Project are likely to be higher during the construction phases and mitigated overtime with the implementation of landscaping and measures outlined in this Landscaping Plan to ultimately achieve a low or negligible visual impact level.

The updated Glare and Glint Assessment was in response to QPRC's request for the consideration of future planning of residential areas. The study concluded that the Project would have no impact in relation to reflective glare for future residential areas identified in the Bungendore Structure Plan 2048 due to the distance of these areas from the Project and the position of these areas south of the facility in relation to incoming solar angles and their reflections.

The change in minimum pitch, would not result in any additional visual or glare impacts.

A draft landscaping plan was also developed as part of the Amendment Report (NGH, 2022a) and has been used to inform this Landscaping Plan post approval of the Project.

6. Visual mitigation measures

6.1. Landscaping

A vegetation buffer will be established and maintained to minimise views of the development to the north, south and west of the Project site. The vegetation buffer is as per the proposed landscaping presented in the updated VIA (Moir, 2022) and Approved Project Layout. The vegetation buffer will be planted prior to commencing operation and comprise of species that are endemic to the area. The aim of the vegetation buffer is to break up views of the onsite infrastructure.

Appendix A details the vegetation screening to be implemented for the Project along the perimeter of the Project site, Currandooley Road and Butmaroo Creek. It is noted that plantings will also occur within the White-fronted Chat Habitat offset area north west portion of the Project Site. This planting is detailed in the Project's BMP and not further discussed in this Landscaping Plan.

Section 7 outlines the following with responsibilities and timeframes:

- The planting areas of the vegetation buffer (screening)
- Plant species and numbers
- Screening design
- Maintenance program including weed management
- Monitoring program on the effectiveness of the screening.

6.2. Protection of heritage items

Areas to be landscaped will be as per Appendix A and shall not impact Aboriginal heritage sites or buffer areas. Heritage items for protection are shown in Appendix B.

Project Heritage Management Plan is to be implemented, including the following mitigation measures for vegetation screening along Butmaroo Creek:

- Site induction for all personnel will include Aboriginal Heritage training that outlines the location of heritage sites, which sites are to be protected and their buffers, and the existence of the Unexpected Finds Procedure
- Surface salvage collection of sites approved for impact prior to construction
- Engagement of representatives from the from the local Aboriginal community to be present or assist with the vegetation planting for screening
- The planting of native vegetation must be performed by hand and using hand tools to minimise the potential impacts to unrecorded Aboriginal objects
- Inspection and monitoring of buffered heritage sites to be protected to ensure fencing and signage is well maintained
- Where any additional, unrecorded Aboriginal or non-Aboriginal objects are encountered during works within or outside the approved development footprint (Appendix A of the HMP) the Unexpected Finds Procedure will be followed.
- If human remains are discovered on site, then all work surrounding the area must cease immediately, the area must be secured, and NSW Police notified. The Unexpected Finds Procedure will be followed to notify Heritage NSW as soon as possible. Work must not recommence in the area until this is authorised by Heritage NSW and/or NSW Police.

6.3. Glare and reflection

The materials and colour of onsite infrastructure will, where practical, be non-reflective and in keeping with the materials and colouring of existing infrastructure or of a colour that will blend with the landscape to reduce any potential for glare and reflection. Where practical buildings, poles mounts/piles and security fencing will be non-reflective.

During installation and operation, solar panels will avoid very low tilt angles (less than 25 degrees) either east or west.

Vegetation screening will be implemented, monitored and maintained as outlined in this Landscaping Plan (refer to Section 7).

During commissioning of the Project, BCSF Pty Ltd are to engage an appropriately qualified consultant to utilise back-tracking software to understand the precise limiting angle of the panels to prevent any potential reflection glare and/or visibility during operation of the Project. Such as avoiding the horizontal position of panels at the very start and end of each day.

GRS will design lighting to minimise the off-site lighting impacts of the Project. GRS will ensure that any external lighting associated with the development:

- Is installed as low intensity lighting (except where required for safety or emergency purposes)
- Does not shine above the horizontal
- Luminaires that are designed to minimise light spill will be used
- Complies with Australian/New Zealand Standard AS/NZS 4282:2019- Control of Obtrusive Effects of Outdoor Lighting, or its latest version including but not limited to:
 - Eliminating upward light spill, directing light downwards and directing light away from sensitive receivers
 - Use of shielded light fixtures
 - Using asymmetric beams.

Compliance will be measured weekly during construction as part of the Weekly Environmental Inspection Checklist (refer to Section 10 of the EMS). During operation, compliance will be undertaken during regular site inspections (refer to Section 9.3). Additionally, compliance will be against the number of complaints received in relation to glare and reflection. Complaints received will be dealt with as per the Complaints Procedure in Section 8.3 of the EMS.

6.4. Management and mitigation measures

Table 6-1 summarises the management and mitigation measures to be implemented throughout different stages of the Project to minimise views of infrastructure and impacts on visual amenity.

Table 6-1 Management and mitigation measures

ID	Measure	Resources	Timing	Responsibility	Reference
LP01	Project Induction to describe the requirements of the Landscaping Plan including location of vegetation to be retained, glare mitigation and landscaping requirements for the Project.	Project Induction	Pre-construction and throughout onboarding	BCSF Pty Ltd Project Manager GRS Project Manager	Best practice
LP02	Existing vegetation present around the Project site, and specifically to the eastern and southern boundary will be retained and protected to maintain the existing level of screening.	Appendix A BMP	Construction Operation	BCSF Pty Ltd Project Manager GRS Project Manager	V6
LP03	No advertising signs or logos are to be mounted on site, except where this is required for identification or safety purposes.		Construction Operation	BCSF Pty Ltd Project Manager GRS Project Manager	CoA B18
LP04	The Project site is to be kept tidy.		Construction Operation	GRS Site Environmental Advisor	Best practice
LP05	Erosion and dust will be managed through the implementation of the Project's SWMP.	SWMP	Construction	GRS Site Environmental Advisor	Best practice
LP06	Dust will be monitored visually and via weather reports throughout construction. Where dust is visible, measures including water suppression will be implemented. Other dust mitigation measures that will be implemented include: Maximising use of sealed roads during the transport of	SWMP	Construction Operation	BCSF Pty Ltd Project Manager GRS Project Manager	CoA B17

ID	Measure	Resources	Timing	Responsibility	Reference
	construction materials / components - Material delivery will incorporate full loads and come from local suppliers, where possible - Methods to manage work during strong winds or other adverse weather conditions - Progressive rehabilitation of disturbed areas. If dust is observed to be leaving the site boundary during works, relevant works will be stopped until control measures (wetting of exposed surfaces, application of soil binder, and/or application of soil cover) are implemented. Works can recommence when controls have been implemented and dust is no longer observed to be leaving the site boundary.				
LP07	Location of planting, generally expected to be between the security fencing and the property boundary.	Appendix A	Construction	GRS Project Manager	V1
LP08	Vegetation screening along Butmaroo Creek would avoid Archaeological and ecological sensitive areas. Consultation with the RAPS will be undertaken to inform the location of this vegetation screening.	Appendix A Appendix B HMP BMP	Construction	GRS Project Manager	V1
LP09	To ensure that the screen planting integrates into the existing landscape character, the bands will be planted with fast growing small trees and bushes, and low-lying vegetation to ensure a naturalistic effect whilst providing habitat and movement corridors for the native fauna.	Appendix A	Construction	GRS Project Manager	V2

7. Landscaping

7.1. Planting strategy

The aim of the plant screening is to fragment views of infrastructure and not eliminate them. Less dense vegetation plantings, rather than formal 'hedge' plantings, are considered more appropriate to the existing environment. These will provide a more natural structure to the vegetation akin to small remnants.

