Wellington North Solar Farm – Biodiversity Management Plan

FINAL

June 2022

Prepared by Umwelt (Australia) Pty Limited on behalf of Lightsource bp Renewable Energy Investments Limited

lightsource bp

BIODIVERSITY MANAGEMENT PLAN
WELLINGTON NORTH SOLAR FARM

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Lightsource bp Renewable Energy Investments Limited (LSbp)

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umwelt
Environmental & Social Consultants

APPROVED COMPANY ISO 9001
QHS Certification Services

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

Umwelt would like to acknowledge the traditional custodians of the country on which we work and pay respect to their cultural heritage, beliefs, and continuing relationship with the land. We pay our respect to the Elders – past, present, and future.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
01	Rachel Musgrave	26 November 2021	Malinda Facey/Nathan Baker	1 December 2021
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04	Nathan Baker	22 April 2022	Malinda Facey	28 April 2022
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1.0 Introduction

Lightsource Development Services Australia Pty Ltd, a wholly owned subsidiary of Lightsource bp Renewable Energy Investments Limited (LSbp) received development consent for the Wellington North Solar Farm (SSD 8895) in April 2021.

LSbp is a global leader in the development and management of solar energy projects, and a 50:50 joint venture with bp. Its purpose is to deliver affordable and sustainable solar power for businesses and communities around the world. LSbp is active in 14 countries, across six continents, however, are continuing to rapidly expand globally. LSbp provides a full service to its customers, from initial site selection, financing and permitting through to construction, long-term operation, and decommissioning. Of the 14 countries LSbp is active in, it currently has seven in-country Environmental Planning and Sustainability teams (Australia, Brazil, Netherlands, Republic of Ireland, Spain, United Kingdom, and USA).

The development is located approximately seven kilometres (km) northeast of Wellington in New South Wales (NSW). It is wholly within the Dubbo Regional Local Government Area (LGA). The development involves the construction, operation and decommissioning of a 330 megawatt (MW) ac / 415 MW peak solar farm and associated infrastructure.

The development consent was granted by a delegate of the Minister for Planning and Public Spaces under section 4.38 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Biodiversity Management Plan (BMP) addresses the requirements of the development consent with a focus on ecological values relevant to the NSW *Biodiversity Conservation Act 2016* (BC Act). The BMP has been informed by the Biodiversity Development Assessment Report (BDAR) (NGH Environmental 2021) prepared in support of the Environmental Impact Statement (EIS) and subsequent project approval amendments and/or additional information, summarised as follows:

- The Environmental Impact Statement for Wellington North Solar dated August 2018.
- The Submissions Report dated March 2019.
- The Amendment Report dated August 2019.
- The Amendment Report dated February 2021.
- The Amendment Report dated March 2021.
- The additional information provided by the Applicant dated 15 April 2020, 14 May 2020 and 25 February 2021.

1.1 Purpose of this Biodiversity Management Plan

The SSD 8895 consent included several administrative and environmental conditions, as well as environmental management and reporting requirements, that necessitate the preparation of several post-approval management plans and strategies. This BMP has been prepared to meet the requirements of Condition 15 within Schedule 3 of the development consent. A compliance matrix for this BMP and Schedule 3 (Condition 15) requirements is presented in **Table 1.1** below.

Table 1.1 Relevant BMP Development Consent Conditions (SSD 8895)

<table>
<tr><th>Schedule</th><th>Condition</th><th>Where Addressed in this BMP</th></tr>
<tr><td>3</td><td>Condition 13
The Applicant must not clear any native vegetation or fauna habitat located outside the approved disturbance areas described in the EIS.</td><td>Section 6.2</td></tr>
<tr><td>3</td><td>Condition 14
Prior to commencing construction, the Applicant must retire biodiversity credits of a number and class specified in Table 1 and Table 2, unless the Planning Secretary agrees otherwise.
The retirement of these credits must be carried out in accordance with the NSW Biodiversity Offset Scheme and can be achieved by:
a. (a) acquiring or retiring ‘biodiversity credits’ within the meaning of the Biodiversity Conservation Act 2016;
b. (b) making payments into an offset fund that has been developed by the NSW Government; or
c. (c) funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the biodiversity offset scheme
Table 1: Ecosystem Credit Requirements
<table><tr><th>Vegetation Community</th><th>PCT ID</th><th>Credits Required</th></tr><tr><td>White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion</td><td>266</td><td>329</td></tr><tr><td>Yellow Box grassy woodland in the lower hillslopes and valley flats in the southern NSW Brigalow Belt South Bioregion</td><td>437</td><td>281</td></tr></table>
Table 2: Species Credit Requirements
<table><tr><th>Species Credit Species</th><th>Credits Required</th></tr><tr><td>Pink-tailed Legless Lizard (Aprasia parapulchella)</td><td>14</td></tr><tr><td>Southern Myotis (Myotis Macropus)</td><td>5</td></tr><tr><td>Barking Owl (Ninox connivens)</td><td>204</td></tr><tr><td>Masked Owl (Tyto novaehollandiae)</td><td>204</td></tr><tr><td>Glossy Black-Cockatoo (Calyptorhynchus lathami)</td><td>204</td></tr></table></td><td>Biodiversity offsets are being sourced by LSbp as part of a biodiversity offset package (or similar) for the development, and are not covered within the scope of this BMP.</td></tr>
<tr><td rowspan="9">3</td><td>Condition 15
Prior to commencing construction, the Applicant must prepare a Biodiversity Management Plan for the development in consultation with BCS, and to the satisfaction of the Planning Secretary. This plan must:</td><td>This BMP & Appendix 1</td></tr>
<tr><td>(a) include a description of the measures that would be implemented for:
protecting vegetation and fauna habitat outside the approved disturbance areas</td><td>Section 6.2</td></tr>
<tr><td>managing the remnant vegetation and fauna habitat on site</td><td>Section 6.7</td></tr>
<tr><td>minimising clearing and avoiding unnecessary disturbance of vegetation that is associated with the construction and operation of the development</td><td>Section 6.2.1</td></tr>
<tr><td>minimising the impacts to fauna on site and implementing fauna management protocols</td><td>Section 6.2.6, 6.3 & 6.4</td></tr>
<tr><td>avoiding the removal of hollow-bearing trees during spring to avoid the main breeding period for hollow-dependent fauna</td><td>Section 6.2.6</td></tr>
<tr><td>rehabilitating and revegetating temporary disturbance areas with species that are endemic to the area</td><td>Section 6.7.1</td></tr>
<tr><td>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</td><td>Section 6.7.2, 6.7.5 & 6.7.6</td></tr>
<tr><td>controlling weeds and feral pests</td><td>Section 6.5 & 6.6</td></tr>
</table>

Schedule	Condition	Where Addressed in this BMP
	(b) include a program to monitor and report on the effectiveness of mitigation measures	**Section 8.0**
	(c) include details of who would be responsible for monitoring, reviewing, and implementing the plan, and timeframes for completion of actions	**Section 8.0**
	Following the Planning Secretary's approval, the Applicant must implement the Biodiversity Management Plan. *Note: If the biodiversity credits are retired via a Biodiversity Stewardship Agreement, then the Biodiversity Management Plan does not need to include any of the matters that are covered under the Biodiversity Stewardship Agreement.*	**Section 7.0**

Agency and other stakeholder consultation has occurred as per the development consent for plans and strategies prepared under the LSbp Integrated Management System. Preparation of this BMP occurred in consultation with the Department of Planning, Industry and Environment (DPIE) – Biodiversity and Conservation Division (BCS). The BCS correspondence, and where this feedback has been addressed in this BMP, is documented in **Appendix 1.**

The authors of this BMP also acknowledge that other relevant administrative and environmental conditions, as well as environmental management and reporting requirements, apply to this BMP and have been addressed throughout this document. Similarly, other management aspects dealt with in overarching environmental management documentation, strategies or plans, e.g. the Environmental Management Strategy (EMS), are also referred to.

1.2 Application of the BMP

This BMP applies to all employees, contractors and visitors during the construction, operation and decommissioning of the development, as described in SSD 8895.

The EMS identifies the key personnel and the environmental management responsibilities for the Development. Management measures developed for this BMP that will be implemented for construction and operation of the development are listed below, each of which are discussed in detail in **Section 6.0** of this BMP.

Table 1.2 Summary of Management Measures

Requirement
Vegetation clearance procedures
Rehabilitation and re-use of resources
Animal handling
Unexpected finds
Weed and pathogen management
Past management
Management of Retained Vegetation

1.3 Aims and Objectives of the BMP

This BMP describes the biodiversity management measures that will be implemented to avoid, minimise, and mitigate impacts to biodiversity values, with specific focus on BC Act listed entities, associated with the development during construction, operational and decommissioning phases.

The avoidance, management, and mitigation measures to be implemented as part of the BMP have been prepared with an overarching objective to reduce the development's impact on biodiversity values. It aims to provide the framework required to ensure the project is constructed and operates in a manner to not compromise the impact thresholds as described in SSD 8895, as well as presenting opportunities whereby impacts may be avoided or minimised during construction.

Objectives relating to limiting the development's impact on biodiversity values are focused on the minimisation of clearance of TECs and threatened species habitat. The objectives comprise the following:

- Ensuring that no more than 118.06 hectares of native vegetation and 55 scattered paddocks trees are cleared, and measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on native vegetation are employed.
- Ensuring that no more than 13.02 hectares of White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland is cleared and that measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on this ecological community are employed.
- Ensuring that no more than 0.22 hectares of Southern Myotis (*Myotis macropus*) habitat is cleared and that measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on this species are employed.

- Ensuring that no more than 0.56 hectares of Pink-tail Worm Lizard (*Aprasia parapulchella*) habitat is cleared and that measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on this species are employed.
- Ensuring that no more than 8.06 hectares of Glossy Black Cockatoo (*Calyptorhynchus lathami*) habitat is cleared and that measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on this species are employed.
- Ensuring that no more than 8.06 hectares of Barking Owl (*Ninox connivens*) habitat is cleared and that measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on this species are employed.
- Ensuring that no more than 8.06 hectares of Masked Owl (*Tyto novaehollandiae*) habitat is cleared and that measures detailed in **Section 6.0** to avoid, manage and mitigate impacts on this species are employed.

This BMP is one of a series of management plans prepared for the development. The BMP is to be implemented in conjunction with the other management plans, including (but not limited to) the Environmental Management Strategy (EMS), as relevant.

2.0 Overview of the Development

2.1 Development Setting

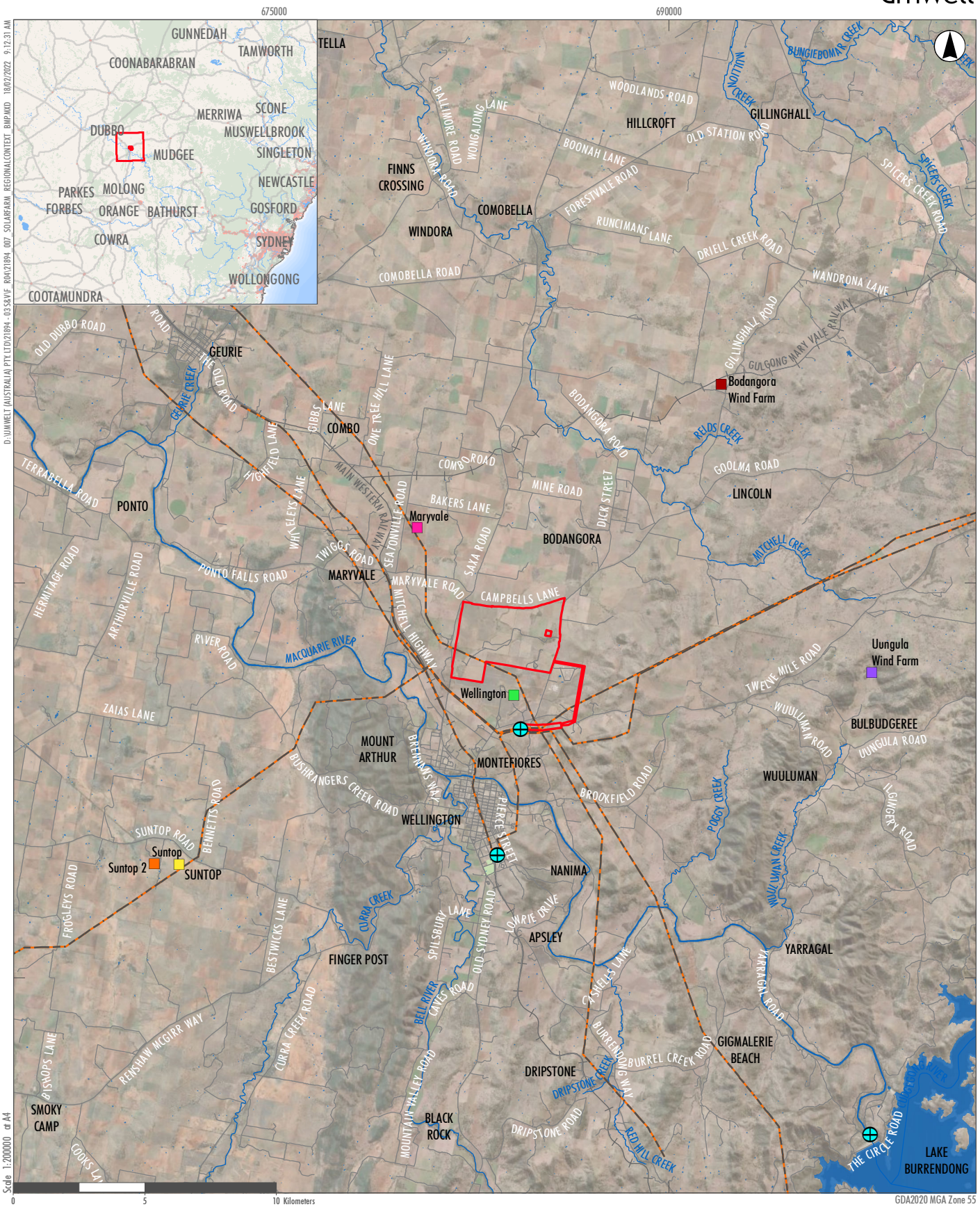
The development area is in a predominantly agricultural setting, approximately 3.4 km southeast of the village of Bodangora (refer to **Figure 2.1**). The nearest regional centre, Dubbo, is located approximately 40 km northwest of the development area.

The development area is located immediately adjacent to the Wellington Correctional Centre and approximately 300 metres (m) northwest of the Macquarie Correctional Centre.

The development area is adjacent to the Wellington Solar Farm, which will be operational in late December 2021 and is also owned by LSbp. The surrounding area is emerging as a key centre of renewable energy production in NSW, and forms part of the NSW Government's Central-West Orana Renewable Energy Zone (REZ).

Three other solar farm projects have been approved within a 50 km radius of the development, including the Maryvale Solar Farm which is located approximately 2.5 km northwest of the development area. There are several wind farms in the vicinity of the development and/or within the Central-West Orana REZ. Closest to the development are the Bodangora Wind Farm to the north-east (operational), and the Uungula Wind Farm to the east (in planning). Uungula Wind Farm is of particular relevance to the development with respect to potential cumulative impacts, if constructed concurrently.

The development area is zoned RU1 Primary Production and SP2 Electricity Supply and is comprised of gently undulating land which has been heavily disturbed by historical agricultural activity.



Legend

- Development Site
- Existing Substation
- Existing Transmission Lines
- Road
- Railway Line
- Drainage Line
- Water Body

Nearby Renewable Energy Projects

- Maryvale Solar Farm
- Suntop Solar Farm
- Suntop Stage 2 Solar Farm
- Uungula Wind Farm
- Wellington Solar Farm
- Bodangora Wind Farm

FIGURE 2.1

Wellington North Solar Farm
Regional Context

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019)

2.2 Development Area

The development area is considered as the total area of the development, including the development boundary. It comprises approximately 978 hectares of freehold land, Crown land and road reserves contained within the development boundary.

The development area is comprised of three key components, including:

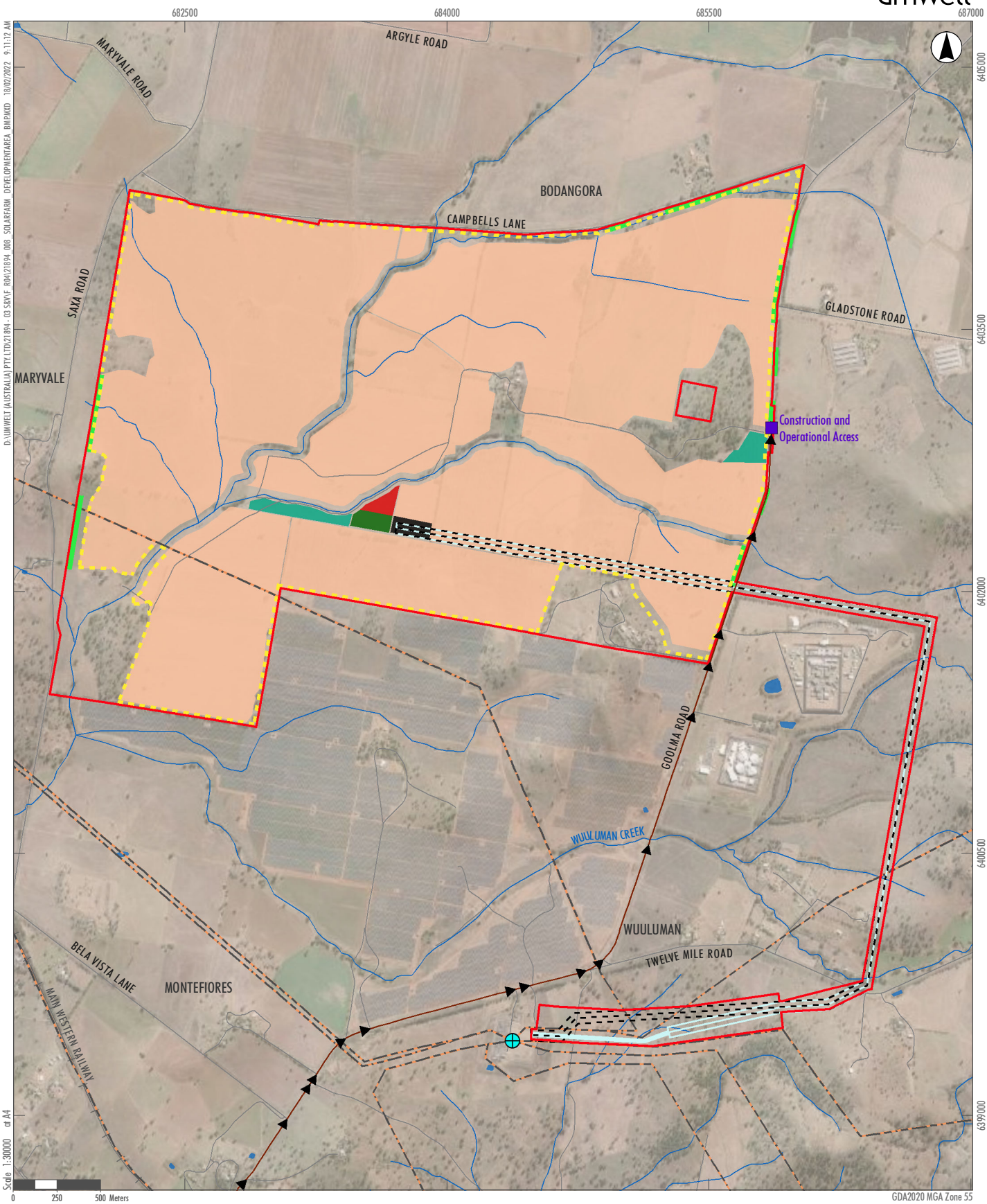
2. Solar farm site.
3. Transmission line route.
4. Transgrid's Wellington substation connection, however the Transgrid infrastructure and assets, and most of the connection works would be approved and undertaken under Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The solar farm site contains all solar infrastructure and is made up of Lots 75-84 and 119-121 DP 2987, Lots 1 and 2 DP 1104720, Lot 3 DP 976701, Lot 1 DP 808748, Lot 100 DP 750760, Lot 1 DP 664645 and Lot 1 DP 1206579.

The transmission line route contains the transmission lines and associated transmission line infrastructure and is made up of Lot 106 DP 2987, Lot 73 DP 750760, Lot 2 DP 1053234, Lot 32 DP 622471, Lot 1 DP 1226751, Lot 1 DP 1249719 and Lot 7 DP 810725.

The new transmission lines will connect to Transgrid's Wellington substation, located approximately 2 km south of the development (Lot 1 DP 1226751).

The development area is shown below in **Figure 2.2**.