In order to achieve effective screening within 3 years, this strategy relies on:

- Planting will be undertaken by an experienced landscape contractor or bush regeneration contractor in consultation with local nurseries
- Planting as soon as possible in the construction process when climatic conditions suit
- Procurement of stock must be of quality and from local nurseries where possible. Attention must be paid to procure best quality tubestock
- Maintenance schedules to be followed regularly to check for invasive pests, damage by stock, lack of watering, weeds and other best industry standard procedures
- In case of loss of tubestock, Contractor must advise and aim to procure similar species to replace lost tubestocks
- Inclusion of 'pioneer species'. The species list includes pioneer species that grow rapidly and will be replaced by slower growing longer lived species over time.
- All trees and shrubs to have suitable tree guards installed to provide support during establishment.

The plantings will be planted prior to commencing operation of the Project. Plantings will be planted in the Autumn/Winter 2025.

7.2. Planting areas

Sections of plantings will be established along the Project site boundary, Currandooley Road and Butmaroo Creek as shown in Appendix A, as per the CoA (Appendix 5 of CoA) and described in Table 7-2.

Plantings will:

- Be established in accordance with the requirements of the SWMP to minimise soil erosion potential
- Be within rip lines / rows 4 m apart
- Be planted approximately 4 m x 4 m apart for large trees / Eucalypts with the rows staggered to allow for crown dispersal and maximise visual screening (refer to Appendix A)
- Be located within the Project site
- Be located outside of and adjacent to perimeter fencing, allowing sufficient space for plants to mature.

A 10 m minimum bushfire protection setback (Asset Protection Zone (APZ)) from solar farm infrastructure will be applied to any woody vegetation plantings undertaken around the perimeter of the solar farm, as well as remnant woodland vegetation, in accordance with Planning for Bushfire Protection Guidelines (RFS, 2019).

7.3. Plant selection and plant numbers

Plantings will:

- Be native species that are a part of the existing plant community types in the area. List of suitable species are in Table 7-1 based on fast growing, with spreading habitat and mixed mature heights of 2-4 m, 3-5 m and 5-10 m
- Be derived from the naturally occurring vegetation community in this area
- Be shrubs and trees (no forbs) and will therefore be most effective screening views
- Be mixed to produce a heterogeneous mix of plantings
- Provide a successional planting strategy whereby:
 - Fast growing pioneer species are planted closest to receivers
 - Slower growing species are planted in the second and third row
 - Pioneer species are replaced by the slower growing species either as they senesce or as the slower growing species become effective in screening infrastructure
 - Long stem tube stock will be sourced from locally collected endemic seed where feasible (using a local nursery).

The following species list in Table 7-1 has been derived from the Plant Community Type (PCT) identified onsite, PCT 1100 Ribbon Gum - Snow Gum grassy forest on damp flats, eastern South Eastern Highlands Bioregion and are endemic to the area.

Table 7-1 Suitable species list

Scientific name	Common name	Mature height (m)	Mature spread (m)
Trees			
<i>Acacia baileyana</i>	Cootamundra Wattle	6-9	6-12
<i>Acacia melanoxylon</i>	Blackwood	12-15	4-6
<i>Eucalyptus gregsoniana</i>	Dwarf Snowy Gum	4-5	2-3
<i>Eucalyptus moorei</i>	Narrow-leaved Sallee	4-5	4-6
<i>Eucalyptus stellulata</i>	Black Sallee	10-15	10-15
<i>Leptospermum petersonii</i>	Lemon Scented Tea Tree	4-6	3-4
Scrubs			
<i>Acacia paradoxa</i>	Prickly Wattle	2-4	3-6

Scientific name	Common name	Mature height (m)	Mature spread (m)
<i>Bursaria spinosa</i>	Sweet Bursaria	3-4	1.5-2.5
<i>Hakea microcarpa</i>	Small-fruited Hakea	1.5-2	1.2-2

Table 7-2 provides an approximate of number of plants required for the screening, this is based on the typical planting plans for each visual screening location and length of the screens outlined in Appendix A.

Table 7-2 Planting quantities

Common name	Screening locations and approximate length				Totals
	(Eastern) Curraandooley Road (1,808 m)	Northern (1,793 m)	Western (985m)	Butmaroo Creek (7,780 m)	
Trees					
Cootamundra Wattle	183	180	99	520	982
Blackwood	183	180	99	0	462
Dwarf Snowy Gum	0	0	0	520	520
Narrow-leaved Sallee	0	0	0	520	520
Black Sallee	0	0	0	780	780
Lemon Scented Tea Tree	183	180	99	0	462
Scrubs					
Cootamundra Wattle	244	240	132	2,080	2,696
Blackwood	183	180	99	2,600	3,062
Dwarf Snowy Gum	549	540	297	0	1,386

If the above plant species are not available, the following species may be considered:

- *Eucalyptus pauciflora*
- *Eucalyptus viminalis*
- *Eucalyptus mannifera*

- *Eucalyptus gregsoniana*
- *Eucalyptus stellulata*
- *Acacia rubida*
- *Acacia melanoxylon*
- *Acacia dealbata*
- *Leptospermum grandifolium*
- *Leptospermum lanigerum*
- *Callistemon subulatus*
- *Callistemon sieberi*.

7.4. Ground preparation

In order to prepare the soil for plantings, the planting areas will undergo weed control and may be ripped as deemed necessary by the landscaping contractor.

Any weed control must have regard to the broader biodiversity objectives contained in the Biodiversity Management Plan. Weed control will include the following:

- If mechanical, manually clear an area 1 m buffer from the planting to minimise encroachment during establishment
- 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.

Ripping works will involve the following:

- Dial Before You Dig undertaken (to locate any underground services)
- Ripping will be done when the soil is dry, to reduce the risk of air pockets forming
- Rip lines will be spaced 4m apart and at least 40cm deep
- On undulating land, rip lines shall follow the contour of the land.

No ripping is to occur for the Butmaroo Creek landscaping.

The addition of soil ameliorants may also be required as determined by the awarded landscape contractors. These would be added to improve the condition of the soils and could include the addition of gypsum, organics and/ or fertilizer as needed.

If ripping is not required, the landscaping contractor will undertake the Dial Before You Dig, weed control and soil amelioration prior to planting.

7.5. Planting method

The plantings will be a heterogenous mix of identified species that are locally available at the time of planting. The number of plants required will reflect the numbers in Table 7-2, which is derived from Appendix A with the locations of plantings.

7.5.1. Establishment

- Planting will be undertaken by an experienced landscape contractor or bush regeneration contractor
- Plants will be approximately 4 m apart from each other (horizontal separation) in a staggered or matrix formation (refer to Appendix A for typical planting arrangement)
- Planting will be undertaken in Autumn/Winter 2025.
- Tube stock should be sourced as early as possible, refer to Section 7.6
- The method of planting will be guided by the landscaping contractor/ bush regeneration contractor and nursery. However, typical methods to consider include:
 - Addition of gypsum may assist to alleviate dispersion risk and break up hard setting surface soils
 - Increasing organic content with composted organics may improve fertility, assist nutrient retention and improve moisture holding capacity of this type of soil
 - Regular, small amounts of fertiliser additions can be beneficial over single large quantities
 - Using mulch to protect surfaces assists to reduce raindrop induced crusted or hard setting surface
 - Relieve any compaction present and ensure adequate fertility for quick establishment
- Weed control will be undertaken in each of the screening sites:
 - If mechanical, manually clear an area 1 m buffer from the planting to minimise encroachment during establishment
 - 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. Any weed control must have regard to the broader biodiversity objectives contained in the Biodiversity Management Plan.
- Monitoring of weed infestations will occur as part of the routine environmental inspections to determine effectiveness of management controls. The presence of any weeds and the necessary management actions will be noted on the Environmental Inspection Checklist (Provided in the EMS)
- Pesticide application, if required, will only be administered by authorised personnel with Australian Qualifications Framework (AQF) 3 in accordance with chemical handling
- Pesticides will only be applied in accordance with label instructions for that product
- A Pesticide Application Record 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
- Tree guards will be used to protect plants (creating a microclimate to reduce water loss and making follow up maintenance easier).

7.5.2. Planting timing and need for irrigation

Planting is to occur in Autumn/Winter 2025.

While planting in Autumn is generally the best time, if sufficient rainfall has not occurred irrigation will be installed, or weekly hand watering is to be undertaken to achieve the consent condition of 'effective screening in 3 years'.

Irrigation may improve the success of the plantings, reducing replacement of mortalities. Where irrigation is used, temporary polypipe, moveable water tanks and moveable pumps will be used to irrigate the plantings

during establishment. This will allow more frequent lower intensity watering. No additional water sources or quantities are required.

7.5.3. Planting maintenance

- Weed control will be undertaken around plantings as required to ensure they are not outcompeted by surrounding vegetation
- Only herbicides and pesticides registered for use near water may be used near any waterways
- Replace tree guards as required and remove once plants have outgrown them
- Replace dead plants to achieve an overall 90% success rate for the life of the Project.

7.6. Works schedule

The schedule of work below guides the timing and outcomes of landscaping work, refer to Table 7-3. This table will be modified based on alterations to Project phases and climatic conditions.

Table 7-3 Schedule of works

Project Phase	Landscaping Work	Indicative timing / Preferred Season	Performance Target	Measure and Monitor	Variation
Early construction	Source / order tube stock	Summer 2024/2025	Sufficient numbers ordered	Consultation with nurseries and landscape contractors	Source from multiple nurseries if required
Early construction	Control exotic pasture – herbicide application (apply 10 days after any rain)	Late summer 2025 (approximately 1 month prior to planting)	Exotic pasture controlled (died-back)	Grass cover dying	Undertake another round of herbicide applications if required
Early construction	Slash (as required) Ripping (except for Butmaroo Creek)	Autumn 2025	Biomass slashed 4 m apart greater than 400 mm	Biomass slashed by autumn Grass cover dead by autumn	Undertake further slashing and ripping if required and applicable
Early construction	Planting Hand planting along Butmaroo Creek (refer to Section 6.2)	Autumn 2025	Sufficient numbers planted (refer to Table 7-2)	Climatic conditions, rainfall, area covered, watering, ensure the plant location and spacing are aligned with the planting schedule above is as per this Landscaping Plan.	Install irrigation or hand water if rainfall is not sufficient

Landscaping Plan

Blind Creek Solar Farm



Project Phase	Landscaping Work	Indicative timing / Preferred Season	Performance Target	Measure and Monitor	Variation
Construction	Maintain plantings (watering, follow up weed control)	Weekly for first 12 months, then reduced as required. Refer to Section 7.7 for specific requirements.	Plants alive	Mortality, weeds, rainfall and watering and soil moisture	Reduce watering if heavy substantial rainfall or irrigated
Construction and life of Project	Replace dead plants	As required (note as substantial lead time is required, order surplus quantities)	90% success	Mortality and soil moisture	

7.7. Planting monitoring program

Table 7-4 Planting monitoring program

Monitor	Establishment (first 12 months after planting)			Two years post planting			Three years' post construction			Six years post construction to decommissioning		
	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility
Watering	Weekly	Regular hand weekly watering where <30 mm of rain has occurred in that month, unless irrigated or as advised by landscape contractor	GRS personnel or the landscaping contractor	Monthly	Water when rainfall less than 10 mm/ month or as advised by landscape contractor	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Monthly	Water when rainfall less than 10 mm/ month or as advised by landscape contractor	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Monthly	Water when rainfall less than 10 mm/ month	BCSF Pty Ltd (appointed landscape / maintenance contractor)
	Weekly	For sections with temporary irrigation, check all drippers operational and water once per week	GRS personnel or the landscaping contractor	Monthly	For sections with temporary irrigation, check all drippers operational and water once per month	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Monthly	For sections with temporary irrigation, check all drippers operational and water once per month	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Remove drippers once established.		
Weeds	Monthly	Spot spray or manually remove weeds within 1 m of planting	GRS personnel– landscape / maintenance contractor	Monthly	Spot spray or manually remove weeds within 1 m of planting	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Quarterly	Spot spray or manually remove weeds within 1 m of planting	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Every six months	Spot spray or manually remove weeds within 1 m of planting	BCSF Pty Ltd
Mortality	Quarterly	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	GRS personnel – landscape / maintenance contractor	Quarterly	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Annually	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Annually	Replacement planting to occur in areas where plantings have died (not to occur during summer) to achieve a 90% success rate.	BCSF Pty Ltd
Visual screening	Monthly	Visual inspection from residence and consult with Receivers 12, 20, 21, and 92B.	GRS SEA/ Project Manager	Quarterly	Visual inspection from residence and consult with Receivers 12, 20, 21, and 92B.	BCSF Pty Ltd SEA/ Project Manager/ Contractors	Annually	Visual inspection from residence and consult with Receivers 12, 20, 21, and 92B.	BCSF Pty Ltd	Annually	Visual inspection from residence and consult with Receivers 12, 20, 21, and 92B.	BCSF Pty Ltd

Monitor	Establishment (first 12 months after planting)			Two years post planting			Three years' post construction			Six years post construction to decommissioning		
	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility	Timing	Action	Responsibility
Reporting	Monthly	Report on success of watering, weeding, mortalities, replacement plantings and visual screening (as implemented above). Corrective actions as required	GRS – landscape / maintenance contractor	Quarterly	Report on success of watering, weeding, mortalities, supplementary, plantings and visual screening (as implemented above). Corrective actions as required	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Annually	Report on success of watering, weeding, mortalities, supplementary, plantings and visual screening (as implemented above). Corrective actions as required	BCSF Pty Ltd (appointed landscape / maintenance contractor)	Annually	Report on success of watering, weeding, mortalities, supplementary, plantings and visual screening (as implemented above). Corrective actions as required	BCSF Pty Ltd

7.8. Effectiveness of screening

Effectiveness of the screening will be assessed using the results of the monitoring program as outlined in Section 7.7 with reference to compliance with the Landscaping Plan targets outlined in Section 1.3.3 and ongoing consultation with receivers 12, 20, 21, and 92B. BCSF Pty Ltd will undertake internal review of vegetation screening condition throughout the duration of the Project.

Consultation and results of the monitoring and visual inspections will be recorded. If it is found that the screening is not compliant, DPHI will be notified within 7 days with corrective actions as per Schedule 2 CoA C11- C13.

8. Groundcover Management

The aim of groundcover management is to stabilise disturbed areas within the Development footprint and return them to a condition that is comparable to their pre-disturbance state. The Development footprint is dominated by the PCT 1110 - *River Tussock - Tall Sedge - Kangaroo Grass moist grasslands of the South Eastern Highlands Bioregion*, which is exotic dominant. There are also two patches of Category 1 (exempt land), refer to Figure 8-1.

Groundcover management within the Development footprint will focus on the following key areas:

- Soil health restoration
- Groundcover retention and establishment, including species selection
- Controlling introduced weeds
- Monitoring the success of the groundcover management.

Four (4) procedures have been developed to manage and maintain soil land capability during construction of the Project, including:

- A Groundcover Establishment Procedure
- Weed Control Procedure
- Pasture and Groundcover Rehabilitation Procedure
- Grazing Procedure.

Further management of soils including erosion and sediment controls for construction are addressed in the Project SWMP.