Legend

- Development Site
- Existing Substation
- Existing Transmission Lines
- Road
- Railway Line
- Drainage Line
- Water Body

Development Components and Features

- Construction Compound
- Future Battery Storage
- Intersection Upgrade
- Operations and Maintenance Facility
- Solar Arrays
- Substation

- Transmission Line Option A
- Transmission Line Option B
- Transport Route
- Landscaping
- Fence
- Construction and Operational Access

FIGURE 2.2

Wellington North Solar Farm Development Area

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021),

2.3 Components and Features

The key components and features of the development include:

- approximately 1.2 million photovoltaic (PV) modules
- approximately 155 inverter stations
- underground electrical conduits and cabling to connect the solar panels, combiner boxes and inverters
- an onsite substation containing up to two transformers and associated switchgear, occupying an area of approximately two hectares
- a 330 Kilovolt (kV) transmission line connecting to Transgrid's Wellington substation
- construction and operational access via a single access point off Goolma Road (also known as the primary site access)
- transmission line access points off Goolma Road and Twelve Mile Road
- road upgrades, including upgrades to facilitate construction and operational access
- internal access tracks and upgrades to existing access roads (including watercourse crossings), where required
- an office and amenities building, operations and maintenance building and car park
- perimeter security fencing and CCTV
- a landscaped vegetation buffer.

The PV modules will be mounted on either east-west horizontal tracking systems or north-orientated fixed-tilt structures and will have a maximum height of approximately four metres. The current solar farm design has also identified the potential for bi-facial single-axis tracking modules; however, this is subject to change following detailed design.

The inverter stations will allow conversion of DC module output to AC electricity and transformation to medium voltage for site reticulation (typically 22kV or 33kV). The inverter stations will be approximately three m high.

The approved transmission line route is shown in **Figure 2.1** and **Figure 2.2**. The transmission line will have an associated easement up to 60 m wide. The approved development includes two overhead and/or underground options for the transmission line for the construction of the final 1.2 km of the transmission line (nearest to the Wellington substation). The two alternative transmission line routes (Option 1 and Option 2) are shown in **Figure 2.2**.

Water usage during the construction period will be minimal and will be primarily limited to dust suppression activities. Water will be sourced from onsite groundwater bores (subject to obtaining the necessary Water Access Licences) and/or a water filling station operated by Dubbo Regional Council (Council). Use of the water filling station will be undertaken by arrangement with Council, and water would then be trucked to the development area. During operations, potable water supplies will be trucked to the development area and stored in tanks near the office and amenities building.

The approved development layout includes an area for a potential future battery energy storage system (BESS); however, the construction or installation of a BESS will require a modification to SSD 8895 or a separate development consent.

2.4 Development Phase Activities

2.4.1 Early Works – Construction Activities

The early works phase of the development includes preparatory works which must occur prior to the commencement of main construction activities.

To comply with the conditions of the development consent, these early works are limited to:

- road upgrades required under Condition 6 of Schedule 3 of the development consent
- building/road dilapidation surveys
- vegetation buffer planting
- installation of fencing
- artefact survey and/or salvage
- overhead line safety marking
- geotechnical drilling
- surveying.

Early works are currently scheduled to start at the end of Q1/beginning of Q2 in 2022, and the construction period for these early works will be approximately three months. As per Condition 16 within Schedule 3 of the development consent, construction hours will generally be limited to Monday to Friday 7:00 am to 6:00 pm and Saturday 8:00 am to 1:00 pm, with no works on Sundays or Public Holidays. Some works outside these hours may occur as permitted by Condition 16 of Schedule 3. Early works will have a construction workforce of approximately 30 workers.

A key activity within the early works will be the road upgrades required at the intersection of Goolma Road and the construction and operational access. These works will consist of a new Basic Right Turn (BRT) and Auxiliary Left Turn with a Short Left Turn Slot (AUL(S)) treatment, designed and constructed in accordance with the *Austroads Guide to Road Design* (as amended by Transport for NSW (TfNSW) supplements). The existing entry point on Goolma Road (immediately south of the new construction and operational access) will be closed and the road reserve will be re-instated to match the surrounding roadside landform.

With early works focusing on the road upgrades required under Condition 6 of Schedule 3 of the development consent; some residual approved early work construction activities may occur during the main works period described below.

2.4.2 Main Works – Construction Activities

Main works are currently scheduled to start at the end of Q2/beginning of Q3 in 2022, and the main works construction period will last for 18 to 24 months, including a peak period of approximately nine months. Consistent with early works, the main works construction hours will generally be limited to Monday to Friday 7:00 am to 6:00 pm and Saturday 8:00 am to 1:00 pm, with no works on Sundays or Public Holidays.

Some works outside these hours may, consistent with early works, occur as permitted by Condition 16 of Schedule 3. The development will have a construction workforce of approximately 400 workers during the peak period.

Construction activities will include:

- site establishment and enabling works including fencing, ground preparation, construction of the internal access tracks, preliminary civil works and drainage works
- installation of steel post and framing system for the solar panels
- Installation of underground cabling and installation of power conversion (inverter) stations and footings
- installation of solar panels
- construction of the operations and maintenance facility
- construction of the on-site substation, transmission line and connection to Transgrid's Wellington substation.

During the peak period, the development is expected to generate up to 267 two-way construction traffic movements, including 55 heavy vehicle movements, 80 shuttle bus movements (associated with worker transport) and 132 light vehicles movements.

2.4.3 Operation

The expected operational life of the development is approximately 30 years, however infrastructure upgrades throughout the development lifecycle may extend its operational life. The key activities that would be undertaken during operation include:

- visual inspections, maintenance, and cleaning of solar panels and the substation
- vegetation management:
    - grazing of sheep
    - mechanical vegetation maintenance
    - maintaining groundcover vegetation
    - maintenance of landscaping, including the vegetation buffer
- site security and operational response
- replacement of equipment and infrastructure
- pest plant and animal control.

2.4.4 Decommissioning

At the end of the development's operational life, unless the Planning Secretary agrees otherwise, the solar farm infrastructure will be decommissioned and removed. This will include removal of solar panels and foundation posts, the substation and associated connections and underground cabling, the operations and maintenance facility, carpark and fencing.

Disturbed areas will be rehabilitated to ensure the development area is safe, stable, and non-polluting. The development area will be restored to its pre-development agricultural land capability (at least Class 3).

2.5 Development Footprint

The development footprint is the area of land that is directly impacted by the development and includes the solar panels, perimeter fence, access roads, transmission line and areas used to store construction materials. The development footprint is the impact area which was assessed as directly impacted by the development within the BDAR (NGH Environmental 2021).

The development footprint including solar panels, roads, lay down areas, substation, operations and maintenance facility and future BESS is approximately 804.09 hectares. The development footprint for the transmission line corridor is approximately 15.48 hectares.

3.0 Legislative Context

3.1 Legislation

Legislation relevant to the implementation of this BMP and biodiversity management in general includes:

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

3.2 Additional Approvals, Licences, Permits and Requirements

The development consent for SSD 8895 stipulates the conditions that the development must comply with as part of its approval. The relevant conditions of the development consent pertaining to biodiversity are detailed within Conditions 13 – 15 in Schedule 3 and are summarised in **Section 1.2** above.

The Project was determined as an SSD, and as such, it must comply with the relevant guidelines for SSD under the EP&A Act. An Assessment of Significance for White Box – Yellow Box – Blakely's Red Gum Woodland under the EPBC Act, carried out as part of the biodiversity assessment informing the EIS, found that the development was unlikely to significantly impact the threatened ecological community (TEC). As such, no referral under the EPBC Act was required. No other approvals or permits are required to address the biodiversity related conditions detailed within the development consent.

The project ecologist should hold appropriate licences, including scientific licences as required under Clause 22 of the National Parks and Wildlife Regulations 2002, and Section 132C of the NPW Act as well as an animal research authority issued by the Department of Trade and Investment, Regional Infrastructure and Services.

3.3 Guidelines and Standards

The following guidelines and standards have been utilised to develop this BMP:

- 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.
- Best Practice Management Guidelines for *Phytophthora cinnamomi* within the Sydney Metropolitan Catchment Management Authority Area (Botanic Gardens Trust 2008).
- New South Wales Weed Control Handbook (DPI 2018).

- Hygiene protocol for the control of disease in frogs (DECC 2008).
- Australian Standard AS4373 Pruning of Amenity Trees (Standards Australia 2007).
- Australian Standard AS4970 Protection of Trees (Standards Australia 2009).
- Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings (Fairfull & Witheridge, 2003).
- Policy and Guidelines for Fish Friendly Waterway Crossings (NSW DPI, 2003).
- Guidelines for Watercourse Crossings on Waterfront Land (NSW DPI, 2012).

4.0 Environmental Context

4.1 Soils

A detailed soil survey was undertaken for the development area on the 13 and 14th March 2018 (McMahon, 2018). Sampling and classification of in situ soils was carried out as per the Australian Soil and Land Survey Field Handbook (2009) and The Australian Soil Classification (Isbell, 1996). The soils for the development were confirmed to be Ferrosols, which are:

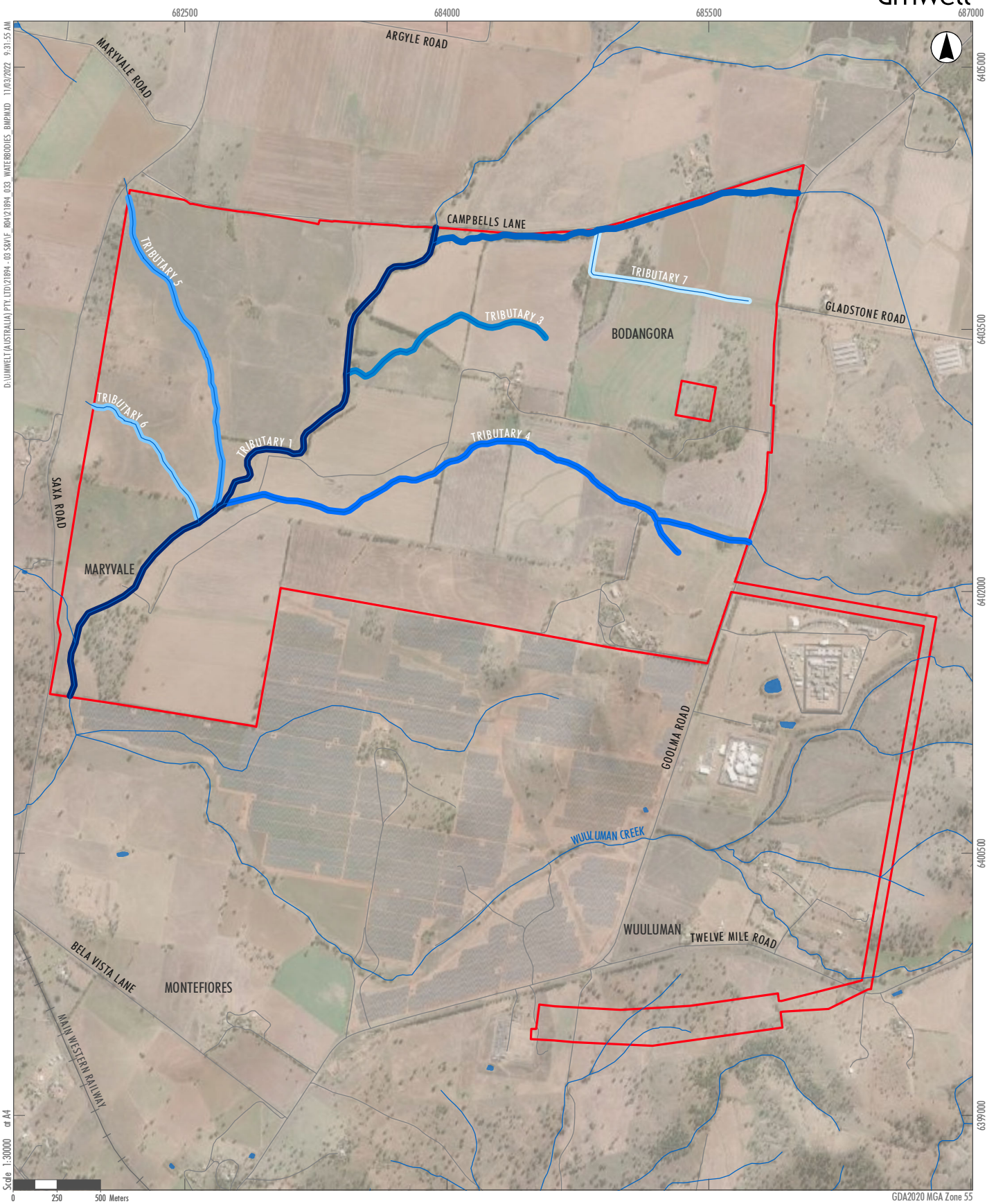
- Topsoils of dark reddish-brown clay loams to light clays, moderately well-structured with sub-angular or angular blocky peds. Field pH increases from 5.5 to 7.0 in the A horizon; to 35cm depth. Gradual boundaries were observed to subsoils.
- Subsoils of moderately to strongly structured reddish-brown light to medium clays with smooth-faced, sub-angular or polyhedral peds. Gravel increases with depth and soft nodules of calcium carbonate begin to appear at about 90 cm depth. Field pH 8.0 to 8.5.

4.2 Rivers and Streams

Seven unnamed watercourses occur within the development area, as shown in **Figure 4.1**. These facilitate water in the north-south direction and are all tributaries of Wuuluman Creek which is located some 300 metres (m) south of the development area. These tributaries flow into the Macquarie River, approximately 2.5 km downstream. A description of the tributaries is provided in **Figure 4.1**.

Table 4.1 Description of tributaries within the development area

Strahler order (Strahler 1952)	Tributary	Details
3rd order stream	Tributary 1	One unnamed third order stream (Strahler 1952) that flows from the north to the southwestern corner of the development area. This tributary is the only waterway on the development area that flows. This waterway has mostly been cleared and grazed; however the bank is dominated by native grasses such as Red Grass (*Bothriochloa macra*), *Austrostipa sp*. and Curly Windmill Grass (*Chloris truncata*). Native Bulrush (*Typha sp.*) is present within the stream providing aquatic habitat for frogs and birds. Rocks and riffles are also present in some parts of the stream providing aquatic habitat for amphibians.
2nd order stream	Tributary 2	Unnamed second order streams which are incised waterways. No water flow was present during surveys informing the BDAR, but small pools of water remained. Vegetation in these waterways is degraded and dominated by exotic grasses that had been grazed by stock.
	Tributary 4	
1st order stream	Tributary 3	Three unnamed first order streams which are minor incised drainage lines, flowing only after rain events. Vegetation in these waterways is degraded and dominated by exotic grasses that have been grazed by stock and provide very little aquatic habitat.
	Tributary 5	
	Tributary 6	
NA	Tributary 7	One constructed channel for drainage surrounding cropping land. This channel is cleared with very little vegetation and provides very little aquatic habitat.



Legend

- Development Site
- Road
- Railway Line
- Drainage Line
- Water Body

Tributaries

- Tributary 1
- Tributary 2
- Tributary 3
- Tributary 4
- Tributary 5
- Tributary 6
- Tributary 7

FIGURE 4.1

Waterbodies within the Development Area

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021),

4.3 Wetlands

No wetlands occur within or adjacent to the development area. The nearest nationally important wetland downstream from the development area is the Macquarie Marshes located over 150 km downstream. Four man-made dams occur within the development area for stock. These dams lack fringing vegetation or aquatic vegetation. Those dams located within the development footprint would be decommissioned.

4.4 Connectivity Features

The landscape within the development area has been heavily cleared and lacks functional connectivity. Remnant vegetation occurs as small, isolated patches within the cropped landscapes. The main connectivity throughout the landscape occurs along the watercourse through the centre of the development area. This watercourse supplies permanent water and has a groundcover dominated by native grasses; however, the tree cover is scattered and isolated. Other connectivity features include linear plantings and scattered paddock trees. These provide some habitat connectivity for more disturbance tolerant and mobile species to travel across the landscape. Large tracts of grassy woodland occur outside the development area to the south and east and provide better connectivity for movement across the landscape.

4.5 Areas of Geological Significance

No karsts, caves, crevices, cliffs, or other areas of geological significance occur in or adjacent to the development area.

4.6 Areas of Outstanding Biodiversity Value

No areas of outstanding biodiversity value occur within the development area.

4.7 Plant Community Types

Approximately 295.10 hectares of native vegetation is present within the development area comprising of both remnant and planted native vegetation. Two Plant Community Types (PCTs) occur within the development area as follows:

- PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion.
- PCT 437: Yellow Box grassy woodland on lower hillslopes and valley flats in the southern NSW Brigalow Belt South Bioregion.

Both PCTs are components of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland listed as a TEC under both the BC Act and EPBC Act. Furthermore, both PCTs are present in various condition classes (i.e., vegetation zones) within the development area. Accordingly, only portions of the native vegetation within the development area meet the final determination for White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland TEC under both Acts.

Cleared areas within the subject land are primarily used for cropping and grazing. Approximately 818.60 hectares of cleared land occurs within the development area. These areas have been frequently cultivated and lack any remnant native vegetation. Cleared areas provide very little in terms of native fauna habitat but could provide limited foraging habitat for raptors, parrots, cockatoos, and macropods.

Eighty scattered paddock trees occur across the cleared lands within the development area and are the main source of biodiversity value within the cleared lands, providing foraging, roosting, and sheltering habitat for generalist fauna species.

A summary of the PCTs and their extent in the development area is provided in **Table 4.2** below.

The distributions of PCT 266 and 437 at the development area are shown in **Figure 4.1** and **Figure 4.2.**

As a result of impacts to PCTs, the following ecosystem credits are required to be offset:

- 329 ecosystem credits for impacts to PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion.
- 281 ecosystem credits for impacts to PCT 437: Yellow Box grassy woodland on lower hillslopes and valley flats in the Southern NSW Brigalow Belt South Bioregion.

The retirement of these credits is being carried out in accordance with the NSW Biodiversity Offset Scheme.

Table 4.2 PCTs within the development area

Zone ID	PCT Name	Condition	BC Act	EPBC Act	Area (ha) within the development area	Area (ha) within the development footprint
Solar array and associated infrastructure						
7	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Good	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	-	26.40	0.00
1		Moderate			11.30	3.08
2		Derived Native Grassland	-		91.00	90.99
3		Planted			3.30	2.12
9	PCT 437: Yellow Box grassy woodland on lower hillslopes and valley flats in the southern NSW Brigalow Belt South Bioregion	Good	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	-	14.40	0.00
4		Moderate		-	6.20	1.00
6		Low		-	6.60	1.06
8		Derived Native Grassland		-	4.30	0.00
5		Planted	-	-	19.80	10.20
10	-	Planted non-local vegetation	-	-	18.10	11.40
11	-	Exotic vegetation and cleared areas	-	-	797.30	700.00

Zone ID	PCT Name	Condition	BC Act	EPBC Act	Area (ha) within the development area	Area (ha) within the development footprint
Transmission line						
Tx 2	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	41.90	7.56
Tx 1		Derived Native Grassland	-	-	51.00	2.00
Tx 3		Creekline	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	0.80	0.50
Tx 4	-	Exotic vegetation	-	-	21.30	5.35
Total					**1,113.70**	**835.26**

4.8 Threatened Ecological Communities

The White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland community is the only TEC that occurs in the development area as detailed in **Table 4.3**. This TEC is made up of PCT 266 and PCT 437.