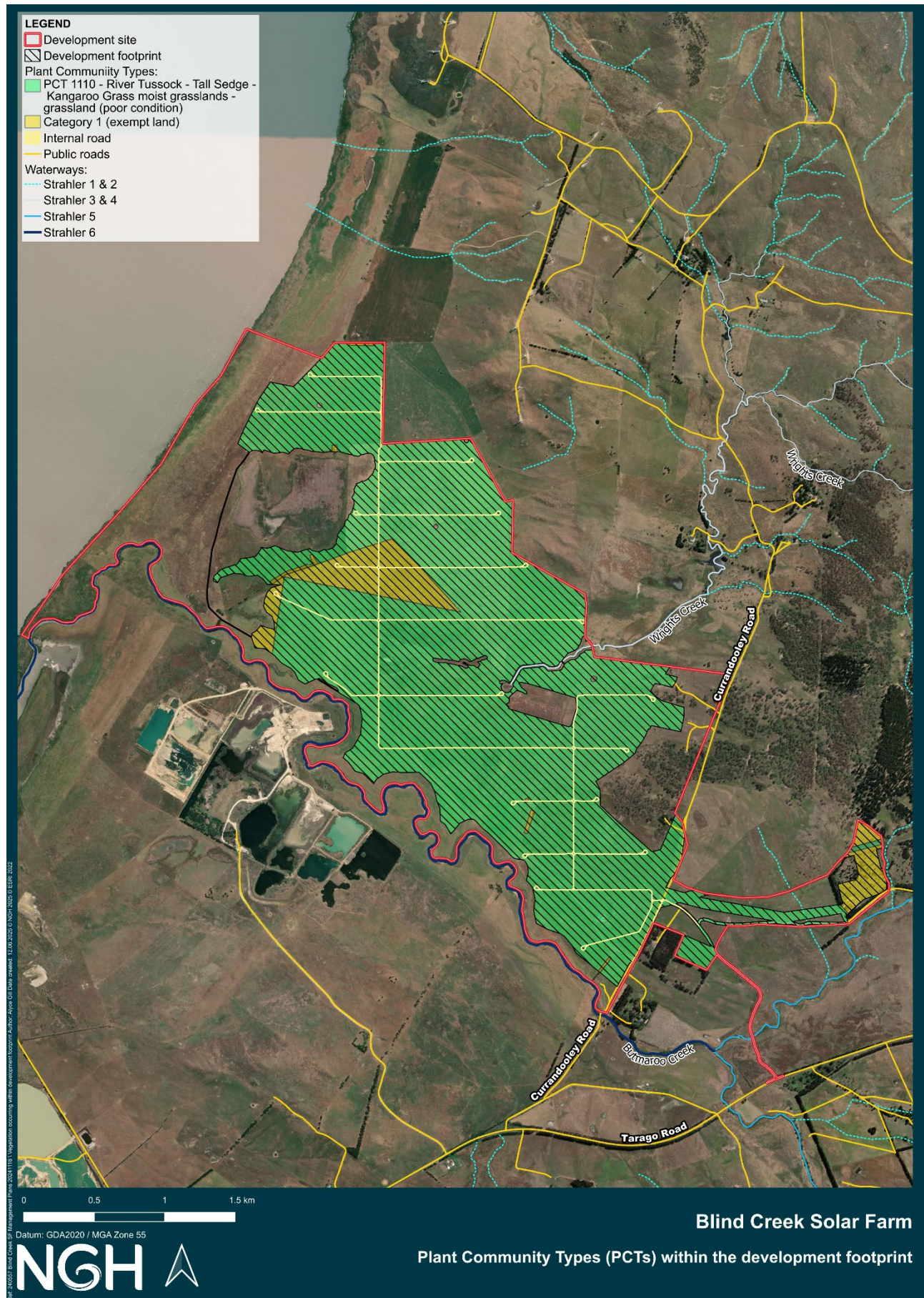


Figure 8-1 Groundcover vegetation occurring within the Development footprint

8.1. Groundcover Establishment Procedure

This procedure applies to planning elements to be carried out at pre-construction phase and mitigation measures to be implemented during construction.

Establish thick and continuous groundcover	
Objectives	Minimise disturbance to groundcover
	Return groundcover within 3 months following disturbance

The following table (Table 8-1) outlines mitigation measures to preserve soil condition and to minimise disturbance to groundcover.

Table 8-1 Ground disturbance mitigation measures

ID	Activity	Mitigation measures	Responsibility
1	Training and awareness, Management Plans	- Prior to mobilisation/ site works (pre-construction), a Traffic Management Plan (TMP) will be prepared that identifies access routes and parking areas for all vehicles. No vehicular access off the designated tracks or parking areas shall be permitted. - Prior to mobilisation/ site works (pre-construction), a Site Induction is to be prepared that covers: the importance of maintaining groundcover (ensure ongoing perennial groundcover across site); minimising disturbance (reducing erosion potential); and Environmental (No Go) Exclusion Zones.	GRS Site Environmental Advisor GRS Project Manager
2	Baseline records	- Prior to construction commencement, a map will be prepared that identifies groundcover percent foliage cover (PFC) by category: 70% PFC < 70% PFC - Techniques for monitoring PFC will follow those detailed in Section 8.5 “monthly survey”. - Where PFC is recorded <70% before site works have commenced, this will be used to inform soil amelioration requirements (see next step below ‘Site Preparation’). - Where PCF is >70%, these areas should be managed appropriately to ensure minimal damage (i.e. >70% PFC); refer Section 8.3 below (removal of whole sods).	GRS Site Environmental Advisor GRS Project Manager
3	Site preparation	Prior to construction, soil sampling shall be carried out to inform soil amelioration practices that will improve the pH and soil nutrient status. A qualified person (agronomist/ environmental scientist) will be consulted to establish the sampling regime and appropriate perennial groundcover species for the site.	GRS Site Environmental Advisor GRS Project

ID	Activity	Mitigation measures	Responsibility
		- Soil amelioration to be undertaken informed by step above. This step may also include ripping and grading as directed by the recommendations of the soil sampling results. This step will support the establishment of perennial pasture species to assure long term pasture success. - Source a mix of exotic species in consultation with the landholder. - Sow seed mix (i.e. hydroseed) in mapped areas of <70% PCF as soon as reasonably practicable within the PV array paddocks, refer to Figure 8-1. - This will occur in a two-stage approach, the first round of hydroseeding occurring prior to construction commencement when access to all required areas is unimpeded by construction activities. - During construction, the re-seeded areas will be monitored as per Section 8.5 “monthly survey” with mitigation measures where PFC drops below 70% PCF as per Section 8.3 below “post-construction” implemented. - The second round of hydroseeding shall be conducted following mechanical completion.	Manager
4	Establishing groundcover: under PV array	- Thick and continuous pasture cover to be established as soon as is practicable in the PV array paddocks. At least 70% pasture cover must be maintained at all times during construction, including during winter and dry periods. - Where this is not achieved, refer to Section 8.3 below for corrective actions.	GRS Site Environmental Advisor GRS Project Manager
5	Maintaining groundcover: other areas within the Project Site	- All Project vehicles (heavy and light), equipment and machinery will only traverse defined access tracks and be parked in disturbed areas. - Temporary equipment laydown areas and stockpiles required during construction, will be confined to crop/exotic pasture areas. - Areas will be progressively rehabilitated during construction in accordance with Section 8.3 below - Works will be avoided during and immediately following heavy rainfall events (>20 mm in 24 hr period and/or where there is pooling of water or flooding evident), to protect soils and vegetation at the site.	GRS Site Environmental Advisor GRS Project Manager

8.2. Weed control procedure

The Procedure below details weed control mitigation measures that will be followed during the construction of Blind Creek Solar Farm within the Development footprint. This procedure relates to the Biosecurity Plan (Appendix J) of the Project’s Biodiversity Management Plan (BMP).

Objectives	Eradicate existing priority weeds
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Minimise the potential for new priority weed infestations

Table 8-2 Weed control mitigation measures

ID	Activity	Mitigation measures	Responsibility
6	Establish baseline data, maintain records	Prior to construction commencement, a map will be prepared identifying the locations and extent of weed infestations onsite to be used as baseline for ongoing monitoring (refer to Biosecurity Plan Appendix J of the BMP).	GRS Site Environmental Advisor
7	Treat existing infestations	- Treat and manage existing weed infestations in accordance with the Biosecurity Plan (Appendix J of the BMP). - Herbicides will be selected to minimise impacts on non-target species. A qualified person (Agronomist or Weed Contractor) will be consulted to determine suitable herbicides based on the weeds present at the site prior to treatment. - Laydown sites for excavated spoil, equipment and construction materials are to be weed-free. Where this is not achievable, they will be treated for weeds prior to use (to minimise dispersal of weeds).	GRS Site Environmental Advisor
8	Maintain records	Methods used for weed control and the timing of weed control activities will be documented in accordance with the Project's Biosecurity Plan (Appendix J of the BMP) and as required under the Pesticides Amendment Regulation 2001 (application records).	GRS Site Environmental Advisor
9	Minimise new infestations	- Imported fill will be weed free (confirmed by the supplier). - Vehicle and machinery movements and temporary storage of equipment/materials will be confined to disturbance areas and defined tracks in accordance with the TMP. - Vehicles and machinery will be cleaned (tyres brushed or washed down) on entry and exit in areas of the Project site where priority weeds have been identified. - Following completion of works, areas will be progressively rehabilitated in accordance with Section 8.3 below.	GRS Site Supervisor GRS Site Environmental Advisor
10	Ongoing weed monitoring and control	- Follow up weed mapping and monitoring will be carried across the entire site after the completion of construction works in accordance with the Project's Biosecurity Plan (Appendix J of the BMP). - Regular monitoring of groundcover will be undertaken during late spring/early summer and remedial action taken as required,	GRS Site Environmental Advisor BCSF Pty Ltd Project Manager

ID	Activity	Mitigation measures	Responsibility
		as per Section 8.5 below.	

8.3. Pasture establishment and rehabilitation procedure

The following Procedure will be implemented during construction to maximise the success of pasture establishment and to rehabilitate areas that have been temporarily disturbed (i.e. laydown area and temporary access routes). The objectives of this Procedure are to establish pasture cover following disturbance, to ensure the ground surface is resistant to erosion and weed ingress.

Establish pasture cover to protect soil structure and reduce erosion potential

Objectives

Progressively rehabilitate areas disturbed by construction

Table 8-3 Pasture establishment and rehabilitation measures

ID	Activity	Protocol	Responsibility
11	During construction works	- In areas required to be grubbed, whole sods of pasture will be removed with an excavator. Sods will be stored in moist shaded conditions (e.g. damp geofabric, monitored each day and re-sprayed with water to maintain moisture). Such sods shall be reused in rehabilitation and watered in, to maximises the chance of reestablishment. This step is recommended as far as reasonably practicable as the sods represent a cost effective and rapid way to achieve the required minimum 70% PCF. If this sod retention and replacement option is not pursued during the construction of the Project, steps specified below will be required in order to achieve the required soil protection (>70% PFC). - Any valuable topsoil identified will be removed and stockpiled separately for later use in rehabilitation. Stockpiled topsoil will be visually inspected for weed germination and treated where required. Trenches will be backfilled to restore soil structure and composition, such that topsoil will be respread above subsoil. - Disturbed areas shall be progressively rehabilitated throughout the construction phase, to achieve the establishment of groundcover within three months of the cessation of works at the relevant area. Refer to Section 8.5 “monthly inspections” for monitoring requirements. - The below success criteria shall be used for rehabilitated areas: - Percentage of grass cover – 70% is the minimum required for rehabilitated areas (i.e. excluding internal access tracks/ roads and ancillary facilities). - No exposed bare ground for rehabilitated areas (susceptible to	GRS Site Environmental Advisor

ID	Activity	Protocol	Responsibility
		erosion and weed infestation). ○ No visibly active soil erosion for rehabilitated areas. ○ Where these criteria are not met, the steps detailed below shall be carried out.	
12	Post Construction	• Following the completion of construction, tracks not required for normal farming practice or PV array maintenance will be rehabilitated. • In areas with limited topsoil, hydromulch or imported weed free topsoil will be used. Within PV array area, where determined to be required (i.e. if infilling sowing is required to achieve the required 70% PFC), sow a mix of summer and winter tolerant species for reseeding. Pasture shall be sown with a suitable species in consultation with the landowner. If germination has not occurred within three weeks of seeding, follow-up works will be considered as triggered below. • In rehabilitation areas that are actively grazed, stock will be restricted until a stable surface (70% grass cover) is achieved. • The soil surface may be scarified and then reseeded. • Rotate livestock to ensure grazing pressure is reduced in the first 12 months of pasture establishment. • Allow pasture species to seed (to build a seed bed) then reintroduce grazing (or slash). In the event of unseasonal climactic conditions (i.e. periods of drought) remove/ significantly restrict livestock grazing to paddocks. • In the event of unseasonal climactic conditions (i.e. periods of drought), consultation with DPHI may be required to reach a practical target to improve groundcover. An effective target of 30% ground cover during the summer and autumn months, with at least 50% cover by August or September (to avoid majority of pre-rainfall winds and therefore wind erosion) is recommended. • The following may be applied to maintain and restore cover during drought periods, in lieu of live grass (as advised by agronomist and agreed DPHI): ○ Soil binder (e.g. stone-wall). ○ Straw fibre hydro mulch. ○ Compost blanket.	GRS Site Environmental Advisor BCSF Pty Ltd Project Manager

8.4. Grazing management

Grazing by sheep within the Development footprint is recommended to control biomass (to control pasture growth). The grazing strategy to be implemented will depend on the condition and composition of the pasture at the time (prior to commencement of operations and the state of the Project site at that time) and shall be informed by a professional agronomist.

Maintain active grazing within the Project site

Objectives

Maintain groundcover (pasture)

Reduce the occurrence of noxious, priority and other weeds

Table 8-4 Grazing management mitigation measures

ID	Activity	Protocol	Responsibility
13	Determine and implement suitable grazing, slashing or spraying strategies.	- Prior to operation, consult with an agronomist and the landowner to determine the most suitable Grazing Strategy for the Development footprint. - If stock are brought into the area, they will come off pastures free of any priority weeds or from areas subject to regular weed control. Preferably held in a “quarantine” paddock for 3 days before releasing into the main array area. This will allow for the passage of any consumed weed seeds to be deposited in this area and any emerging weeds managed within the quarantine yard.	BCSF Pty Ltd Project Manager
14	Adapt grazing strategies to changing grassland condition and composition	- Regular consultation with an agronomist shall be undertaken. This will be done at least bi-annually to discuss the suitability of existing grazing regimes and adapt, if recommended. - Document any updates/ alterations to the strategy in accordance with document review process (Section 12 of the EMS). - Implement changes proposed by the agronomist to improve the on-ground results of the strategy. - Remove stock if the following conditions occur: - Pasture is grazed at or below 5 cm in height. - Groundcover is 70% or less. - Signs of erosion (exclude stock from these areas and rehabilitate). - Stock will not be returned until pasture has recovered and groundcover percentage has been restored above 70%.	BCSF Pty Ltd Project Manager
15	First 12 Month grazing strategy	- Allow for pasture establishment. - Introduce grazing, as identified by the Grazing Strategy (once developed). - Allow for pasture species to go to seed. - Following pasture seed set, agronomist to review Grazing Strategy and pasture establishment and advise if any changes are required. - Monitor pasture establishment as per Section 8.5	BCSF Pty Ltd Project Manager

ID	Activity	Protocol	Responsibility
		requirements monthly, implemented corrective actions as per Section 8.5 as required, in consultation with Agronomist.	