Table 4.3 TECs within the development area

BC Act	EPBC Act	Status BC Act	Status EPBC Act
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions	White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Critically Endangered

The White Box – Yellow Box – Blakely's Red Gum Grassy Woodland community occurs within the development area in varying condition. An assessment of the TEC against the EPBC Act found that within portions of the development area to be developed for the solar array and associated infrastructure, the vegetation possesses:

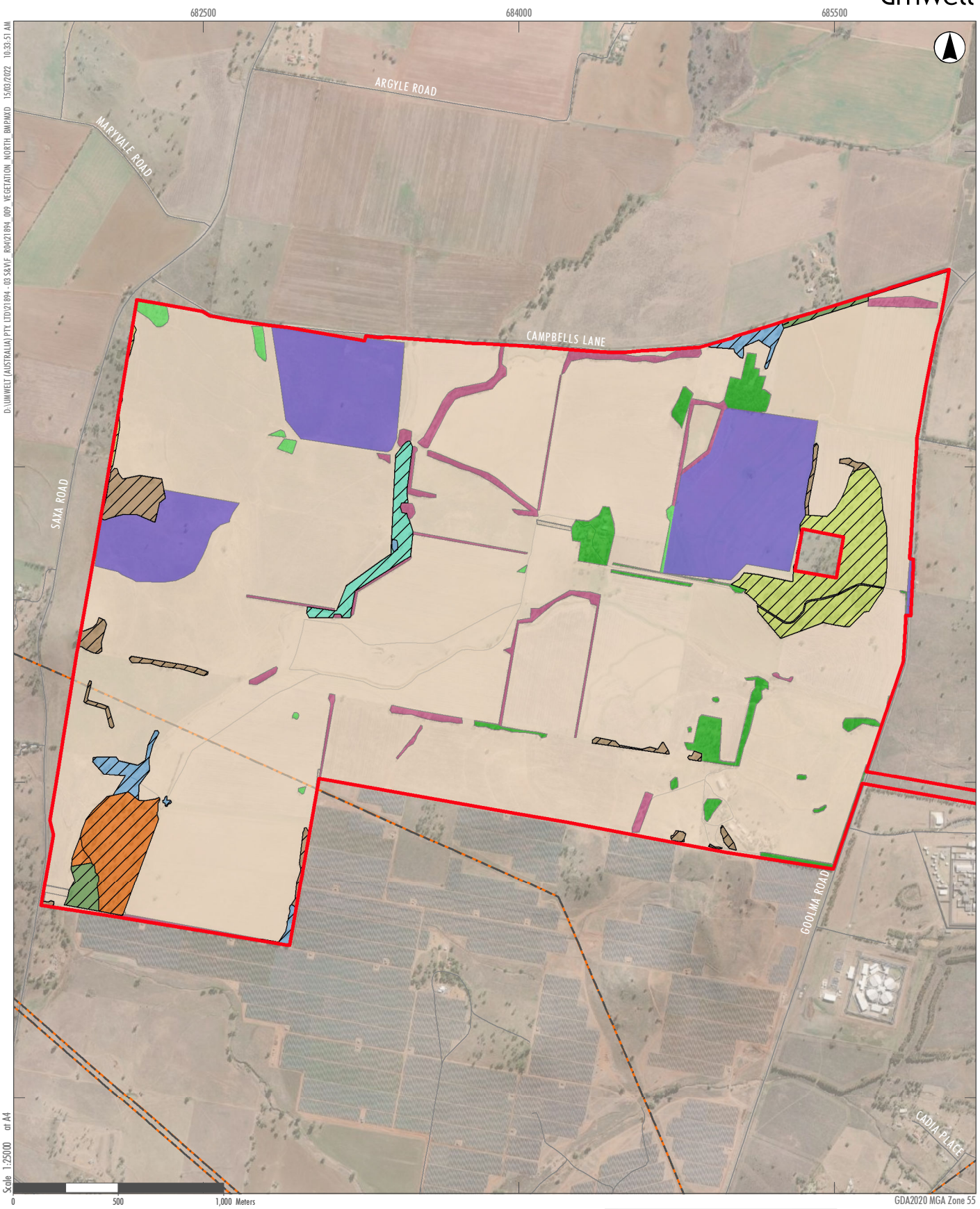
- less than 50% native groundcover
- less than 12 native understorey species
- lacks natural regeneration of the dominant Eucalyptus species.

Therefore, within this portion of the development area, the vegetation does not form part of the EPBC listed White Box-Yellow Box-Blakely's Red Gum Grassy Woodland Endangered Ecological Community (EEC).

However, PCT 266 within the transmission line easement has, in parts, greater than 50% perennial native vegetation cover, more than 12 native forbs and two important species. Thus, within this area the vegetation meets the condition threshold of the EPBC listed community and is considered to form part of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. An Assessment of Biodiversity Significance was completed, and it was determined no referral was required for the removal of TEC in the transmission line (NGH Environmental 2021).

An assessment of Serious and Irreversible Impacts (SAII) for White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland within the BDAR found that the removal of 26.41 hectares of the TEC would be unlikely to constitute a serious and irreversible impact on the TEC.

The distribution of the White Box – Yellow Box – Blakely's Red Gum Woodland TEC within the development area is shown in **Figure 4.2** and **Figure 4.3**.



Legend

- Development Site
- Existing Transmission Lines
- Road
- Planted Native Vegetation (No PCT)
- Exotic Vegetation
- White Box Yellow Box Blakely's Red Gum Woodland CEEC (BC Act) (NGH 2018)

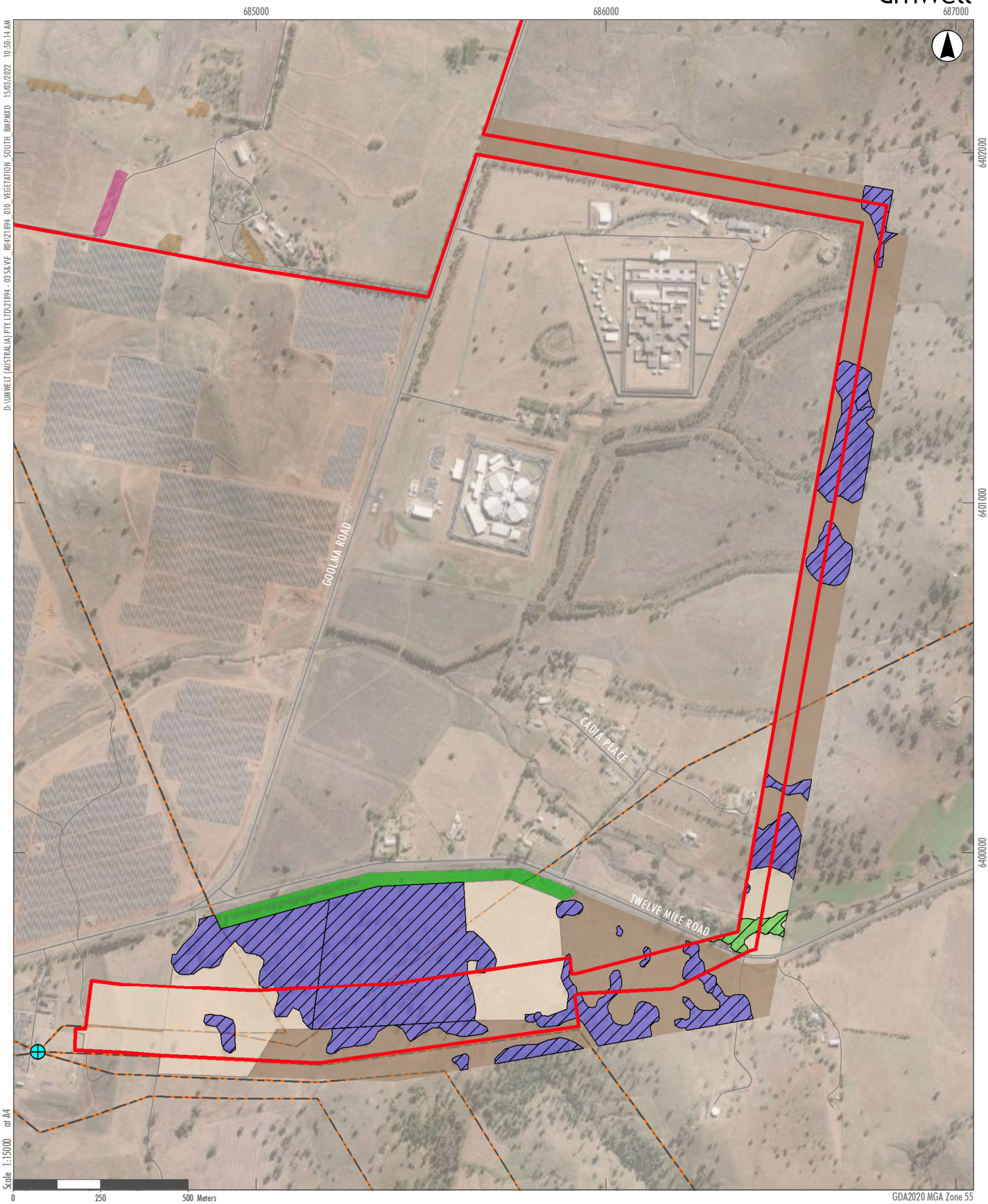
Plant Community Type/Vegetation Zone (NGH 2018)

- Zone: 1, PCT:266 White Box Woodland, Moderate
- Zone: 2, PCT:266 White Box Woodland, Derived grassland
- Zone: 3, PCT:266 White Box Woodland, Planted
- Zone: 4, PCT:437 Yellow Box Woodland, Moderate
- Zone: 5, PCT:437 Yellow Box Woodland, Planted
- Zone: 6, PCT:437 Yellow Box Woodland, Low
- Zone: 7, PCT:266 White Box Woodland, Good
- Zone: 8, PCT:437 Yellow Box Woodland, Derived grassland
- Zone: 9, PCT:437 Yellow Box Woodland, Good

FIGURE 4.2

PCTs and TEC at the Development Site (North)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)



Legend

- Development Site
- Existing Substation
- Existing Transmission Lines
- Road
- Planted Native Vegetation
- Exotic Vegetation
- White Box Yellow Box Blakely's Red Gum Woodland CEEC (BC Act) (NGH 2018)

Plant Community Type/Vegetation Zone (NGH 2018)

- Zone: Tx1, PCT:266 White Box Woodland, Grassland, Moderate
- Zone: Tx2, PCT:266 White Box Woodland, Moderate
- Zone: Tx3, PCT:266 White Box Woodland, Creekline, Good

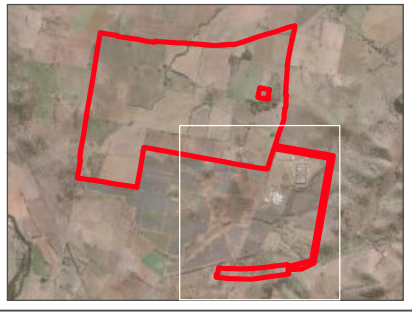


Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)

FIGURE 4.3

PCTs and TEC at the Development Site (South)

4.9 Fauna

Two dual credit species, Large Bent-winged Bat (*Miniopterus schreibersii oceanensis*) and foraging Grey-headed Flying Fox (*Pteropus poliocephalus*) were detected during the site surveys that were conducted for the development (NGH Environmental 2021). These species are not considered to be breeding within the development area; therefore, no species credits were generated for these species.

One species credit species, the Southern Myotis (*Myotis macropus*) was detected within the development area during the targeted species surveys. The development would remove approximately 0.22 hectares of habitat for this threatened species (Hollow-bearing trees within 200 m of a waterway).

The transmission line route was surveyed at a later stage. As such, six species credit species were unable to be surveyed during the appropriate survey times in the transmission line corridor and therefore have been assumed to be present within the development footprint. The species that were assumed to have suitable habitat within the transmission line corridor included the Pink-tailed Legless Lizard (*Aprasia parapulchella*), Glossy Black Cockatoo (*Calyptorhynchus lathami*), Masked Owl (*Tyto novaehollandiae*) and the Barking Owl (*Ninox connivens*).

As a result of assumed impacts to species credit species, the following species credits are required to be offset:

- 14 species credits for assumed impacts to the Pink-tailed Legless-lizard.
- 5 species credits for impacts to the Southern Myotis.
- 204 species credits for assumed impacts to the Barking Owl.
- 204 species credits for assumed impacts to the Masked Owl.
- 204 species credits for assumed impacts to the Glossy Black Cockatoo.

The retirement of species credits is being carried out in accordance with the NSW Biodiversity Offset Scheme.

4.10 Weed and Pests

4.10.1 Pest Species

A total of six exotic fauna species were recorded by NGH Environmental (2021) within the development area during field investigations as follows:

- *Passer domesticus* (House Sparrow).
- *Sturnus vulgaris* (Common Starling).
- *Felis catus* (Cat, House Cat, Domestic Cat).
- *Lepus capensis* (Brown Hare).
- *Oryctolagus cuniculus* (Rabbit).
- *Vulpes vulpes* (Fox).

The EPBC Protected Matters Report that was generated for the EIS identified an additional 13 exotic fauna species which may utilise the development area (NGH Environmental 2021).

4.10.2 Weed Species

Two exotic flora species listed as Priority Weeds under the Biosecurity Act for the Central West Local Land Service Region were recorded within the development area by NGH Environmental (2021). These two species are also listed as Weeds of National Significance (WONS). In addition, seven High Threat Weeds (HTW) as defined within the Biodiversity Assessment Method (BAM) (DPIE 2020) were recorded within the development area. These weed species, their classification and control orders are detailed in **Table 4.4.**

Table 4.4 Priority weeds and weeds of national significance (WONS) recorded in the study area

Weed Species	Classification	Control Order (as per Biosecurity Act)
Khaki weed *Alternanthera pungens*	HTW	NA
Great Brome *Bromus diandrus*	HTW	NA
Saffron Thistle *Carthamus lanatus*	HTW	NA
African boxthorn *Lycium ferocissimum*	Priority Weed WONS HTW	**Prohibition on certain dealings** Must not be imported into the state, sold, bartered, exchanged, or offered for sale.
Paspalum *Paspalum dilatatum*	HTW	NA
Silverleaf nightshade *Solanum elaeagnifolium*	Priority Weed WONS HTW	**Prohibition on certain dealings** Must not be imported into the state, sold, bartered, exchanged, or offered for sale. **Regional Recommended Measure** Land managers should mitigate the risk of the plant being introduced to their land. The plant should not be bought, sold, grown, carried, or released into the environment. Land managers to reduce impacts from the plant on priority assets.
Bathurst Burr *Xanthium spinosum*	HTW	NA

The EPBC Protected Matters Report that was generated for the development EIS identified an additional nine WONS which have the potential to occur within the development area (NGH Environmental 2021).

5.0 Environmental Aspects and Impacts

The construction and operational phases of the development have the potential to impact biodiversity values within the development area which cannot be avoided. This would occur through direct and indirect impacts. Direct impacts to biodiversity values include clearing of native vegetation, clearing of suitable habitat for threatened and protected flora and fauna species, and the installation of infrastructure. Indirect impacts to biodiversity values include soil and water contamination, creation of barriers to fauna movement or the generation of excessive dust, light or noise upon the surrounding environment i.e. off-site.

Table 5.1 details the type, frequency, intensity, duration, and consequence of the direct and indirect impacts to biodiversity values that may occur due to the development.

Table 5.1 Direct and Indirect Impacts to Biodiversity Values Due to the Development

Nature of impact	Extent	Frequency	Duration and timing	Consequence
Direct Impacts				
Habitat clearance for permanent and temporary construction facilities	108.30 ha – (development footprint). 10.06 ha – (transmission line)	One-off	Construction Phase: Long-term.	• Direct loss of native flora and fauna habitat. • Potential over-clearing of habitat outside the development footprint. • Injury and mortality of fauna during clearing of fauna habitat and habitat trees. • Disturbance to stags, fallen timber, and bush rock.
Displacement of resident fauna	Unknown	One-off	Construction and Operational Phases: Long-term.	• Direct loss of native fauna. • Decline in local fauna populations.
Injury or death of fauna	Unknown	Irregular	Construction Phase: Short-term.	• Direct loss of native fauna. • Decline in local fauna populations.
Removal of habitatfeatures e.g. hollow-bearing trees (HBTs)*	Up to 92 HBT's 5 rocky outcrops	One-off	Construction Phase: Long-term.	• Direct loss of native fauna habitat. • Injury and mortality of fauna during clearing of habitat features.
Bush Rock removal and disturbance	5 rocky outcrops	One-off	Construction Phase: Long-term.	• Direct loss of native fauna habitat. • Injury and mortality of fauna during clearing of habitat features.
Shading by solar infrastructure	Approximately 131.40 ha	Constant	Operational Phase: Long-term.	• Modification of fauna habitat

Nature of impact	Extent	Frequency	Duration and timing	Consequence
Existence of permanent solar infrastructure	730 ha	Constant	Operational Phase: Long-term.	• Modification of native fauna habitat. • Reduced fauna movements across landscape.
Indirect Impacts				
Inadvertent impacts on adjacent habitat or vegetation	Unknown	Rare	Construction Phase: Short-term.	• Direct loss of native flora and fauna habitat • Injury and mortality of fauna during clearing of fauna habitat and habitat trees • Disturbance to stags, fallen timber, and bush rock • Increased edge effects
Reduced viability of adjacent habitat due to edge effects	Unknown	Constant	Operational Phase: Long-term.	• Degradation of White Box – Yellow Box – Blakley's Red Gum Woodland and Derived Native Grassland CEEC • Loss of native flora and fauna habitat
Reduced viability of adjacent habitat due to noise, dust or light spill	Unknown	Rare	Operational Phase: Short-term.	• Loss of foraging habitat
Transport of weeds and pathogens from the development footprint to adjacent vegetation	Unknown	Irregular	Construction and Operational Phases: Long-term.	• Degradation of White Box – Yellow Box – Blakley's Red Gum Woodland and Derived Native Grassland CEEC • Loss of native flora and fauna habitat
Increased risk of starvation, exposure and loss of shade or shelter	Unknown	Constant	Construction and Operational Phases: Long-term.	• Loss of foraging habitat
Loss of breeding habitats	Up to 92 HBT	Constant	Construction Phase: Long-term.	• Loss of breeding habitat
Increased soil salinity	Unknown	Irregular	Operational Phase: Long-term.	• Degradation of White Box – Yellow Box – Blakley's Red Gum Woodland and Derived Native Grassland CEEC

6.0 Biodiversity Mitigation and Management Measures

Table 6.1 describes the biodiversity mitigation and management measures for the development. From left to right, the columns of **Table 6.1** describe:

- The 'Source': where the biodiversity mitigation and/or management measure has been recommended for the development.
- The 'ID': a unique identifier for each mitigation strategy identified in this BMP.
- The 'Aspect': a high-level summary of what biodiversity matter is being mitigated.
- The 'Mitigation / Management Measure': the actions that will be undertaken to reduce the biodiversity impacts of the development, including a summary of any proposed techniques that will be used to implement the biodiversity mitigation and/or management measures.
- The 'Development Phase': identifies what part of the development phase the biodiversity mitigation and/or management measure will apply. A biodiversity mitigation and/or management measure can apply to multiple development phases.
- The 'Responsible Party': identifies which group is responsible for implementing the applicable biodiversity mitigation and/or management measure. The 'Personnel Responsible' column identifies the individual from the 'Responsible Party' who is to implement the biodiversity mitigation and/or management measure. Numbers 1-5 have been used to represent which individual is responsible, as follows:

  1 LSbp Development Principal.

  2 Engineer, Procurement & Construction (EPC) Site Manager.

  3 EPC Health, Safety and Environment (HSE) Coordinator.

  4 Contractor Ecologist.

  5 All Employees and Contractors.

  Note: for some mitigation measures, there is more than one 'Responsible Party' and 'Personnel Responsible'

- The 'Timing/Frequency': describes when a biodiversity mitigation and/or management measure is to be implemented.
- The 'Implementation Action': describes the procedures that show how the proposed techniques for the biodiversity mitigation and/or management measures are practically being done within the development area. These procedures are described in **Section 6.1.**
- The 'Compliance Record': identifies the record that will be used to maintain compliance with the applicable biodiversity mitigation and/or management measure.

Table 6.1 Biodiversity Mitigation and Management Measures for the Development

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
SSD8895 Development Consent	BMP-01a	Biodiversity (general)	Prepare a BMP in accordance with Schedule 3, Condition 15	✓	✓	✓	✓	✓	-	-	1	Prior to construction	This BMP	This BMP
SSD8895 Development Consent	BMP-01b	Biodiversity (general)	Implement this BMP in accordance with Schedule 3, Condition 15	✓	✓	✓	✓	✓	✓	✓	5	Prior to construction	This BMP	This BMP
BDAR (NGH Environmental 2021)	BMP-02	Biodiversity (fauna)	Time works to avoid critical life cycle events such as breeding or nursing. **Proposed techniques:** where practicable, hollow bearing trees will not be removed during breeding season or hibernation period to mitigate impacts on threatened species known or assumed present within the development area. Specifically: • Hollow bearing trees that occur within suitable Southern Myotis breeding habitat, as shown on Figure 6 2, will not be removed between June and April Hollow bearing trees that occur outside the area specified above will not be removed between June and November. If clearing needs to take place during the timeframes specified above, preclearing surveys for hollow dependent fauna will be carried out. Hollows ultilised by breeding individuals or dependent young would not be removed during they key breeding timeframes listed above, or have been vacated.	✓	✓	-	-	-	✓	-	2, 3, & 4	Where practicable, the clearance of hollow bearing trees is to be planned for outside of the breeding season or hibernation period (June to November) for the threatened species known or assumed to be present. Pre-clearance surveys are to be undertaken before any hollow-bearing trees/habitat are cleared. If clearing needs to take place during the timeframes specified above, preclearing surveys for hollow dependent fauna will be carried out.	Vegetation Disturbance Permit Procedure (**Section 6.2.3**) and Pre-Clearance Survey Procedure (**Section 6.2.4**).	Weekly Site Environmental Inspection Record

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
BDAR (NGH Environmental 2021)	BMP-03	Biodiversity (fauna)	Implement clearing protocols including pre-clearing surveys, daily surveys and staged clearing in the presence of a trained ecologist or licensed wildlife handler during clearing events. **Proposed techniques:** • Pre-clearing checklist. • Tree clearing procedure.	-	✓	-	-	-	✓	-	2, 3 & 4	Daily	Pre-Clearance Survey Procedure (**Section 6.2.4**) and Tree Felling and Fauna Habitat Feature Removal Procedure (**Section 6.2.6**).	Daily Activity Pre-start Briefing Record
BDAR (NGH Environmental 2021)	BMP-04	Biodiversity (fauna)	Relocate habitat features (fallen timber, hollow logs,rocks) from within the development footprint. **Proposed techniques**: tree-clearing procedure including relocation of habitat features to Restoration Zones or areas of temporary disturbance for habitat enhancement.	-	✓	-	-	-	✓	-	2, 3 & 4	Once off	Tree Felling and Fauna Habitat Feature Removal Procedure (**Section 6.2.6**), Re-use of Coarse Woody Debris (**Section 6.7.5**), and Re-use of Rocks (**Section 6.7.6**).	Daily Activity Pre-start Briefing Record
BDAR (NGH Environmental 2021)	BMP-05	Biodiversity (flora)	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. **Proposed techniques:** • Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. • No stockpiling or storage withindripline (the area directly located under the outer circumference of the tree branches) of any mature trees. • In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery	✓	✓	-	-	-	✓	-	2, 3 & 4	Once off	Monitoring the Total Clearing Footprint for the Development (**Section 6.2.1**), Pre-Clearance Survey Procedure (**Section 6.2.4**) and Pruning Procedure (**Section 6.2.4**).	Weekly Site Environmental Inspection Record

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
			to minimize risk of disturbance, where practical.											
BDAR (NGH Environmental 2021)	BMP-06	Biodiversity (fauna)	Noise barriers or daily/seasonal timing of construction and operational activities to reduce impacts of noise. **Proposed techniques:** CEMP will include measures to avoid noise encroachment on adjacent habitats such as avoiding night works as much as possible.	-	✓	✓	-	-	✓	✓	2, 3 & 4	Once off	Noise, Light and Dust Management (**Section 6.8**).	Daily Activity Pre-start Briefing Record
BDAR (NGH Environmental 2021)	BMP-07	Biodiversity (fauna)	Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill. **Proposed techniques:** • Avoid night works. • Direct lights away from native vegetation and fauna habitat features	-	✓	✓	-	-	✓	✓	2, 3 & 4	Daily	Noise, Light and Dust Management (**Section 6.8**).	Daily Activity Pre-start Briefing Record.
BDAR (NGH Environmental 2021)	BMP-08	Biodiversity (flora)	Adaptive dust monitoring programs to control air quality. **Proposed techniques**: • Daily monitoring of fugitive dust emissions generated by constructionactivities. • Construction would cease if dust was observed being blown from off-site from the development area until control measures were implemented. All activities relating to the development would be undertaken with the objective of preventing visible off-site dust emissions from the development area.	✓	✓	✓	-	-	✓	✓	2, 3 & 4	Daily	Noise, Light and Dust Management (**Section 6.8**).	Daily Activity Pre-start Briefing Record
BDAR (NGH Environmental 2021)	BMP-09	Biodiversity (flora)	Temporary fencing to protect significant environmental features such as all riparian zones.	✓	✓	-	-	-	✓	-	2, 3 & 4	Once off	Exclusion Fencing and Signage Procedure (**Section 6.2.2**).	Weekly Site Environmental Inspection Record.

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
			Proposed techniques: prior to construction commencing, exclusion fencing, and signage would be installed around habitat to be retained. Temporary fencing would be removed prior to operation											
BDAR (NGH Environmental 2021)	BMP-10	Biodiversity (flora)	Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas. **Proposed techniques:** a Weed Management procedure would be developed for the proposal to prevent and minimize the spread of weeds. This would include: • Management protocol for declared Priority Weeds under the Biosecurity Act, WONS, and High Threat Weeds (HTW) 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 and reported and treated should it be deemed necessary.	-	✓	✓	-	-	✓	✓	2, 3 & 4, 5	Monthly	Weed Management Procedure (**Section 6.5**).	Monthly Management Job Safety and Environment Observation Record.
BDAR (NGH Environmental 2021)	BMP-11	Biodiversity (flora)	Staff training and development area briefing to communicate environmental features to be protected and measures to be implemented. Proposed techniques: • Development area induction. • Toolbox talks.	-	✓	-	-	-	✓	✓	2 & 3	As required and daily	Training Requirements (**Section 8.1**).	Daily Activity Pre-start Briefing Record.

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
BDAR (NGH Environmental 2021)	BMP-12a	Biodiversity (flora)	Preparation of a biodiversity management plan (BMP) to regulate activity in vegetation and habitat adjacent to the development. The vegetation management plan may include controls on rubbish disposal, wood collection, fire management and disturbance to nests and other niche habitats. **Proposed techniques:** Prepare a BMP in accordance with Schedule 3, Condition 15 that would include protocols for: • Protection of native vegetation to be retained. • Weed management • Establishment of fauna habitat from features salvaged from within the development footprint Monitoring of retained vegetation to ensure biodiversity values are improved or maintained.	✓	✓	✓	✓	✓	-	-	1	One off preparation	Management of Retained Vegetation (**Section 6.7.3**)	A compliance record for this biodiversity mitigation/ management measure is not required.
BDAR (NGH Environmental 2021).	BMP-12b	Biodiversity (flora)	Implementation of the BMP-12a biodiversity management plan	✓	✓	✓	✓	-	✓	✓	2, 3 & 4	Ongoing implementation	Management of Retained Vegetation (**Section 6.7.3**)	Monthly Management Job Safety and Environment Observation Record.
BDAR (NGH Environmental 2021).	BMP-13a	Biodiversity (general)	Erosion and sediment controls **Proposed techniques**: • An erosion and sediment control plan (ESCP) would be prepared in conjunction with the final design and implemented. Sediment barriers or sedimentation ponds to control the quality of water released from the development area into the receiving environment.	✓	✓	✓	✓	-	✓	✓	2 & 3	Once off preparation and then ongoing implementation	Waterways management (**Section 6.9**).	Monthly Management Job Safety and Environment Observation Record.

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
BDAR (NGH Environmental 2021)	BMP-14a	Biodiversity (general)	Develop a chemical spill response procedure. **Proposed techniques**: Develop an Emergency Plan (EP) (including the chemical spill response procedure) to assist prevent contaminants affecting adjacent surrounding waterways. The EP is required in accordance with Schedule 3, Condition 29 of the consent.	✓	✓	✓	✓	✓	-	-	1	Once off preparation	Waterways management (**Section 6.9**).	This BMP, the EP
BDAR (NGH Environmental 2021)	BMP-14b	Biodiversity (general)	Implement chemical spill response procedure. **Proposed techniques**: Implementation of the EP (including the chemical spill response procedure) to assist prevent contaminants affecting adjacent surrounding waterways.	✓	✓	✓	✓	-	✓	✓	2 & 3	Ongoing implementation	Waterways management (**Section 6.9**).	Monthly Management Job Safety and Environment Observation Record.
BDAR (NGH Environmental 2021)	BMP-15	Biodiversity (general)	Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development area. **Proposed techniques:** preparation and implementation of a vegetation management subplan that would include protocols for: • Protection of native vegetation to be retained. • Weed management • Passive restoration of native vegetation • Establishment of fauna habitat from features salvaged from within the development footprint	-	-	✓	-	-	✓	✓	2, 3, & 4	Ongoing implementation	Rehabilitation and Restoration Procedure (**Section 6.7**)	Monthly Management Job Safety and Environment Observation Record.

Source	ID	Aspect	Mitigation / Management Measure	Development Phase				Responsible Party				Timing/Frequency	Implementation Action	Compliance Record
				Early Works Construction	Main Works Construction	Operations and Maintenance	Decommissioning	Principal (LSbp)	EPC Contractor	Operations and Maintenance Contractor	Personnel Responsible[1,2,3,4,5]			
			• Monitoring of retained vegetation to ensure biodiversity values are improved or maintained.											
BDAR (NGH Environmental 2021)	BMP-16	Biodiversity (general)	Staff training and development area briefing to communicate impacts of traffic strikes on native fauna. Proposed techniques: • Awareness training during site inductions regarding enforcing site speed limits. • Site speed limits to be enforced to minimize fauna strike.	-	✓	✓	-	-	✓	✓	2, 3, 4 & 5	Monthly or as required	Training Requirements (**Section 8.1**).	Monthly Management Job Safety and Environment Observation Record.

[1] LSbp Development Principal
[2] Engineer, Procurement & Construction (EPC) Site Manager
[3] EPC Health, Safety and Environment (HSE) Coordinator
[4] Contractor Ecologist
[5] All Employees and Contractors

6.1 Environmental Management Protocols and Procedures

This section summarises the environmental management protocols and procedures that will be implemented to manage, and where possible further minimize, the biodiversity impacts of the development during the construction, operation and decommissioning phases. The specific protocols and procedures associated with each phase are contained within **Sections 6.1.1** and **Section 6.1.4** respectively.

6.1.1 Procedures and Protocols relating to Early Works Construction

Procedures applicable to Early Works Construction

Vegetation clearance procedures

Section 6.2 details procedures relating to vegetation clearing within the development area during early works construction phase (IDs: BMP-02, BMP-03, BMP-05, BMP-09)

- Section 6.2.1 – Monitoring the total clearing footprint
- Section 6.2.2 – Exclusion fencing and no-go zones
- Section 6.2.3 – Vegetation disturbance permit procedure
- Section 6.2.4 – Pre-Clearance survey procedure
- Section 6.2.5 – Pruning procedure
- Section 6.2.6 – Tree felling and fauna habitat removal
- Section 6.2.7 – Removal of vegetation outside of approved clearing boundaries

Animal handling procedures

Section 6.3 details procedures relating to animal handling within the development area during early works construction phase (IDs: BMP-03)

- Section 6.3.1 – General protocols
- Section 6.3.2 – Injured fauna
- Section 6.3.3 – Relocation of fauna (including Section 6.3.3.1 Relocation of large fauna species)
- Section 6.3.4 – Fauna handling information

Unexpected threatened species finds procedure

Section 6.4 details procedures relating to unexpected threated species finds within the development area during early works construction phase (IDs: BMP-02, BMP-03, BMP-05, BMP-09)

- Section 6.4 – Unexpected threatened species finds procedure

Procedures applicable to Early Works Construction

Weed and pathogen management procedures

Section 6.5 details procedures relating to weed and pathogen management within the development area during early works construction phase (IDs: BMP-10)

- Section 6.5.1 – Weed inspection
- Section 6.5.2 – Weed treatment
- Section 6.5.3 – Herbicide application record
- Section 6.5.4 – Weed disposal
- Section 6.5.6 – Vehicle hygiene procedure

Pest management procedure

Section 6.6 details procedures relating to pest management within the development area during early works construction phase (IDs: BMP-10)

- Section 6.6.1 – Pesticide application record

General procedures

Procedures managing general environmental impacts across the development area are detailed in Section 6.8 and Section 6.9 (IDs: BMP-06, BMP-07, BMP-08, BMP-13a&b, BMP-14)

- Section 6.8 – Noise, light and dust management
- Section 6.9 – Waterways management

6.1.2 Procedures and Protocols relating to Main Works Construction

Procedures applicable to Main Works Construction

Vegetation clearance procedures

Section 6.2 details procedures relating to vegetation clearing within the development area during main works construction phase (IDs: BMP-02, BMP-03, BMP-05, BMP-09)

- Section 6.2.1 – Monitoring the total clearing footprint
- Section 6.2.2 – Exclusion fencing and no-go zones
- Section 6.2.3 – Vegetation disturbance permit procedure
- Section 6.2.4 – Pre-Clearance survey procedure
- Section 6.2.5 – Pruning procedure
- Section 6.2.6 – Tree felling and fauna habitat removal
- Section 6.2.7 – Removal of vegetation outside of approved clearing boundaries

Animal handling procedures

Section 6.3 details procedures relating to animal handling within the development area during main works construction phase (IDs: BMP-03)

- Section 6.3.1 – General protocols
- Section 6.3.2 – Injured fauna
- Section 6.3.3 – Relocation of fauna (including Section 6.3.3.1 Relocation of large fauna species)
- Section 6.3.4 – Fauna handling information

Unexpected threatened species finds procedure

Section 6.4 details procedures relating to unexpected threated species finds within the development area during main works construction phase (IDs: BMP-02, BMP-03, BMP-05, BMP-09)

- Section 6.4 – Unexpected threatened species finds procedure

Procedures applicable to Main Works Construction

Weed and pathogen management procedures

Section 6.5 details procedures relating to weed and pathogen management within the development area during main works construction phase (IDs: BMP-10)

- Section 6.5.1 – Weed inspection
- Section 6.5.2 – Weed treatment
- Section 6.5.3 – Herbicide application record
- Section 6.5.4 – Weed disposal
- Section 6.5.5 – Ongoing weed management and monitoring
- Section 6.5.6 – Vehicle hygiene procedure

Pest management procedure

Section 6.6 details procedures relating to pest management within the development area during main works construction phase (IDs: BMP-10)

- Section 6.6.1 – Pesticide application record

Rehabilitation and restoration procedures

Section 6.7 details procedures relating to rehabilitation and restoration within the development area during main works construction phase (IDs: BMP-10)

- Section 6.7.1 – Rehabilitation of temporarily disturbed areas
- Section 6.7.2 – Re-use of soil resources
- Section 6.7.3 – Management of Retained vegetation
- Section 6.7.4 – Weed management
- Section 6.7.5 – Re-use of coarse woody debris
- Section 6.7.2 – Re-use of rocks
- Section 6.7.7 – Response to decline in condition

Procedures applicable to Main Works Construction

General procedures	Procedures managing general environmental impacts across the development area are detailed in Section 6.8 and Section 6.9 (IDs: BMP-06, BMP-07, BMP-08, BMP-13a&b, BMP-14)

6.1.3 Procedures and Protocols relating to Operations and Maintenance

Procedures applicable to Operations and Maintenance

Weed and pathogen management procedures

Section 6.5 details procedures relating to weed and pathogen management within the development area during operations and maintenance phase (IDs: BMP-10)

- Section 6.5.1 – Weed inspection
- Section 6.5.2 – Weed treatment
- Section 6.5.3 – Herbicide application record
- Section 6.5.4 – Weed disposal
- Section 6.5.5 – Ongoing weed management and monitoring
- Section 6.5.6 – Vehicle hygiene procedure

Pest management procedure

Section 6.6 details procedures relating to pest management within the development area during operations and maintenance phase (IDs: BMP-10)

- Section 6.6.1 – Pesticide application record

Rehabilitation and restoration procedures

Section 6.7 details procedures relating to rehabilitation and restoration within the development area during operations and maintenance phase (IDs: BMP-10)

- Section 6.7.1 – Rehabilitation of temporarily disturbed areas
- Section 6.7.2 – Re-use of soil resources
- Section 6.7.3 – Management of Retained vegetation
- Section 6.7.4 – Weed management
- Section 6.7.5 – Re-use of coarse woody debris
- Section 6.7.2 – Re-use of rocks
- Section 6.7.7 – Response to decline in condition

6.1.4 Procedures and Protocols relating to Decommissioning

Procedures applicable to Decommissioning

Weed and pathogen management procedures

Section 6.5 details procedures relating to weed and pathogen management within the development area during decommissioning phase (IDs: BMP-10)

- Section 6.5.1 – Weed inspection
- Section 6.5.2 – Weed treatment
- Section 6.5.3 – Herbicide application record
- Section 6.5.4 – Weed disposal
- Section 6.5.5 – Ongoing weed management and monitoring
- Section 6.5.6 – Vehicle hygiene procedure

Pest management procedure

Section 6.6 details procedures relating to pest management within the development area during decommissioning phase (IDs: BMP-10)

- Section 6.6.1 – Pesticide application record

Rehabilitation and restoration procedures

Section 6.7 details procedures relating to rehabilitation and restoration within the development area during decommissioning phase (IDs: BMP-10)

- Section 6.7.1 – Rehabilitation of temporarily disturbed areas
- Section 6.7.2 – Re-use of soil resources
- Section 6.7.3 – Management of Retained vegetation
- Section 6.7.4 – Weed management
- Section 6.7.5 – Re-use of coarse woody debris
- Section 6.7.2 – Re-use of rocks
- Section 6.7.7 – Response to decline in condition

6.2 Vegetation Clearance Procedures

All vegetation clearance procedures and activities will be managed and implemented by the EPC Site Manager and the EPC HSE Coordinator during the early works and main work construction phases of the development.

In accordance with Schedule 3, Condition 13 of the development consent no native vegetation or fauna habitat located outside the approved disturbance areas described in the EIS will be cleared.

6.2.1 Monitoring the Total Clearing Footprint for the Development

Vegetation clearance is only permitted in the areas identified within the development footprint in the BDAR (NGH Environmental 2021). **Table 6.2** specifies the total amount of clearance that is permitted by the development. Any additional clearance required for the development will first require a modification to the development consent.

Prior to any clearing, the EPC Site Manager and the EPC HSE Coordinator will liaise with each other to identify and display clearance boundaries for the development area. Survey teams and GIS databases will be used to inform and record clearing.

The cumulative amount of vegetation cleared will be progressively monitored by the EPC HSE Coordinator. Prior to undertaking any clearing, the value to be cleared will be compared to the total approved area to be cleared to ensure that the development does not go past any of the clearing limits specified in **Table 6.2**.

It should be noted that scattered paddock trees are different to hollow bearing trees as referenced above, with a specified definition as per the NSW Biodiversity Assessment Method (BAM) (DPIE, 2020). Whilst some paddock trees contain hollows, hollow bearing trees may also be present within larger patches of vegetation to be remove or retained.

Table 6.2 Total Amount of Clearance Permitted by the Development

Zone ID	PCT	Condition	Clearance Limit (Ha)
Solar array and associated infrastructure			
1	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate	3.08
2	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Derived Native Grassland	90.99
4	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Planted	2.12
5	PCT 437: Yellow Box grassy woodland on lower hillslopes and valley flats in the southern NSW Brigalow Belt South Bioregion	Planted	10.20
6	PCT 437: Yellow Box grassy woodland on lower hillslopes and valley flats in the southern NSW Brigalow Belt South Bioregion	Low	1.06
Transmission line			
Tx 1	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Derived Native Grassland	2.00
Tx 2	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Moderate	7.56
Tx 3	PCT 266: White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Creekline	0.50
Scattered paddock trees			
-	Scattered paddock trees (aligning mostly to PCT 266 and PCT 437)	-	55 trees

6.2.2 Exclusion Fencing and 'No-go Zone' Procedure

To protect vegetation and fauna habitat that is outside of the approved clearance boundaries for the development area, exclusion fencing, and signage will be used to protect all areas containing vegetation and habitat that is not to be cleared. 'No-go zones' are any areas of native vegetation outside the designated clearing boundary as indicated in **Figure 6.1.** The locations of these 'No-go Zones' will be communicated to construction site staff (including equipment operators) through site inductions, toolbox talks and targeted training prior to works taking place in the vicinity.

The use of heavy machinery to clear vegetation will be avoided within 10 m of the boundary of 'No-go Zones' to minimise accidental disturbance within retained vegetation. Vegetation removal in these areas would be conducted with chainsaws, with trees felled into the development footprint, rather than machinery to ensure minimal disturbance, where practicable.

Exclusion zones and signage will also be used to identify areas outside of the development footprint that are not to be disturbed. The development's footprint will be marked out by the EPC HSE Coordinator, with retained vegetation and important environmental features to be located within a 'No-go Zone'. Typical measures to mark out the development's footprint will include:

- Use of temporary fencing such as construction hoarding around retained vegetation.
- Flag tape, para-webbing, or rope.

'No-go Zones' will display signage accordingly. The location of 'No-go Zones' are shown in **Figure 6.1.**

6.2.3 Vegetation Disturbance Permit Procedure

Before any clearing occurs a Vegetation Disturbance Permit (VDP) is to be acquired. The VDP and the associated clearance survey procedures are designed to:

- Provide a hold-point to ensure the development is being undertaken in accordance with the approved clearance limits for the development.
- Minimise the impact of the development on TECs, flora, fauna, and their habitat by reducing impacts to native vegetation from clearing activities.
- The following process is to be completed to obtain a VDP:

    1. Identify the location that is planned for clearing.
    2. Confirm that the clearing activities are within the approved clearance boundaries for development.
    3. Confirm if the clearing activities will contribute to the approved clearance limits for the development and that they will not be exceeded. In circumstances where clearing is trending towards its disturbance limit; it is the responsibility of the EPC HSE Coordinator to provide internal guidance to the EPC Site Manager to ensure that limits are not exceeded. If an exceedance does occur, the EPC HSE Coordinator will notify the LSbp Development Principal who will then advise the relevant agencies to determine corrective procedures.

4. Identify if timing constraints for threatened species are applicable when undertaking this work, i.e. are the clearing activities occurring during the critical life cycle events (breeding or nursing times) for the threatened species that were identified or assumed as being present within the development area (see **Section 4.9**). If so, the procedures presented in Sections **6.2.4**, **6.2.6**, **6.3** and **6.4**. are to be known and implemented by those undertaking clearing activities.

Where vegetation is to be cleared, the EPC HSE Coordinator is responsible for ensuring the following measures are implemented:

- The VDP procedure described above has been implemented.
- The procedures presented in **Sections 6.2.4**, **6.2.6**, **6.3** and **6.4**. have been communicated to those undertaking clearing activities and are being implemented.
- Photos, as-built records, and inspection records which documents the above are held for the life of the development's consent.