8.5. Groundcover monitoring

8.5.1. Percent Foliage Cover at all times

Groundcover monitoring will be initiated during pre-construction activities to establish areas that have >70% PFC and those which have <70% PCF, refer back to Table 8-1, ID 2 for more details. Groundcover monitoring will continue throughout construction to achieve this requirement, and the monitoring requirements for the Project are details below.

8.5.2. Post-construction ground cover establishment

Establishing the groundcover of the site within 3 months following completion of construction or upgrading is also required, and monitoring for this target will commence in the later stages of construction, after the PV panels have been installed and pasture seeds have been sown (as required by Section 8.1 above). Post-construction monitoring will commence in the first winter following mechanical completion and occur monthly for the first 12 months and can be conducted by the GRS Site Environmental Advisor, who will be competent in the identification of common pasture species.

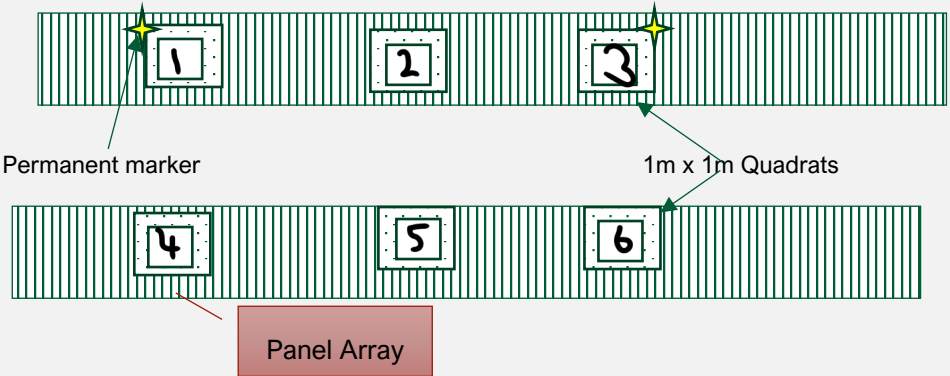
Following the initial 12 months of monthly monitoring, monitoring shall continue twice a year (June and December). This timing is considered most suitable as pasture growth is generally lower, but remnant reproductive material (flowers, seeds) may still be present which will enable identification of species. Assessing the groundcover during this time provides for a better indication of the health of the groundcover as growth rates are down and climatic stresses (including shading from solar arrays) are generally higher.

Monitoring shall continue twice a year for the operational life of the Project and reported on annually, initially for five (5) years. Following the completion of the 5 year monitoring period, an assessment as to frequency and duration of further monitoring will be made, as determined in consultation with an agronomist (i.e. success of pasture establishment will determine the requirement for further monitoring and frequency).

Objectives	To minimise impacts on disturbed areas
	Successfully revegetate with appropriate pasture species

Table 8-5 Groundcover monitoring management measures

Action	Description
Monthly Survey of areas hydro-seeded (i.e. those	- Monitoring will occur on the same day each month and at a similar time of day. - A portable 30 cm x 30 cm square transect will be used for rapid assessment of

Action	Description
areas that where mapped as <70% PFC in baseline survey)	groundcover. - Photographic evidence of each transect will be taken at each site and saved in an accessible folder. - A representative photo will be used and inserted to the monitoring sheet. - A data recording sheet has been included in Appendix C. - This can be performed by the Site Environmental Advisor.
Annual Survey	- Permanent 5 m x 1 m monitoring plots will be established throughout the PV array area post construction. At each monitoring location there will be two plots within each placed in the following areas: - In permanent shade, directly beneath panels. - Between panels that will receive the most sun. - Each plot will consist of a series of three 1 m x1 m quadrates each spaced one metre apart. The top left-hand corner and the top right hand corner of the plot under the arrays will be permanently marked with a steel stake or similar. These will serve as reference points for placing quadrats. From these points, tape measures could be used to place each quadrate. It is not recommended that the plot in the int-row spaces be permanently marked as it is likely to be subject to occasional vehicular traffic. The distance from the plot under the array to that in the inter row space will be depended on the final construction layout and will be recorded during the monitoring. The arrangement at each monitoring location is illustrated below.  - It is suggested that monitoring plots be established at a minimum 10 locations across the array area. For each quadrat at a monitoring location the following will be recorded: - Total alive and dead leaf litter vegetative cover using percentage covering 5% intervals. - Total cover of bare ground using percentage cover estimates in 5% intervals. - Dominant five species in each quadrant (or less if fewer species are present) and their percentage contribution to the living plant covering each quadrat. - Total biomass using the rising plate method. Measurements will be taken at the centre of each quadrat. - A digital photographic image. - Data recorded from each of the quadrats will be averaged to provide a single value for each plot. Only one physical quadrat should be required which can be moved to the correct location in each plot using the refence points and a tape measure. The

Action	Description
	actual distance from the reference points back to the inter-row plot will also be recorded on the data sheets to allow for accurate replication. ○ In addition to the plot data recorded above, incidental records of any priority weeds will also be recorded across the broader site. • Refer to Estimating Groundcover (DPI, 2005) for visualising groundcover percentages.
Analysis and interpretation of data	• The data can be simply analysed by plotting the variable recorded over time to identify trends in declining or increasing cover and biomass. The relative abundance of certain species could also be plotted over time to gain an understanding of species that are successful or declining. The data will be used to inform the requirement for management actions such as weed control, alterations to grazing regimes or seeding/planting as outlined in response to monitoring protocol.
Success criteria	• Percentage of grass cover – 70% is the minimum required for rehabilitated areas (i.e. excluding internal access tracks/ roads and ancillary facilities). • No exposed bare ground for rehabilitated areas (susceptible to erosion and weed infestation). • No visibly active soil erosion for rehabilitated areas. • A data sheet including these indicators is provided in Appendix C.
Corrective actions	• Where success criteria are not met, steps detailed within Section 8.3 “Post Construction” shall be implemented.
Reporting requirements	• Monthly – recording sheet • Annual report.
Response to results	• Management protocols will be adapted and implemented as required: ○ Weed control activities will be undertaken as per the Project’s Biosecurity Plan (Appendix J of the BMP). ○ An agronomist will be consulted to determine if an effective approach to maintaining groundcover greater than 70% if this target is not being met. ○ Trials may be considered where information gaps are identified.

9. Compliance Management

9.1. Roles and responsibilities

Section 4.8 of the EMS describes the roles and responsibilities of BCSF Pty Ltd and GRS's Project team in relation to environmental management. Specific responsibilities for the implementation of this Landscaping Plan are detailed in Section 6 and 7 of this plan.

9.2. Training

All employees, contractors and utility staff working on site will undergo site induction training that includes landscaping requirements. The induction training will address elements related to landscaping management including:

- Existence and requirements of this sub-plan
- Relevant legislation
- Planting requirements
- Monitoring and maintenance requirements
- Complaints reporting.

Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in rehabilitation and groundcover management. Examples of training topics include:

- Information on key pasture species within the Project site
- Information on any key weeds occurring within the Project site and surrounds, as well as appropriate weed management measures.

Further details regarding staff induction and training are outlined in Section 8 of the EMS.

9.3. Monitoring and inspection

Requirements and responsibilities in relation to monitoring and inspections during construction are documented in Section 11 of the EMS. Monitoring requirements for perimeter plantings are detailed in Section 7.7 and for groundcover management are detailed in Section 8.5 of this document.

Operational monitoring requirements relevant to visual amenity will be identified during the pre-operations phase of the Project. The EMS and associated Management Plans shall be reviewed and updated to reflect operational requirements requiring to be minimised or maintained, including glint and glare impacts, visual appearance of ancillary areas (retained service buildings) and to ensure that logos and advertising labels are not present (except for safety signage). Such items would be reflected in operational phase routine inspections undertaken for the operation life of the Project.

9.4. Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, infrastructure approval and other relevant approvals, licences, and guidelines. Audit requirements are detailed in Section 11.3 of the EMS.