6.2.4 Pre-Clearance Survey Procedure

Pre-clearance surveys will be carried out by a contractor ecologist (refer **Table 7.1** for responsibilities) on-site prior to any vegetation clearing or fence installation to ensure large terrestrial fauna do not become trapped within 'No-go Zones'. The Pre-clearing Procedure is focused on the ecological impacts to biodiversity values as per Condition 15(a) SSD 8895. Figures showing threatened species polygons and records, and the distribution of threatened ecological communities in the development area are shown in **Figure 4.2** and **Figure 4.3** of this BMP.

The following will be carried out before any clearing activities have begun:

- Identify and mark all habitat trees (being those containing hollows, cracks, splits, spouts, large amounts of peeling bark sheets, active bird nests and possum dreys) using spray paint and/or flagging tape and location recorded using a GPS. Locations of hollow bearing trees previously identified within the development footprint (NGH Environmental 2021) is shown in **Figure 6.2**. A register of hollow bearing trees within the development area is located within **Appendix 2**. It is expected that this register would need to be updated following pre-clearance surveys as additional hollows may be found.
- Inspect for and marking of animal dens/burrows, with attention paid to determining if they are currently used (e.g., signs of scratches, fresh soil, droppings/scats etc.).
- Identification and marking of habitat features with potential to be salvaged for later use. These may include fallen timber, hollow logs, and rocks/boulders. These are to be marked with spray paint and flagging tape and the location recorded with a GPS.
- Searches for the presence and extent of Priority Weeds, WONS, and High Threat Weed (HTW) species and vertebrate pest species that require management action.
- The contractor ecologist will consider specific times of the year when species may be using habitat features for breeding or roosting and provide advice on further mitigative measures if occupation is observed or deemed likely.

The results of these surveys will be provided to the construction site staff involved in vegetation clearing, through site inductions, toolbox talks and targeted training.

The following process will be followed to minimise the area of disturbance and the amount of vegetation to be cleared for the development:

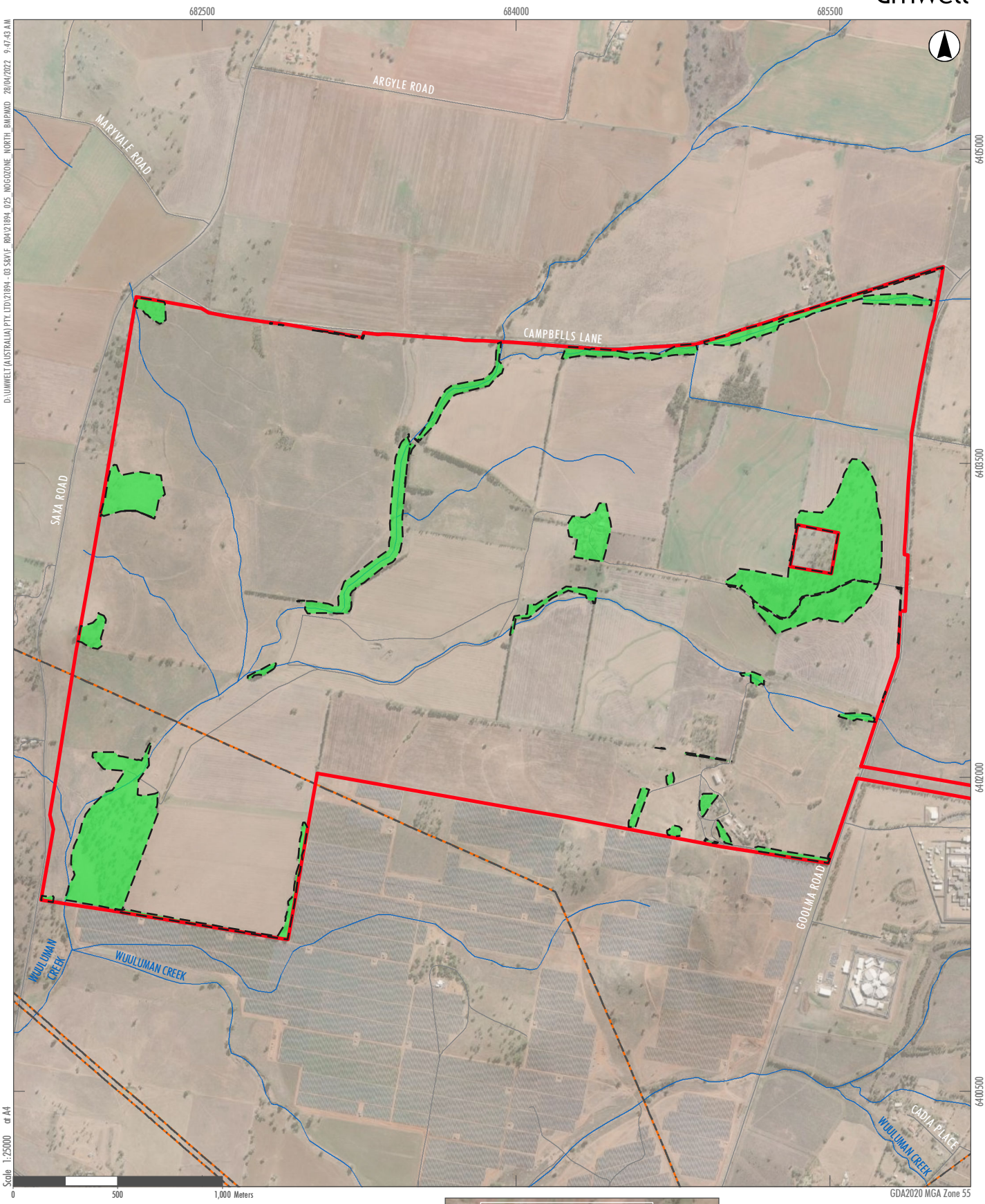
1. If the vegetation to be cleared is adjacent to vegetation that is not to be disturbed then delineate an exclusion zone around the vegetation that is not to be disturbed using fencing, flags, rope and 'No Go Zone' signage. Proceed to the next step.

2. Check the vegetation that is to be cleared for hollows, rocky areas, or fauna habitat. If hollows, rocky areas, or fauna habitat are present refer to the hollow bearing tree/habitat removal procedure in **Section 6.2.6**. Proceed to the next step.

3. If sufficient, prune the minimal amount of branches and foliage instead of clearing it. Proceed to the next step if pruning is not sufficient and the clearing of vegetation needs to occur.

4. Clear the vegetation and move it to an approved area.

Should the removal of hollow bearing trees be required between the months of April and November additional preclearance surveys should be carried out to confirm that none of the hollows proposed to be remove are being utilised as breeding habitat for threatened fauna. Preclearance surveys may involve direct and indirect inspections of hollows by the contractor ecologist. Hollows utilised by breeding individuals or dependent young would not be removed during they key breeding timeframes listed above, or until the nest is vacated.



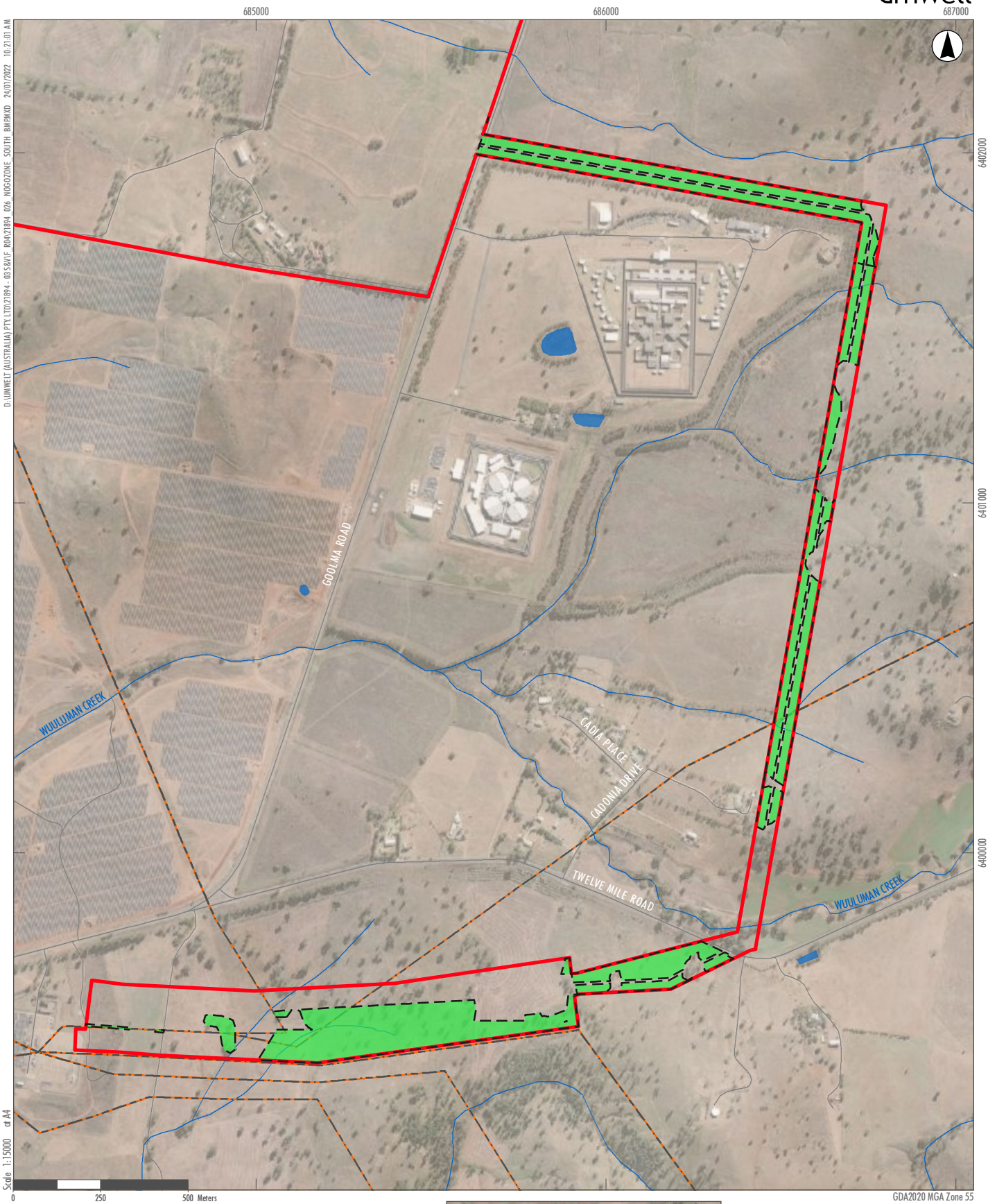
Legend

- Development Site
- Native Vegetation to be Retained
- No-go Zones
- Existing Transmission Lines
- Road

FIGURE 6.1.1

No-go Zones (North)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019)



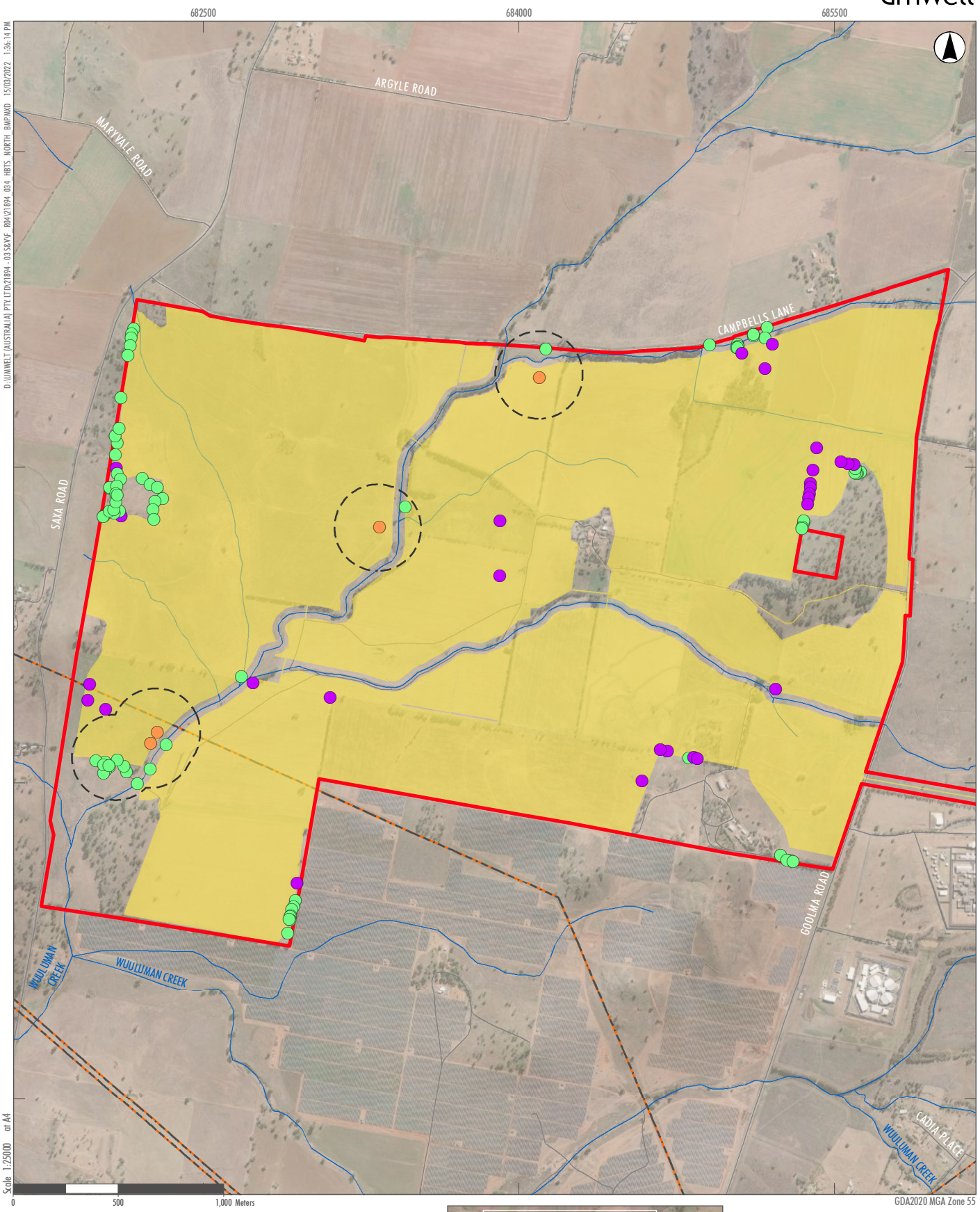
Legend

- Development Site
- Native Vegetation to be Retained
- No-go Zones
- Existing Transmission Lines
- Road

FIGURE 6.1.2

No-go Zones (South)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)



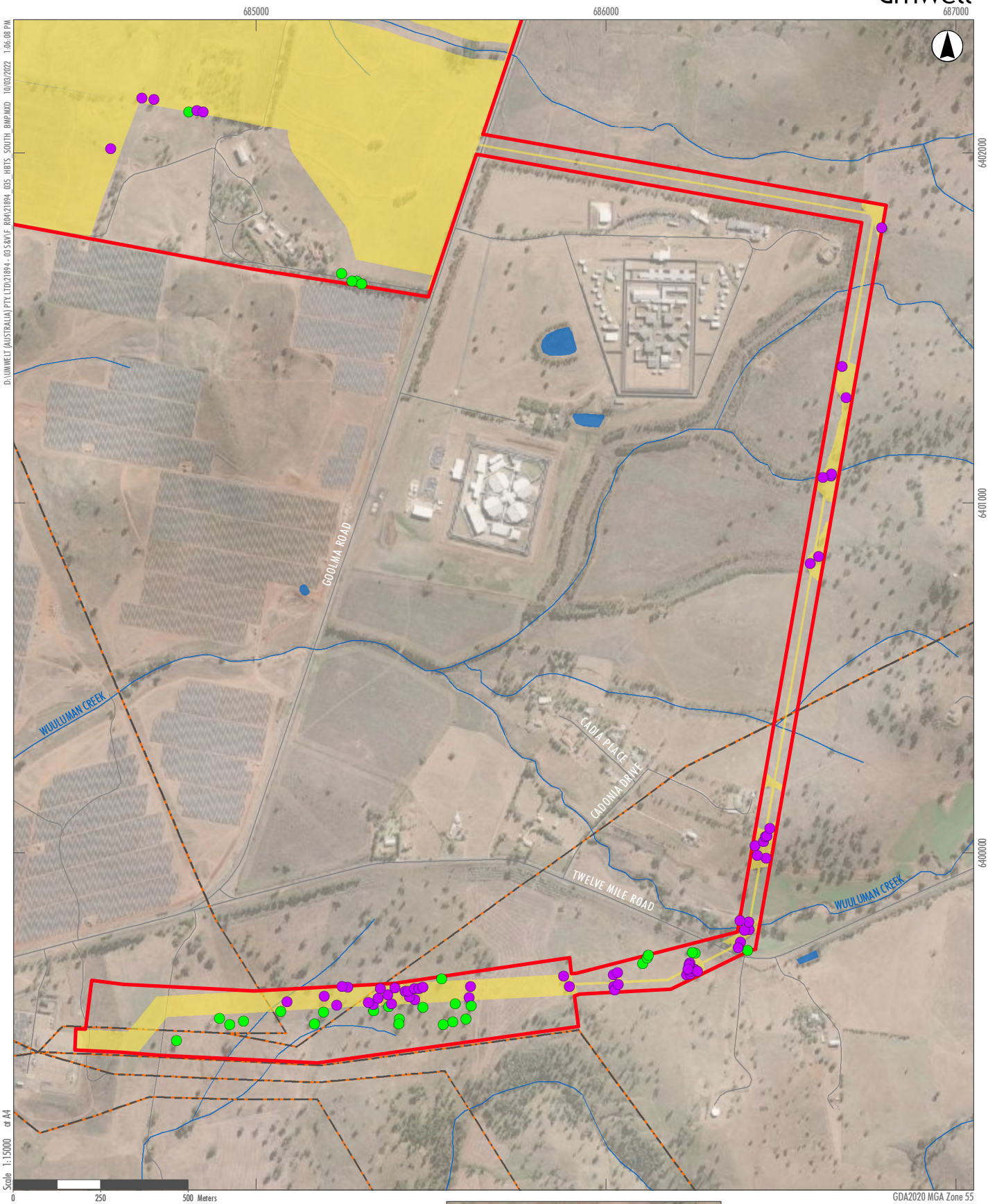
Legend

- Development Site
- Development Footprint
- Road
- Existing Transmission Lines
- 200 m Buffer around Southern Myotis Species Polygon
- Hollow-bearing Trees to be Retained
- Hollow-bearing Trees to be Removed
- Hollow-bearing Trees within Southern Myotis habitat to be Removed

FIGURE 6.2.1

Hollow-bearing Trees within the Development Site (North)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)



Legend

- Development Site
- Development Footprint
- Existing Transmission Lines
- Hollow-bearing Trees to be Retained
- Hollow-bearing Trees to be Removed
- Road

FIGURE 6.2.2

Hollow-bearing Trees within the Development Site (South)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)

6.2.5 Pruning Procedure

The use of heavy machinery will be avoided when clearing activities are within 10 m of the boundary of 'No-go Zones'. Appropriate tools to use for pruning are loppers, chainsaws 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 a contractor ecologist/suitably qualified expert and placed in adjacent undisturbed vegetation to provide fauna habitat.

6.2.6 Tree Felling and Fauna Habitat Feature Removal Procedure

Hollow bearing trees are an important habitat feature for a variety of native animals. Before clearing any hollow bearing or habitat trees, it is important to consider if animals are present. Where practicable, hollow bearing trees will not be removed when breeding is at its peak for threatened species recorded or assumed to be present within the development area. Specifically,

- Hollow bearing trees that occur within suitable Southern Myotis breeding habitat, as shown on **Figure 6.2**, will not be removed between June and early April.
- Hollow bearing trees that occur outside the area specified above will not be removed between June and early November.

If clearing needs to take place during the timeframes specified above, preclearing surveys for hollow dependent fauna will be carried out. Hollows utilised by breeding individuals or dependent young would not be removed during they key breeding timeframes listed above, or have been vacated.

The following process will be followed to ensure no impacts to fauna occur:

1. Clear the vegetation that is surrounding the hollow bearing or habitat trees first and leave the hollow bearing or habitat trees to stand for one night. Shake or knock the tree to encourage fauna to leave - this should occur the day before clearing. Proceed to the next step.
2. Before removing any hollow bearing or habitat trees, the contractor ecologist is to complete a visual inspection for signs of animal movement, or nest occupation, in the vegetation that is about to be cleared. Make sure the contractor ecologist can locate all the hollows/habitat within the vegetation that is about to be cleared and that the contractor ecologist has direct contact with the plant or chainsaw operator via radio and or visual contact. Proceed to the next step.
3. Before clearing the vegetation, use an excavator or front-end loader to nudge the trunk of the tree as high as possible a few times. Wait 30 seconds and then repeat the process. If a chainsaw is being used to clear the vegetation or the tree is being removed in stages, then remove the non-hollow bearing branches first. Proceed to the next step.
4. Once all the non-hollow bearing branches have been removed, begin removing the hollow bearing branches one by one. The removal of a hollow bearing branch can only be undertaken once the contractor ecologist checked the previous hollow bearing branch that was removed for fauna and is available to observe the removal. Proceed to the next step.
5. Any animals that escape during the clearing process are to be recorded and records maintained in an internal fauna finds register. If any animals are found and won't leave/are injured during the vegetation clearing process, then the 'Animal Handling Procedure' in **Section 6.3** will be used.
6. Felled trees are to be positioned so that the number of hollows blocked against the ground is minimised, where possible.

7. Felled trees that may hold sheltering fauna are to remain in place at least overnight to allow any remaining fauna to escape. If such a tree is accidentally felled in the wrong direction to which it was planned and subsequently needs to be moved (i.e., blocks a track, road or similar), it can be moved on the day of felling to rectify the issue. In such circumstances, with consideration to safety or accessibility concerns, the tree must only be moved the minimum distance required to rectify the issue.

8. All hollow bearing branches and or hollow bearing trees that have been cleared will be relocated to Restoration Zones for habitat enhancement (refer to requirement 6 above). The location of Restoration Zones are shown in **Figure 6.4**.

In addition to hollow bearing trees, other fauna habitat features, such as rocky habitat, have been recorded as being present within the development footprint. The following process will be followed to ensure no impacts to fauna utilising these features occur:

1. Completion of actions recommended from the pre-clearing inspections where practicable, including (but not limited to) actions required to discourage fauna occupation and weed or feral fauna management requirements.

2. Consider advice of the contractor ecologists from pre-clearance surveys for most appropriate and effective method of encouraging fauna to vacate the area prior to clearance date.

3. If no active usage is identified, there is no further action required prior to clearing works.

4. Complete a visual inspection of the area, and specific habitat, to be cleared for fauna species and nests that may have become active since pre-clearing inspections.

5. Inspect fauna habitat feature (rocky area, termite mounds, and animal den/burrows) after being partially cleared for remaining or injured fauna.

6. Any animals that escape during the clearing process are to be recorded and maintained in an internal fauna finds register. If any animals are found and won't leave/ are injured during the vegetation clearing process, then the 'Animal Handling Procedure' in **Section 6.3** will be used.

7. Cleared rocks, that were identified as habitat, are to be scattered in an area of retained vegetation for habitat enhancement at maximum on one cubic m of rock per hectare.

6.2.7 Removal of Vegetation Outside Approved Clearing Boundaries

No clearing outside of the approved development footprint will occur unless a modification to the current development consent has been approved to do so.

If construction activities require the removal of any vegetation that is outside of the approved clearing boundaries within the development area the following process will be followed:

1. The person who is conducting the clearing activity will notify the EPC HSE Coordinator of the location and the need for the vegetation impact via the Vegetation Disturbance Permit process.

2. The EPC HSE Coordinator will assess whether the vegetation is 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, in consultation with LSbp. Alternatives to removing the vegetation will also be investigated at this stage.

3. The EPC HSE Coordinator will consult with a relevant specialist if the vegetation is suspected to be heritage listed, part of an EEC, a habitat tree, nominated for retention or protected under relevant legislation

4. Following consultation with relevant specialists a modification to the development consent may be required and DPIE would be consulted to confirm. Where a modification to the development consent is required, no works are to proceed until it is approved.

5. If a modification to the development consent is not required, I person who is conducting the clearing activity will await written confirmation from the EPC HSE Coordinator prior to restarting works around the vegetation.

6.3 Animal Handling Procedure

6.3.1 General Protocols

Should fauna be observed on the project site during vegetation clearing or construction activities, and there is a risk these activities may harm the animal or pose risk to site personnel, the following steps are to be taken.

- Stop all work in the vicinity of the fauna and immediately notify the EPC HSE Coordinator or Project Ecologist.
- If the animal is identified as a threatened species, then refer to the 'Unexpected Threatened Species Finds Procedure' in **Section 6.4**.
- If possible, allow fauna to leave the area without intervention.
- If fauna cannot or will not leave the area without intervention, the fauna are to be removed by a suitably qualified ecologist, licensed fauna ecologist or wildlife carer with specific animal handling experience using the following methodology:
    - cover larger animals with a towel or blanket and place it in a cardboard box and/or canvas bag
    - place smaller animals in a cotton bag, tied at the top
    - keep the animal in a quiet, cool, ventilated and dark location away from noisy construction activities until it can be relocated
    - transport frogs in moistened plastic bags (1 frog/bag) with a small amount of leaf litter. The translocation of frogs shall be in accordance with the Hygiene Protocol for the Control of Disease in Frogs
    - if the animal cannot be handled (i.e., venomous reptiles):
        - exclude all personnel from the vicinity with fencing and/or signage
        - record the exact location of the animal/s and provide to the qualified ecologist or appropriate rescue agency (i.e., WIRES)

6.3.2 Injured Fauna

Should fauna be injured as part of the construction activities, the following steps are to be carried out:

- Remove any threat to the animal that could cause or exacerbate an injury.
- Call the appropriate rescue agency (WIRES – 1300 094 737) immediately and follow any advice provided by the agency.
- Once the rescue agency arrives at the site, they are responsible for the animal. Any decisions regarding the care of the animal will be made by the rescue agency.
- In the event the rescue agency and/or local veterinary service cannot be contacted, the injured animal will be delivered to the relevant agency as soon as practicably possible.
- At the time this BMP was prepared, the closest veterinary surgery/vet hospital was Wellington Veterinary Hospital, 7086 Mudgee Road, Wellington. Phone: (02) 6845 2872 and Website: Wellington Veterinary Hospital.
- Contain the injured fauna in order 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. Place box 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.

6.3.3 Relocation of Fauna

Relocation of fauna from within the development area is to be carried out where possible by a qualified ecologist or wildlife rescuer and is to be recorded as part of the pre-clearance reporting obligations. If the animal is not injured or stressed, it may be released nearby in an area that is not to be disturbed by the works and in accordance with the following procedures:

- Site identified as a suitable release point by the qualified ecologist or wildlife rescuer.
- Release site is to contain similar habitat (the same vegetation community if possible) and occur as close to the original capture location as possible without placing the animal in danger from the continuing constructing works.
- If the species is nocturnal, release is to be carried out at dusk.
- Release would generally not be carried out during periods of heavy rainfall.
- Details of fauna captured and relocated will be recorded in the internal fauna find register. Any injury or death of a threatened species will be reported by the EPC HSE Coordinator to the LSbp Principal.

Where necessary, fauna should be relocated to the closest 'fauna relocation zones' as shown on **Figure 6.3.**

6.3.3.1 Relocation of large fauna species

The relocation of large fauna species off the development site may be required prior to permanent site perimeter fencing installation being complete. The relocation of large fauna species should be carried out in consultation with a suitably qualified ecologist and Local Land Services. Completion of the permanent site perimeter fencing should only occur once it has been determined that no large fauna species are present within the development area.

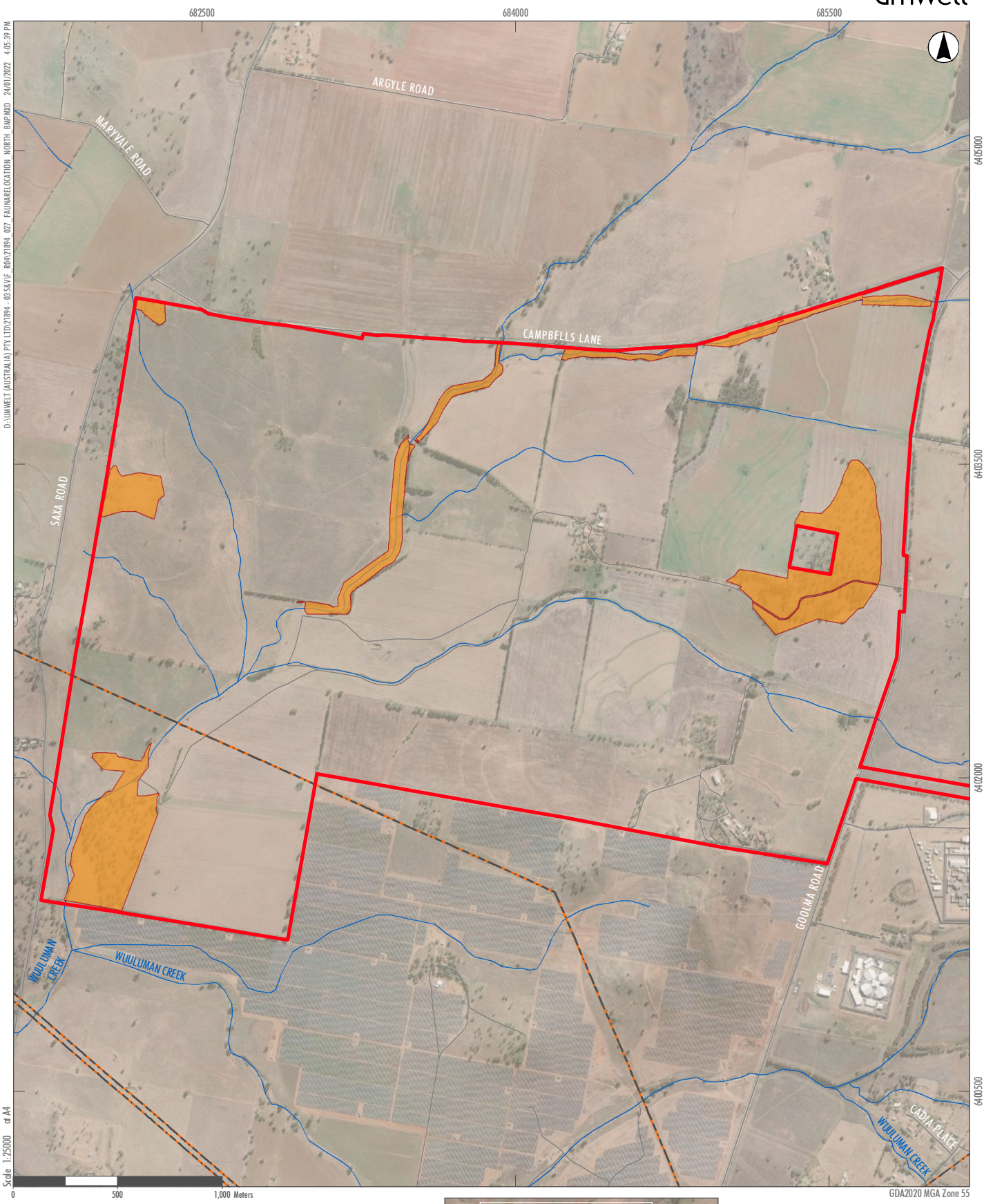
The following procedure should be implemented prior to and during construction to deter the presence of large fauna species:

- Watering points, including dams, should be removed / decommissioned, or fenced with construction hoarding to limit access to water.
- Native and exotic grass should be slashed or mown to reduce grass cover and foraging opportunities. The grass should be slashed and maintained as low as feasible (the exact height to be dependent on onsite conditions), and with maintenance slashing/mowing to be carried to prevent grass exceeding 50 centimetres in height.
- Motion sensor lighting and noise deterrent should be installed around the development area or on temporary fencing to deter the presence of large fauna. Any motion sensor lighting and noise deterrents must be developed to comply with the requirements specified under Schedule 3, Condition 21 (Lighting) and then Schedule 3, Condition 17 and Condition 18 (Noise) of the development consent. Where these lighting and noise measures cannot comply with these conditions, they are not considered reasonably practicable to implement.

6.3.4 Fauna Handling Information

It is important to consider the following when handling fauna:

- Some animals require particular handling (e.g., venomous reptiles, raptors) and should only be handled by appropriately qualified personnel i.e., qualified ecologist or WIRES representative(s).
- If handling bats, the handler must be vaccinated against the Australian Bat Lyssavirus (ABL – a form of rabies).
- Any frog handling will be carried out in accordance with the Hygiene Protocol for the Control of Disease in Frogs (DECC, 2008). This protocol recommends onsite hygiene precautions be carried out to minimise the transfer of disease between and within wild frog populations. Measures recommended include:
    - thoroughly cleaning/disinfecting footwear and equipment when moving from one site to another
    - where necessary in high-risk areas, spraying/flushing vehicle tyres with a disinfecting solution
    - cleaning/disinfecting hands between collecting samples/frogs (preference would be given to using bags, rather than bare hands to handle frogs). Limiting one frog or tadpole to a bag. Bags should not be reused.



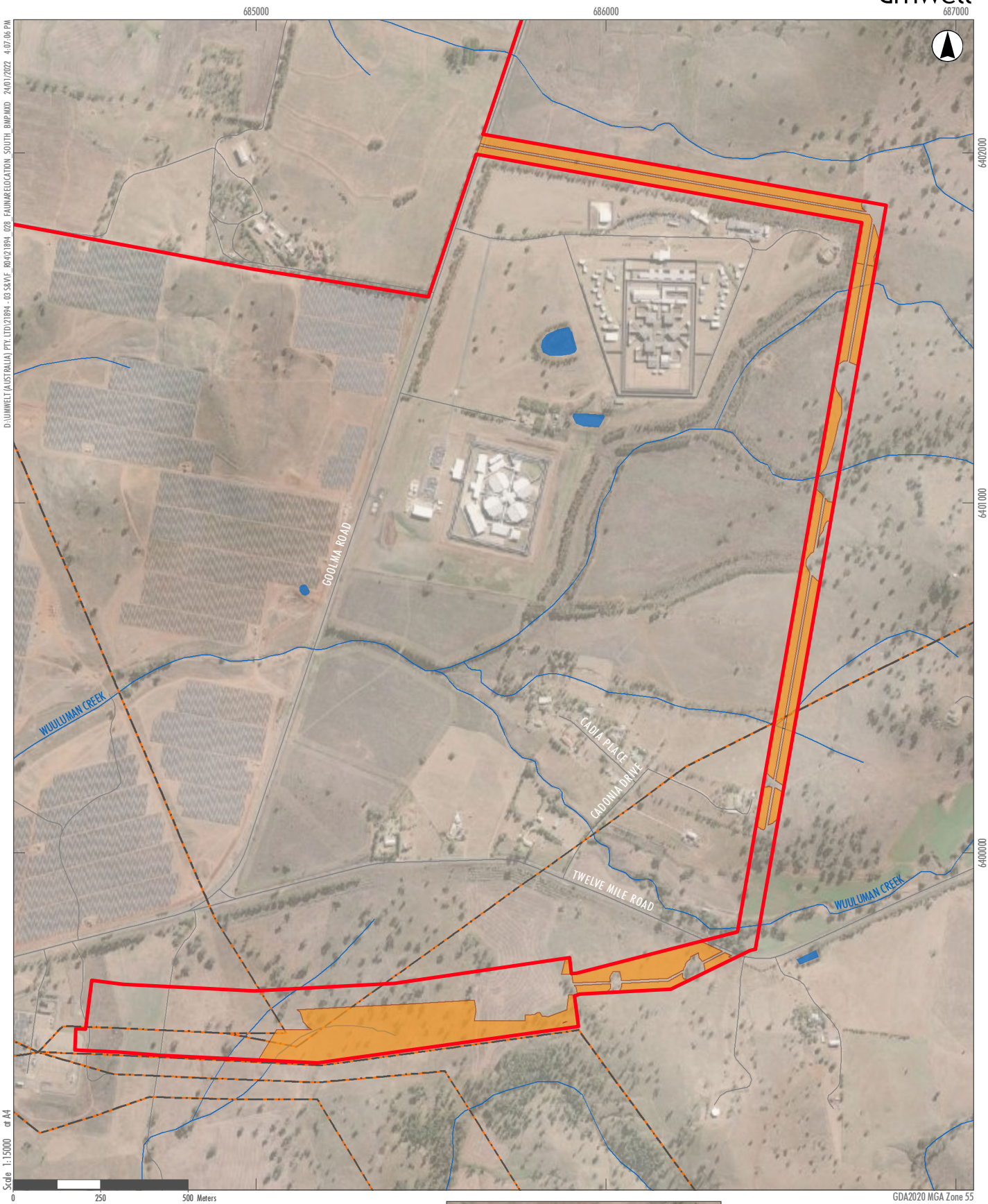
Legend

- Development Site
- Fauna Relocation Zones
- Existing Transmission Lines
- Road

FIGURE 6.3.1

Fauna Relocation Zone (North)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)



Legend

- Development Site
- Fauna Relocation Zones
- Existing Transmission Lines
- Road

FIGURE 6.3.2

Fauna Relocation Zone (South)

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)

6.4 Unexpected Threatened Species Finds Procedure

During the development's construction, operation, and decommissioning phases, the 'Unexpected Threatened Species Finds Procedure' will be implemented whenever a threatened species is unexpectedly found within the development footprint. Any nests found in habitat features to be removed during construction will be inspected by the contractor ecologist (refer **Table 7.1** for responsibilities) prior to clearing 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 within the development 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), and only when necessary. Should threatened fauna, or suspected threatened fauna, be encountered, the procedure outlined below will be followed. If capture is required, the 'Animal Handling Procedure' in **Section 6.3** will be used.

1. If native flora or fauna is found, stop work and determine if it is a threatened species.
2. If the native flora or fauna that has been found is a threatened species, or it cannot be identified, notify the EPC HSE Coordinator who will then notify LSbp of the found threatened species.
3. The EPC HSE Coordinator will arrange for an ecologist to assess the occupied habitat within the development area, assess the likely impact and develop management options.
4. If the ecologist identifies that an impact is not likely to occur to the threatened species, then recommence works and maintain regular inspections of the area where the threatened species was found. All EPC construction site staff are to be notified of the threatened species find via toolbox talks. Proceed to the next step if the ecologist identifies that an impact is likely to occur to the threatened species.
5. LSbp will consult with BCS and DPE as appropriate. Seek and obtain the necessary approvals to recommence works
6. Recommence works once advice has been sought and implemented and the necessary approvals have been obtained.

6.5 Weed and Pathogen Management Procedure

Weeds targeted as part of this BMP include Priority Weeds pursuant to the Biosecurity Act, HTW, WONS.

The development has the potential to spread weeds and pathogens through the movements of heavy machinery and light vehicles during the construction, operation, and decommissioning phases of the development.

Weeds and pathogens will be controlled through:

- Hygiene controls such as vehicle and plant washdown as detailed within **Section 6.5.6**.
- Primary, secondary, and maintenance weed control via appropriate weed removal techniques, including direct removal of individual plants, and herbicide application.

The advice of the contractor ecologist (refer **Table 7.1** for responsibilities) will be sought to advise on the control of weed infestations.

A detailed weed management procedure is provided in **Sections 6.5.1** to **6.5.6**.

6.5.1 Weed Inspection

Prior to vegetation clearing, Priority Weed, WONS, and HTW species and associated density will be mapped across the development area by the contractor ecologist as part of pre-clearance surveys (**Section 6.2.4**). Active searches for signs of Myrtle Rust or areas of unexplained dieback which may indicate *Phytophthora cinnamomi* would be carried out and their locations noted. The EPC Contractor will engage a contractor ecologist note the following detail as part of the preclearance inspections:

- Location and density of Priority Weed, WONS, and HTW species across the development site.
- A general guide to weed control and management for the weed species recorded within the development area, as well as weed species which may potentially occur in the future. The plan should include relevant information relating to suitable and appropriate weed removal techniques, including herbicide types and application rates. Consultation with Local Land Services (LLS) may also be recommended to ensure a coordinated approach with other landholders in the area.
- Location of any pathogen infections present within the development area, and development of triggers for further investigation if warranted.

During construction, the EPC HSE Coordinator will do the following weed and pathogen inspections:

- Survey weed distribution across the development area monthly.
- Survey weed species distribution and density in exclusion zones monthly.
- 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.
- Identification of Myrtle Rust infection or areas of unexplained dieback in retained vegetation.

Established and new 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. Advice would be sought from the contractor ecologist or from the WeedWise website (http://weeds.dpi.nsw.gov.au/) in relation to treating new weed infestations.

Any occurrences of pathogens such as Myrtle Rust and unexplained dieback would be monitored and reported. Instances of unexplained dieback exceeding triggers for further investigation would be escalated in line with the Weed and Pathogen Management Sub-plan.

6.5.2 Weed Treatment

During all phases of the development, weed control will be based on data collected from survey and inspections of the development area. Targeted weed control measures for any recorded outbreaks of Priority Weeds, WONS, or HTWs will be implemented within a fortnight of discovery. The aims of weed treatment include:

- Apply weed treatments to all mapped weed infestation areas.
- Reduction in weed distribution by at least 50% in mapped infestation area.
- No increase in the presence of weeds which were occurring prior to the development.
- Weeds would be treated in line with the Weed and Pathogen Management Sub-plan. The introduction and spread of weeds via vehicles and plant will be controlled by the Vehicle Hygiene Procedure provided in **Section 6.5.6**.