9.5. Reporting

Reporting requirements and responsibilities are documented in Section 11.4 of the EMS. Specific to this plan, monitoring requirements for perimeter plantings are detailed in Section 7.7 and for groundcover management are detailed in Section 8.5 of this document. In summary, they will include the following for perimeter plantings:

- Establishment (first 12 months after planting) – Monthly; Report on success of watering, weeding, mortalities, supplementary. Corrective actions as required.
- Two years post planting – Quarterly; Report on success of watering, weeding, mortalities, supplementary. Corrective actions as required
- Three years post construction – Annually; Report on success of watering, weeding, mortalities, supplementary. Corrective actions as required.
- Six years post construction to decommissioning - Annually; Report on success of watering, weeding, mortalities, supplementary. Corrective actions as required.

While groundcover management includes:

- Monthly during construction and first 12 months post construction
- Annually for 5 years.

Details on incident reporting is included in Section 11.4 of the EMS and expanded below in Section 9.5.1. GRS will promptly advise BCSF Pty Ltd on events that are non-conforming with the CoAs and mitigation measures. BCSF Pty Ltd will advise DPHI accordingly for any notifiable non-conformances as per below (Section 9.5.2).

9.5.1. Incident reporting

The GRS will immediately notify BCSF Pty Ltd of an incident which arises through the Development Consent. In accordance with Condition C10 of the Development Consent, the Planning Secretary must be notified in writing via the Major Projects website immediately of BCSF Pty Ltd becoming aware of an incident.

Written notification of an incident must:

- Identify the development including development name and application number
- Provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident).

As per Appendix 6 of the Development Consent, within 7 days of making the immediate incident notification, the Applicant must provide the Planning Secretary via the Major Projects website with an updated incident notification that:

- Identify the development and application number

- Provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident)
- Identifies how the incident was detected
- Identifies when the Applicant became aware of the incident
- Identifies any actual or potential non-compliance with conditions of consent
- Identifies further action(s) that will be taken in relation to the incident
- Identifies a Project contact for further communication regarding the incident.

Even if BCSF Pty Ltd fails to give immediate notification the above notification is required to be completed.

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

The incident report must include:

- A summary of the incident
- Outcomes of an incident investigation, including identification of the cause of the incident
- Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence, including the period for implementing any corrective and/or preventative actions; and
- Details of any communication with other stakeholders regarding the incident.

All written requirements of the Planning Secretary or relevant public authority, which may be given at any point in time, to address the cause or impact of an incident must be complied with, within any timeframe specified by the Planning Secretary or relevant public authority.

9.5.2. Non-compliance reporting

BCSF Pty Ltd will notify the Department within seven days of becoming aware of a non-compliance. The notification will be in writing and submitted via the NSW planning portal (Major Projects). In accordance with Condition C12 of the Development Consent, the notification will:

- Identify the development (including the development application number and name)
- Set out the condition of this consent that the development is non-compliant with
- Provide justification for why the development is non-compliant
- Provide the reasons for the non-compliance (if known)
- Describe what actions have been undertaken, or will be undertaken, and when, to address the non-compliance.

In accordance with Condition C13 of Schedule 2, a non-compliance that has been notified as an incident does not need to also be notified as a non-compliance

9.6. Document control and access to information

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 13.2 of the EMS. This also includes providing

the EMS and Management Plans to DPHI and that these are made publicly available as per Schedule 2 Condition 20 of the Development Consent. Details regarding this are specified in Section 13.3 of the EMS.

10. Review and Improvement

10.1. Landscaping Plan revisions

A document review process ensures that environmental documentation including this Landscape Plan is updated as appropriate for the specific works that are occurring on-site. Reviews of the Landscape Plan are expected to be triggered as relevant, by:

- Independent Environmental Audit
- Internal audits
- Additional environmental aspects and risks
- Environmental near misses and incidents
- Project stage change between construction, operation, and decommissioning.

Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the BCSF Pty Ltd Project Manager or delegate to prepare the revised documents.

In accordance with Condition C2 of Schedule 2 of the Development Consent, this Landscaping Plan will be reviewed and revised (if necessary) within one (1) month (unless otherwise agreed with the Planning Secretary) of:

- The submission of an incident report under Condition C10 of Schedule 2
- The submission of an audit report under Condition C14 of Schedule 2
- Any modification to the conditions of this consent.

The BCSF Pty Ltd Project Manager or delegate must review, and if necessary, revise the strategies, plans, and programs required under the Development Consent to the satisfaction of the Planning Secretary.

Where this review leads to revisions in any such document, then within four weeks of the review, the revised document will be submitted to the Planning Secretary for review and approval, unless otherwise agreed with the Planning Secretary.

In accordance with Condition C4 of Schedule 2 and agreement of the Planning Secretary, revised strategies, plan or programs may be prepared without undertaking consultation with all parties nominated under the applicable condition in this approval.

Only the BCSF Pty Ltd Project Manager, or delegate, has the authority to change any of the environmental management documentation.

In addition, the processes described in Section 12 of the EMS may result in the need to update or revise this Plan. This will occur as needed.

10.2. Continuous improvement

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets.

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.

11. References

NGH. (2022a). Amendment Report – Blind Creek Solar Farm. NGH Pty Ltd.

NGH. (2022b). Environmental Impact Statement - Blind Creek Solar Farm. NGH Pty Ltd.

NGH. (2022c). Response to Submissions - Blind Creek Solar Farm. NGH Pty Ltd.

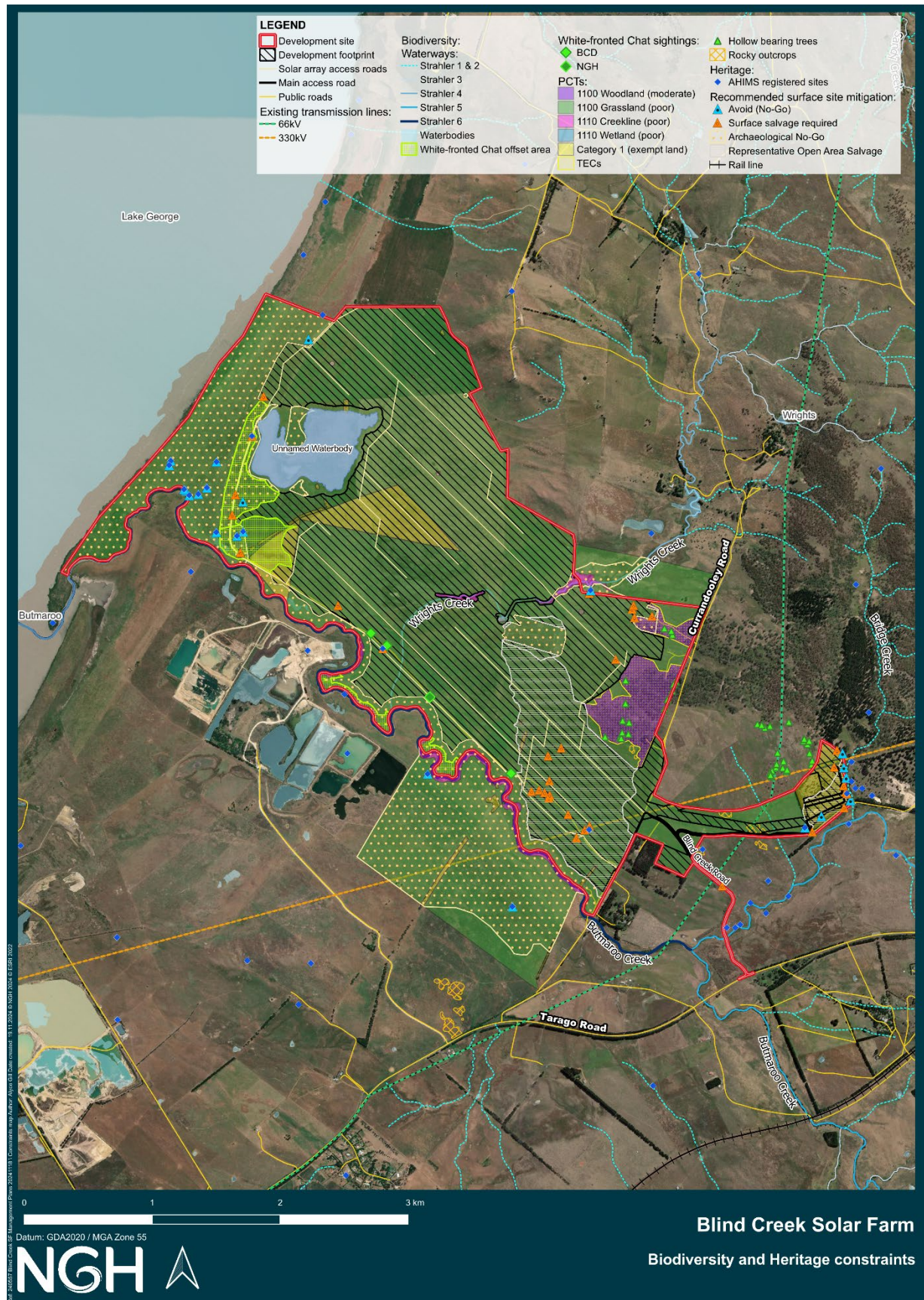
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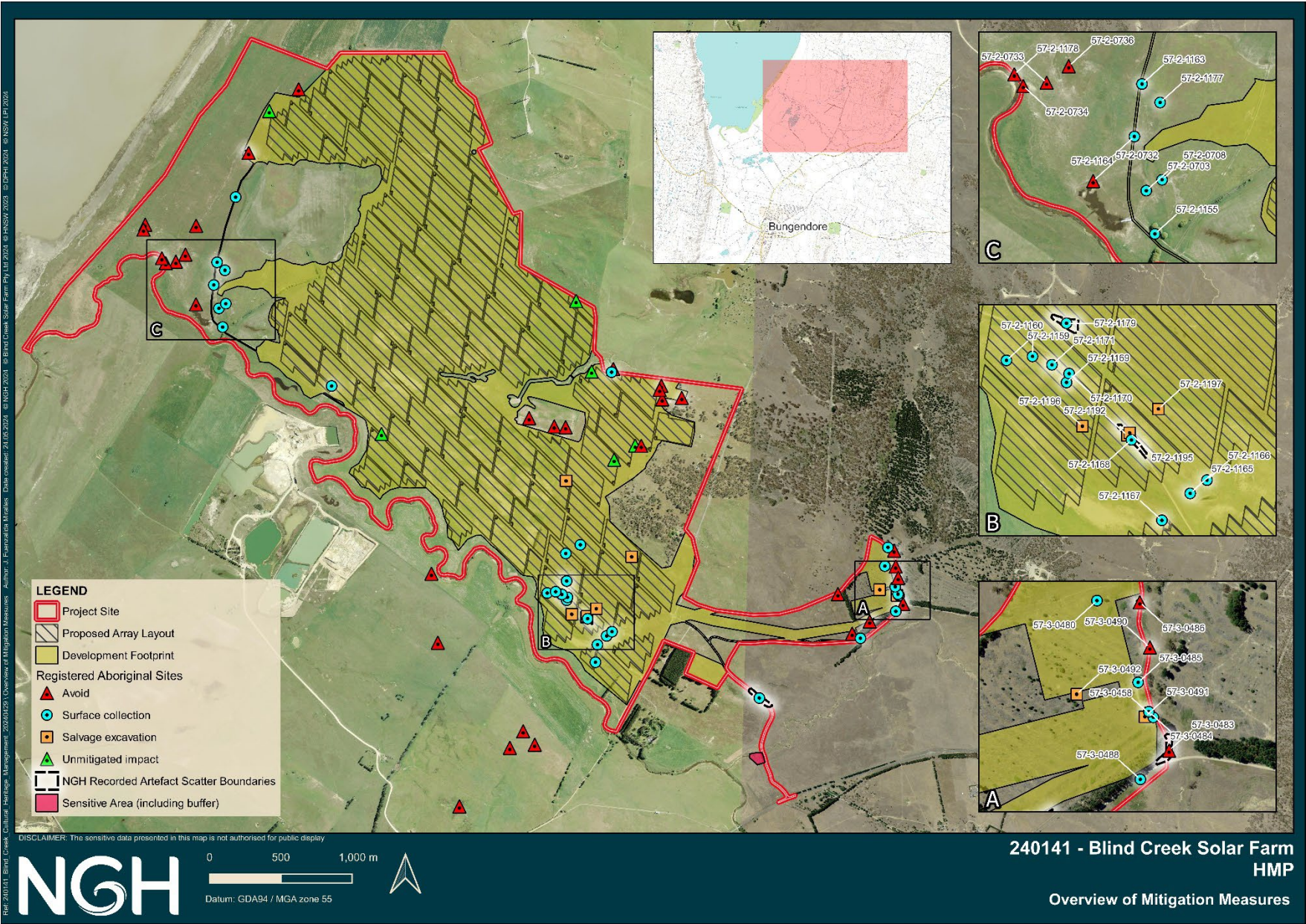
NSW Rural Fire Service. (2019, November). Planning for Bushfire Protection A guide for councils, planners, fire authorities and developers. Retrieved from

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Appendix A Landscaping plan

Appendix B Heritage and Biodiversity constraints





Appendix C Groundcover monitoring protocols

Bi-annual monitoring sheet

Quadrat observations record

Quadrat 1		Quadrat 2		Quadrat 3	
Percent total living cover:		Percent living cover:		Percent living cover:	
Percent total litter/dead cover:		Percent total litter/dead cover:		Percent total litter/dead cover:	
Percent bare ground:		Percent bare ground:		Percent bare ground:	
	%		%		%
Dominant species	cover	Dominant species	cover	Dominant species	cover
1.		1.		1.	
2.		2.		2.	
3.		3.		3.	
4.		4.		4.	
5.		5.		5.	
Rising plate reading:		Rising plate reading:		Rising plate reading:	
Image reference:		Image reference:		Image reference:	
General notes, priority weeds etc:					

Landscaping Plan

Blind Creek Solar Farm

Monthly groundcover monitoring

Guidance on monitoring groundcover

Step 1

Select the areas to monitor.

This should include 10 assessment locations (and 5 rapid assessments at each point), that is for each point you will walk 10 steps, stop and assess the quadrat, repeat this for a total of 5 assessments at each point. This is a more rapid approach to the annual monitoring points. The approach is to enable staff to identify areas of decline and take reparative actions. The sites should include the annual monitoring points, as well as but may also include “tracked” areas where the sheep are walking or camping.

Step 2

Note on the Farm plan where you have made these assessments.

Step 3

Make a 30cm x 30cm square. Visually assess the groundcover in this square and compare it with photo standards. Record the assessments in the proforma table provided.

Step 4

Photographic records.

Photographic records can be used in conjunction with the visual assessment as a permanent reminder of what the pasture cover was like when being assessed. It is important to take the photos in the same spot each time and are taken approximately at the same times of the day.

Step 5

Calculate the average for each assessment location (Add all 5 percentages together/5).

Groundcover record assessment

Assessment location	Date of assessment	Sample number (e.g., 1, 2, 3 etc.)	Percentage groundcover	Average Percentage groundcover	Photographic Reference
1	20/04/2023	1	70	$\frac{=(70+90+55+60+75)}{5}$ $= \frac{350}{5}$ $= 70\%$	
		2	90		
		3	55		
		4	60		
		5	75		

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