6.5.3 Herbicide Application Record

Herbicide application will only be carried out by personnel that hold an herbicide application credential in accordance with SafeWork requirements. Herbicides will only be applied in accordance with the Safety Data Sheet (SDS) for that product. An Herbicide Application Record 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. Only herbicides registered for use near water may be used near any waterways. This includes all waterways within the development area as shown in **Figure 2.2**, including ephemeral creeklines.

The EPC HSE Coordinator will ensure that a follow-up inspection is undertaken for identified weed infestation sites to ensure treatment was successful.

6.5.4 Weed Disposal

Where Priority Weeds, WONS, and HTWs 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 EPC Site Manager.

6.5.5 Ongoing Weed Management and Monitoring

Monitoring of weed infestations will occur as part of the routine environmental inspections throughout construction to determine effectiveness of management controls. The presence of any Priority Weeds, WONS, and HTW species and the necessary management actions will be noted on a weed inspection checklist.

6.5.6 Vehicle Hygiene Procedure

Vehicle Plant and Equipment Movement Vehicle hygiene procedures will be implemented for any vehicle that enters the development area during construction which is likely to contact the natural ground or weeds. The procedures include:

- Inspection upon arrival at site access laydown area
- Removal of dirt and/or plant matter from newly arrived vehicles at a designated rumble grid
- Where the rumble grid is ineffective:
    - Washing and inspection prior to vehicles being given approval to enter the development area
    - Inspection and washing after leaving the development area and prior to leaving the site
    - Records of Inspections and washdowns will be recorded on a Vehicle Hygiene Register
    - Any water from the washdown area will be managed in accordance with the ESCP.

6.6 Pest Management Procedure

Pests in this BMP are defined as non-native fauna species.

Six animal pest species which may require specific control measures were recorded during site surveys informing the BDAR. However, additional species may also be present within the development area (see **Section 4.10.1**). Monitoring of animal pests and signs of their activity will occur as part of routine inspections during construction, and operation. The EPC HSE Coordinator would traverse the site to identify if the vertebrate pests identified in **Section 4.10.1**.

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 pest activity is negligible, minimal, moderate, or high.
- If any are identified that are required to be controlled, the appropriate management actions listed by the Department of Primary Industries (DPI) at https://www.dpi.nsw.gov.au/biosecurity/vertebrate-pests/pest-animals-in-nsw will be implemented and noted on a Pest Inspection Checklist.

6.6.1 Pesticide Application Record

As with herbicide applications, pesticides will only be administered by personnel that hold a pesticide application credential in accordance with SafeWork requirements and label instructions. 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. This includes all waterways within the development area as shown in **Figure 2.2**, including ephemeral creeklines.

6.7 Rehabilitation and Restoration Procedure

6.7.1 Rehabilitation of Temporarily Disturbed Areas

Areas that are temporarily disturbed for the development will be rehabilitated as soon as practicable using native species that are endemic to the area.

Temporarily disturbed areas for the development area may include:

- Grassland mowed for construction activities.
- Temporary access tracks that are utilised before permanent site access tracks have been completed.
- Construction laydown areas including, but not limited to, construction vehicle parking areas, wheel washing facilities and demountable amenity buildings.
- Cable trenches.

The contractor ecologist (refer **Table 7.1** for responsibilities) will be consulted with before any rehabilitation takes places to ensure that only locally indigenous species from the area (i.e., of local provenance) are being used. The EPC HSE Coordinator will be responsible for identifying areas that are available for rehabilitation at intervals not exceeding six months and coordinating the program of rehabilitation works.

The aim of the rehabilitation of temporarily disturbed areas with locally indigenous species from the area is to minimise these disturbed areas and return them to a condition that is similar or better than its pre-disturbed state. It may not be possible to rehabilitate some areas where the condition of the area is poor, or no groundcover existed prior to the development. The rehabilitation criteria for the development are provided in **Table 6.3**.

Table 6.3 Rehabilitation Completion Criteria

Rehabilitation Aspect	Completion Criteria
Landform	• No significant signs of erosion are present that would constitute a safety hazard or compromise the end land use • Surface layer to be free of any hazardous materials • All infrastructure and equipment, other than access roads that may be used in the future, are removed unless otherwise agreed • Final landform is compatible with the surrounding topography • For rocky and steep slope landforms, the areas are stable (i.e. do not show any obvious signs of large-scale erosion).
Soil	Clean topsoil/organic material or a suitable alternative has been spread uniformly over the rehabilitation areas where practicable.
Vegetation	• Revegetated areas dominated by species associated with PCT 266 and PCT 437 • Weed species have not spread into new, disturbed, or rehabilitated areas • For revegetated areas, more than 70% of the ground is covered with native vegetation and / or leaf litter etc.
Land-use	The development area has been restored to its pre-development agricultural land capability (at least Class 3).

6.7.2 Re-use of Soil Resources

Suitable topsoil material and vegetative debris, when available, will be stockpiled or directly reused and incorporated into the rehabilitation for the development. This will assist in providing a stable post work ground surface and/or suitable growing medium for native seed base vegetation establishment. Topsoil will be stockpiled and reapplied as close as possible to the point of disturbance to promote successful natural regeneration of temporary disturbed areas. No topsoil would be relocated from areas displaying unexplained dieback unless tested for *Phytophthora cimmamomi*. No topsoil will be transported between landowner boundaries. The topsoil should be reapplied to areas with the same target PCT as the original vegetation community which the topsoil supported prior to disturbance. The contractor ecologist will assist in identifying target PCTs and/or topsoil placement as required.

Where topsoil is available, the following measures will be adopted to protect its quality and enhance rehabilitation outcomes:

- Where practical, topsoil will be directly placed on temporarily disturbed areas which are available for rehabilitation.
- When direct placement of topsoil is not practicable, stockpiles will be formed, located away from traffic areas and watercourses.
- Level or gently sloping areas will be selected as stockpiles sites to minimize erosion and potential soil loss.
- Appropriate sediment controls will be installed at the base of stockpiles to prevent soil loss.
- Weed growth for stockpiles will be monitored and subsequently controlled as necessary.

It is generally considered that topsoil stockpiles will be no greater than 3 m in height to preserve soil structure, maximise surface exposure and biological activity. Topsoil will be salvaged where possible within the approved development footprint and stockpiled for beneficial reuse in the rehabilitation of the development area.

6.7.3 Management of Retained Vegetation

Retained native vegetation outside the development footprint will be managed throughout construction and operation within Restoration Zones in order to protect it from any impacts from the development. The aim of management is for the biodiversity value of this vegetation to be maintained or improved during the lifetime of the development. The location of Restoration Zones is shown in **Figure 6.4.**

Ongoing vegetation restoration as part of the operational phase of the development would only occur within the main solar farm site, not within properties with transmission line easements.

Vegetation management within Restoration Zones include the following activities:

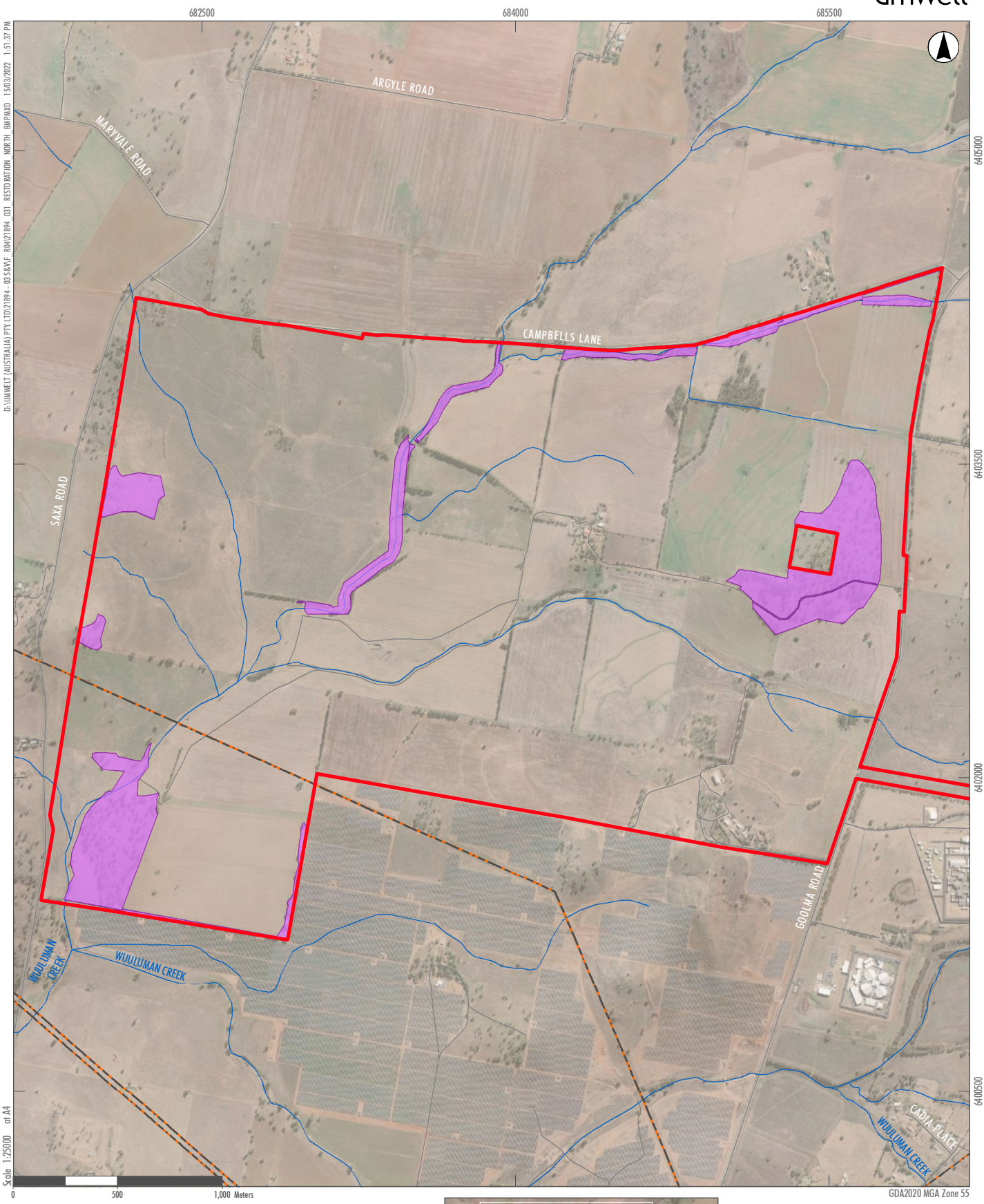
- Establishment of permanent exclusion fencing within six months of project operation. Exclusion fencing may consist of star pickets at four to five m intervals with a strand of plain wire and flagging tape. Exclusion fencing should display ‘No-go Zone’ signage every 50 m.
- Weed management as detailed within **Section 6.7.4.**

- Establishment of fauna habitat using the fauna habitat features salvaged from within the development footprint as detailed within **Sections 6.7.5** and **6.7.6.**
- Requirements for ongoing monitoring of retained vegetation.
- Adaptive management including trigger thresholds for active management or remediation if vegetation condition or biodiversity values decline by 20% of current BAM Vegetation Integrity (VI) score over the first three years, and then by 20% of VI score for rolling three-year average, unless extreme seasonal conditions (such as drought) can be demonstrated.

Specific targets for the management of retained vegetation are detailed in **Table 6.4.**

Table 6.4 Targets for the Management of Retained Vegetation

Action	Key Performance Indicator
Establishment of permanent exclusion fencing	• Exclusion fencing established within six months of project operation • Exclusion fencing consists of star pickets at four to five m intervals with a strand of plain wire and flagging tape. Exclusion fencing should display 'No-go Zone' signage every 50 m.
Weed Management	• Priority weed density to be: o <20% Projective Foliage Cover (PFC) within two years post operation o <10% PFC within five years post operation. • A reduction in environmental weed density to a lower density percentile (from baseline) within the zone within five years post approval.
Establishment of fauna habitat	• CWD to be salvaged and relocated within retained vegetation at a density of seven cubic m / hectare • Rocks greater than 300 millimetres to be salvaged and relocated into rehabilitated area at a density of no more than one cubic metre per hectare. • Salvaged habitat features will be reused within six months of operation commencing.
Adaptive management and remediation	• An increase in native PFC by 20% within five years post operation • Adaptive management measures to be triggers should there be a decline in vegetation condition or biodiversity values by 20% of current BAM Vegetation Integrity (VI) score over the first three years, and then by 20% of VI score for rolling three-year average, unless extreme seasonal conditions (such as drought) can be demonstrated.



Legend

- Development Site
- Restoration Zone
- Existing Transmission Lines
- Road

FIGURE 6.4

Restoration Zone

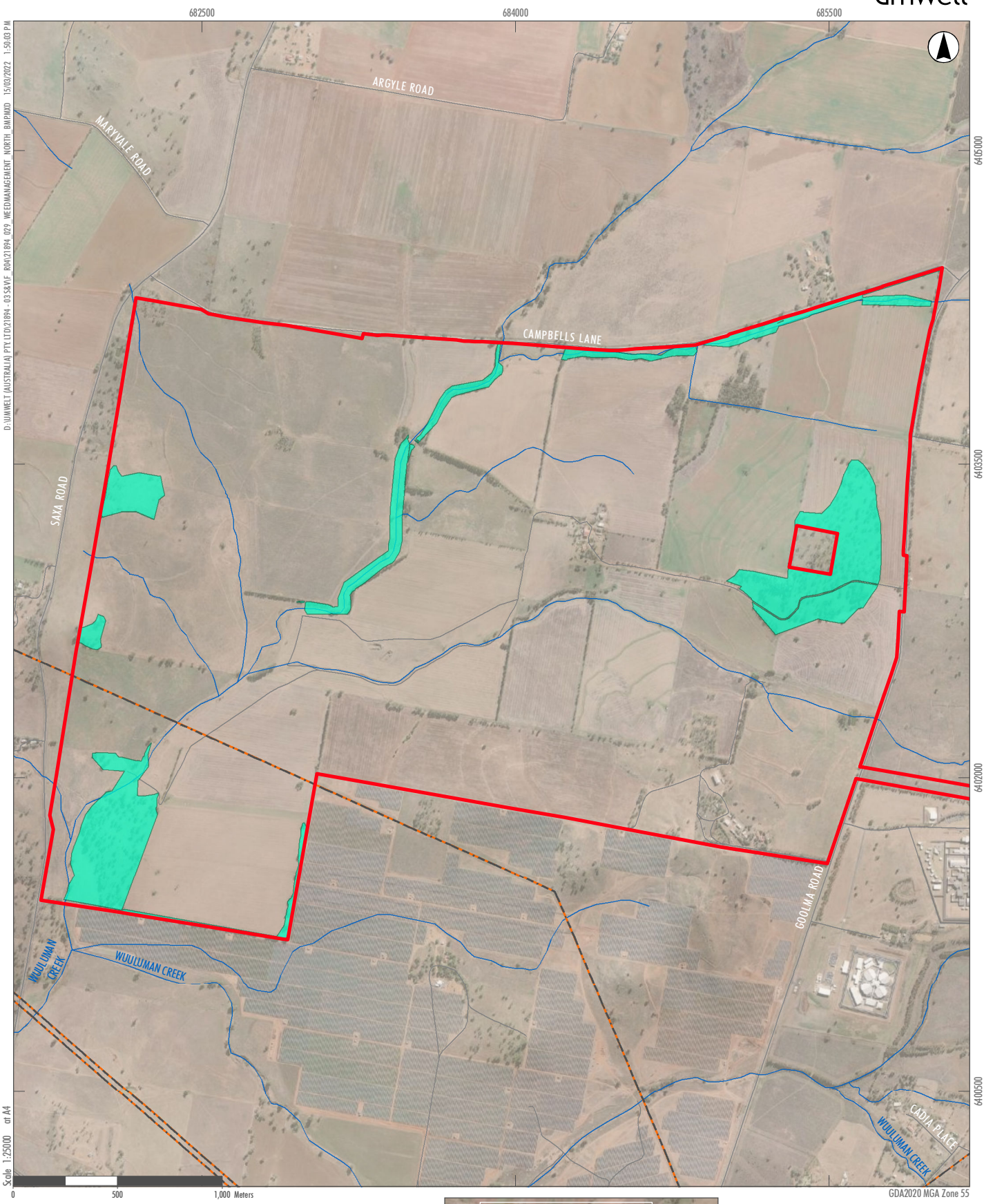
Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)

6.7.4 Weed Management

Weed Management Zones (WMZs) will be managed for weed and exotic species by a suitably qualified bush regeneration contractor. Baseline weed density mapping should be carried out prior to weed management activities commence. WMZ have been delineated across the development area as shown in **Figure 6.5** below. Ongoing weed management as part of the operational phase of the development would only occur within the main solar farm site, not within properties with transmission line easements. Details of weed management activities within the WMZ are detailed within **Table 6.5.**

Table 6.5 Weed Management Actions within WMZ

Action	Detail
Priority weed control	Weeds that are listed as 'priority weeds' for Central West Local Land Service region must be removed from the site or controlled depending on the category of weed and according to the provisions of the Biosecurity Act. Priority weed control is to be carried out across the WMZ for the duration of project operation. Works will be undertaken according to industry best practices.
Primary weeding	Primary weeding is the first round of weeding activity and involves the removal of most of the weed biomass present (shown in Figure A-1). Primary weeding methods include: • 'cut-and-paint', 'frill and fill', long stem scrape or target spraying of woody weeds • hand-removal and spot spraying of smaller woody, vine and herbaceous weeds • spot-spraying and hand-weeding of annuals (e.g., Blackberry, Fireweed and *Bidinimilosa*). Primary weeding will occur prior to construction commencing.
Secondary weeding	Secondary weeding will involve the targeted removal of priority weed regrowth and hand removal and spot spraying of exotic grasses, herbaceous weeds and seedlings of woody weeds. Secondary weeding will occur approximately one to three months after the completion of primary weeding, depending on the amount of regrowth of herbaceous annuals (and other weeds that have an abundant seed source present in the soil).
Maintenance weeding	Maintenance weeding will occur after secondary weeding and be ongoing during construction works and project operation.
Herbicide application	Herbicide application should follow the procedure detailed in **Section 6.5.3** above.



Legend

- Development Site
- Weed Management Zone
- Existing Transmission Lines
- Road

FIGURE 6.5

Weed Management Zone

Image Source: ESRI Basemap (2021) Data source: NSW DSFI (2021), NPWS Estate (2019); NGH (2018)

6.7.5 Re-use of Coarse Woody Debris

Coarse Woody Debris (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, for example, skinks, geckoes, dunnarts.
- Habitat for vertebrates using fallen timber for foraging, for example, treecreepers, robins.
- A source of nutrients, microorganisms for native vegetation.

Where feasible, the salvage and relocation of hollow logs and fallen timber will be undertaken to augment habitat complexity within areas to be rehabilitated. Habitat features suitable for salvage will be identified and marked in the field as part of pre-clearance surveys.

The procedure for salvaging and reinstating habitat features is as follows:

- Hollow bearing trees will be considered for salvage based on structural integrity, number, and size of hollows. Hollows to be salvaged will include a range of diameter sizes. Ideally, hollows should be in trunks or solid living branches to maximise the chance that they would survive the felling process.
- CWD will be selected based on size, structural integrity and presence of good hollows. Larger logs (in both length and girth) will be typically selected with large hollows (i.e., large diameter hollows through the length of the stem or at least a significant portion) through the stems. CWD would be relocated within retained vegetation at a density of seven cubic m / hectare (DECC 2010).
- Salvaged habitat features will be reused within six months of operation commencing. However, the placement of salvaged features would be carried out progressively as portions of the development area become available for rehabilitation; this would maximise the availably of runways and refuge sites for native fauna for the duration of the development.
- Where key fauna habitat (e.g. hollow bearing trees, hollow logs) occurs in the final development footprint, but are not impacted through construction work, it will be left as is.
- Where practicable, avoid the mulching of fallen vegetation to prevent smothering of ground-layer flora species. Utilise mulch or fallen vegetation for sediment and erosion control methods as appropriate.

6.7.6 Re-Use of Rocks

Rocks greater than 300 millimetres diameter at their widest point removed during construction will be retained and relocated to areas on the advice of the contractor ecologist. Removal, transportation, and placement of rocks will be carried out in a manner to minimise disturbance to vegetation constraints, including the canopy, trees, shrubs, standing dead timber, fallen timber, and groundcover, as well as topsoil. Rocks will be relocated into rehabilitated area at a density of no more than one cubic metre per hectare.

6.7.7 Response to Decline in Condition

If a quantitative assessment of the condition of retained vegetation determines the need for an additional management response, actions may include, but are not limited to:

- Erect permanent fencing to exclude pest and human/vehicle access.
- Additional targeted weed or pest control.
- Active management or restoration measures including groundcover rehabilitation and shrub/tree plantings as required.

6.8 Noise, Light and Dust Management

Construction will avoid night work where possible. If night works are required lights will be directed away from vegetation. As noted in **Section 2.0** of this BMP, early/main works construction hours will generally be limited to Monday to Friday 7:00 am to 6:00 pm and Saturday 8:00 am to 1:00 pm, with no works on Sundays or Public Holidays. Some works outside these hours may, consistent with early works, occur as permitted by Condition 16 of Schedule 3. The CEMP will include further measures to mitigate the developments off-site noise and dust impacts.

Any measures relating to noise and lighting must be developed to comply with the requirements specified under Schedule 3, Condition 17 and Condition 18 (Noise) and Condition 21 (Lighting) of the development consent. Where these noise and lighting measures cannot comply with these conditions, they are not considered reasonably practicable to implement.

6.9 Waterways Management

Seven watercourses occur within the development area as shown in **Figure 4.1**. The development area was selected to avoid impacts to the two main tributaries – Tributary 1 and Tributary 2. The planted vegetation surrounding Tributary 1 was also avoided, leaving a 30 m buffer around the watercourse. Although no solar infrastructure would occur along Tributary 1, the final site layout could not completely avoid all impacts to this creek line. Approximately five waterway crossings would occur across the two main creek lines. Fencing would be installed around waterways as detailed in **Section 6.2.2**.

The design of the waterway crossings will be done in accordance with the following publications, minimise erosion and protect waterway functions:

- Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings (Fairfull & Witheridge, 2003).
- Policy and Guidelines for Fish Friendly Waterway Crossings (NSW DPI, 2003).
- Guidelines for Watercourse Crossings on Waterfront Land (NSW DPI, 2012).

The transmission line route will also cross Wuuluman Creek. Transmission line poles will be placed on either side of the creek and not within the creek bed or banks to reduce any impacts to water quality, flow or hydrological processes.

Solar panels would be installed over some sections of the other five minor tributaries. These drainage lines would remain or be realigned in accordance with a detailed hydrological assessment. The development will be designed to minimise impacts on the hydrology of the site.

A Spill and Contamination Response Plan will be developed as part of the overall Emergency Response Plan for the development to prevent contaminants affecting the surrounding waterways.

7.0 Compliance Monitoring

In accordance with Condition 15, of Schedule 3 of the development consent, following the Planning Secretary's approval, this BMP must be implemented for the development. The roles and responsibilities for the personnel who are implementing this BMP are provided in **Table 7.1**.

Table 7.1 Roles and Responsibilities

Role	Responsibility
LSbp Development Principal	• Oversee the implementation of this BMP and other coinciding management plans • Have working knowledge of the BMP
EPC Site Manager	• Ensure resources are made available to enable works to comply with this BMP • Ensure appropriate approvals and licences are held. • Responsible for the implementation of this BMP • 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 • Responsible for appointing Contractor Ecologist, in liaison with LSbp • Receiving plant, materials and chemicals and ensuring all items are appropriately stored • Responsible for addressing corrective actions arising from environmental inspections. • Responsible for notifying LSbp of any non-compliances with this BMP.
EPC Health, Safety and Environment (HSE) Coordinator	• 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 development environmental documents • Responsible for reporting pollution incidents • Carry out routine environmental site inspections.
Contractor Ecologist	• Supervise works being undertaken in environmentally sensitive areas • Undertake pre-clearing surveys • Oversee vegetation removal • Ongoing monitoring of retained vegetation • Provide advice where necessary.
All Employees and Contractors	• Follow any instructions provided by LSbp, the EPC Site Manager, EPC HSE Coordinator, or contractor ecologist • Work in accordance with the requirements of this BMP • Report and raise any issues that arise that may have an environmental impact.

8.0 Monitoring and Reporting

Monitoring of the biodiversity mitigation and management measures for the development (see **Table 6.1**) will be undertaken to ensure that each measure is being carried out by the development. **Table 8.1** below shows the program to monitor and report on the effectiveness of the biodiversity mitigation and management measures for the development.

Table 8.1 Biodiversity Mitigation and Management Measures Monitoring Program

Biodiversity Mitigation and Management Measure to be Addressed	Relevant procedure	Parameter(s) to be Monitored	Monitoring Method	Where	When	Responsibility
Time works to avoid critical life cycle events such as breeding or nursing.	• Section 6.2 – Vegetation clearance protocols	• Timing of vegetation clearing • Pre-clearance vegetation surveys	Observation of pre-clearance surveys being undertaken	Areas where vegetation clearing will be undertaken during critical life cycle events for fauna.	Before and during vegetation clearing activities.	EPC HSE Coordinator
Implement clearing protocols including pre-clearing surveys, daily surveys and staged clearing in the presence of a trained ecologist or licensed wildlife handler during clearing events.	• Section 6.2 – Vegetation clearance protocols	• Pre-clearing checklist • Tree clearing procedure.	Observation of pre-clearing checklist and tree clearing procedure.	Areas where vegetation clearing will be undertaken.	Before and during vegetation clearing activities	EPC HSE Coordinator
Relocate habitat features (fallen timber, hollow logs,rocks) from within the development area.	• Section 6.2 – Vegetation clearance protocols • Section 6.7 – Rehabilitation and restoration procedure	Tree-clearing procedure including relocation of habitat features to adjacent area for habitat enhancement.	Observation of where habitat features that have been relocated within the development area.	Throughout the development area.	Post clearing vegetation activities.	EPC HSE Coordinator

Biodiversity Mitigation and Management Measure to be Addressed	Relevant procedure	Parameter(s) to be Monitored	Monitoring Method	Where	When	Responsibility
Clearing protocols that identify vegetation to be retained, prevent inadvertentdamage 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.	• Section 6.2 – Vegetation clearance protocols	Approved clearing limits to be clearly delineated with temporary fencing or similar prior to construction commencing. • No stockpiling or storage within dripline (the area directly located under the outer circumference of the tree branches) of any mature trees. • In areas to clear adjacent to areas to be retained, chainsaws would be used rather than heavy machinery to minimise risk of unauthorised disturbance.	Observation of the following: Clearing limits are upright, clearly visible and in the correct place. • If stockpiling or storage of materials is occurring within the dripline of any mature trees. • Chainsaws are being used rather than heavy machinery in areas adjacent to areas that are not to be disturbed.	Throughout the development area.	Before and after vegetation clearing activities.	EPC HSE Coordinator
Light shields or daily/seasonal timing of construction and operational activities to reduce impacts of light spill.	• Section 6.8 – Noise, light and dust management	• Avoid night works • Direct lights away from native vegetation.	If nightworks occur, observe if lights are being directed away from native vegetation.	Where nightworks are occurring.	When nightworks occur.	EPC HSE Coordinator

Biodiversity Mitigation and Management Measure to be Addressed	Relevant procedure	Parameter(s) to be Monitored	Monitoring Method	Where	When	Responsibility
Adaptive dust monitoring programs to control air quality.	• Section 6.8 – Noise, light and dust management	• Daily monitoring of fugitive dust generated by construction activities. • Construction would cease if dust was observed being blown off-site from the development area until control measures were implemented. • All activities relating to the development would be undertaken with the objective of preventing visible off-site dust emissions from the development area.	Observation of the following: • Daily off-site dust levels during construction activities. • Construction activities are ceasing until dust control measures are implemented, when required.	Throughout the development area.	Daily and when off-site dust levels on site require control measures.	EPC HSE Coordinator
Temporary fencing to protect significant environmental features such as riparian zones.	• Section 6.2 – Vegetation clearance procedures	Prior to construction commencing, exclusion fencing and signage would be installed around habitat to be retained.	Observe that exclusion fencing and signage that surrounds the sites significant environmental features is upright, clearly visible and in the right place.	Protected areas on site that have exclusion fencing and signage.	Before construction commences	EPC HSE Coordinator

Biodiversity Mitigation and Management Measure to be Addressed	Relevant procedure	Parameter(s) to be Monitored	Monitoring Method	Where	When	Responsibility
Hygiene protocols to prevent the spread of weeds or pathogens between infected areas and uninfected areas.	• Section 6.5 – Weed and pathogen management procedure	A Weed Management procedure would be developed for the development to prevent and minimise the spread of weeds. This would include: • Management protocol for declared priority weeds under the Biosecurity Act 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.	Observe the following: • Presence of weeds • Degree of, or presence/absence of damage to rehabilitation areas caused by foraging or trampling.	Throughout the development area and in areas undergoing rehabilitation.	Monthly.	EPC HSE Coordinator

Biodiversity Mitigation and Management Measure to be Addressed	Relevant procedure	Parameter(s) to be Monitored	Monitoring Method	Where	When	Responsibility
Management of retained vegetation	• Section 6.7 – Rehabilitation and Restoration Procedure	A Restoration and Rehabilitation procedure would be developed for the development to prevent the decline in condition of the vegetation retained within the development area. This would include: • Establishment of permanent exclusion fencing • Management protocol for weed and exotic species during and after construction. • Establishment of habitat features such course woody debris and rocks • Requirements for monitoring • Adaptive management including trigger thresholds for active management or remediation	Monitoring methods should include but may not be limited to the following: • Establishment of permanent BAM VI plots • Weed density mapping	Within Restoration Zones shown in **Figure 6.4**	Yearly	EPC HSE Coordinator

8.1 Training Requirements

Employees, contractors, and utility staff working on the development area 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 clearance boundaries.

Further details regarding staff induction and training are outlined in the EMS for the development. It will be emphasised to staff during toolbox talks and training that appropriate fauna management onsite is critical to the development. This includes:

- VDP, pre-clearance 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.

8.2 Auditing

Auditing of this BMP will be carried out in accordance with the auditing procedure outlined in the EMS for the development.

9.0 Review and Improvement

Condition 2 of Schedule 4 of the development consent states the following:

"The Applicant must:

(a) update the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary prior to carrying out any upgrading or decommissioning activities on site; and

(b) review and, if necessary, revise the strategies, plans or programs required under this consent to the satisfaction of the Planning Secretary within 1 month of:

the submission of an incident notification under condition 7 of Schedule 4;

the submission of an audit report under condition 11 or 13 of Schedule 4; or

any modification to the conditions of this consent."

Review of this BMP will be undertaken in accordance with Condition 2 of Schedule 4 of the development consent.

Review and improvement of this BMP will also be achieved through the ongoing evaluation of the development's performance against the rehabilitation criteria and monitoring program outlined in this BMP.

The improvement process will be designed to:

- Identify areas of opportunity for improvement when implementing the development's biodiversity mitigation/management measures outlined in **Section 6.0**.
- Determine the cause or causes of non-conformances with the development's rehabilitation criteria and the biodiversity mitigation/management measures outlined in **Section 6.0**.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and/or deficiencies with the development's rehabilitation criteria and the biodiversity mitigation/management measures outlined in **Section 6.0**.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from the improvement process and communicate these changes with all the responsible parties that are implementing this BMP.

This BMP may need to be revised if the development's scope of works, or work methods, change, if the work methods are found to be ineffective, or if directed by the LSbp Principal. 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.

10.0 References

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NHG Environmental (2021). Biodiversity Development Assessment Report – Wellington North Solar Farm

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Standards Australia Limited (2009) *Australian Standard AS4970 Protection of Trees*, Standards Australia Limited, Sydney.

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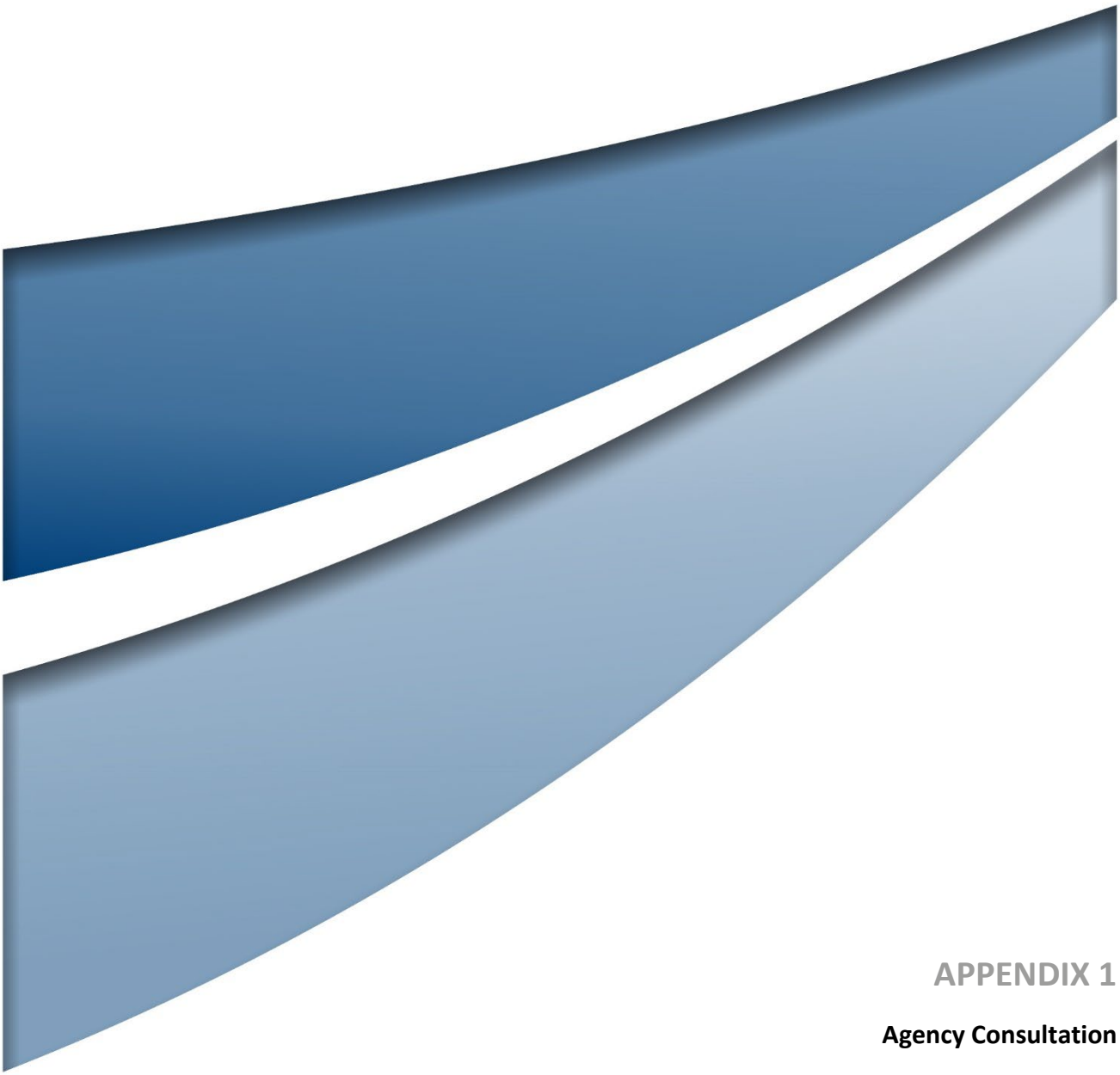


APPENDIX 1

Agency Consultation

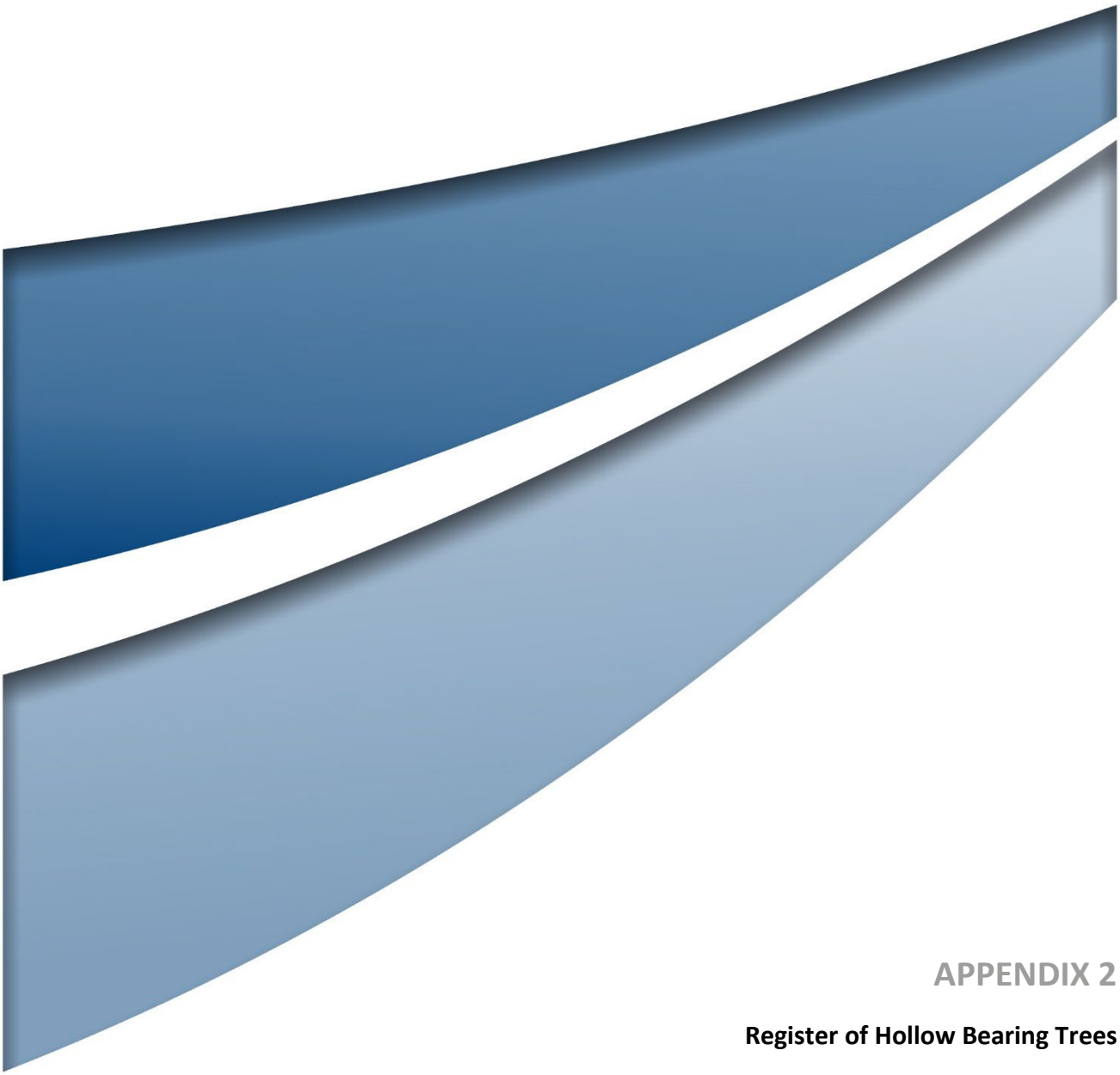
Consultation: Department of Planning and Environment (DPE) – Environment, Energy and Science (EES) – Biodiversity, Conservation & Science (BCS)

Agency and other stakeholder consultation has occurred as per the development consent for plans and strategy prepared under the LSbp Integrated Management System. Preparation of this BMP occurred in consultation with BCS.

At the early stages of the BMP preparation, and to discuss general preferences regarding plan content and structure, verbal consultation occurred. The BMP was then submitted to BCS for review on 17 March 2022 and correspondence received 5 April 2022.

The BCS correspondence, and where this feedback has been addressed in this BMP, is documented in the table below.

ID	Comment	Response
1	The Table of contents and section numbering is inconsistent. Section 6.7 rehabilitation and restoration procedures should be renumbered in both the table of contents and the body of the BMP	Table of contents and **Section 6.7** heading have been updated
2	Table 1.1 referring to the BMP consent conditions and which section of the report they relate to is not labelled correctly. These should be updated to correctly reference each section of the BMPs content and how it aligns to each condition.	All section references, labelling and cross-references have been updated
3	Table 8.1 of the BMP does not include a monitoring plan for areas of retained vegetation, nor does the BMP include any specific targets for the management of retained vegetation condition. The BMP should be updated with a monitoring procedure for retained vegetation and quantitative targets for vegetation condition.	Monitoring plan added to **Table 8.1** of this BMP New table (**Table 6.4** in Section **6.7.3**) has been added which details SMART targets



APPENDIX 2

Register of Hollow Bearing Trees

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
1	Eucalyptus albens	100	1	0	0	Retain	684772	6399464
2	Eucalyptus albens	100	1	1	0	Retain	684895.9	6399526
3	Stag	70	2	2	0	Retain	684963.6	6399518
4	Eucalyptus albens	0	0	0	0	Retain	684925.4	6399509
5	Eucalyptus albens	200	1	1	0	Remove	685088.3	6399574
6	Eucalyptus albens	100	2	0	0	Retain	685070.9	6399547
7	Eucalyptus albens	200	0	0	0	Remove	685612.4	6399619
8	Eucalyptus albens	100	0	0	0	Remove	685609.4	6399586
9	Eucalyptus albens	80	0	0	0	Retain	685615.4	6399562
10	Eucalyptus albens	90	0	0	0	Retain	685600.2	6399524
11	Eucalyptus albens	100	0	0	0	Retain	685562.4	6399516
12	Eucalyptus albens	80	0	0	0	Retain	685535.3	6399508
13	Eucalyptus albens	100	0	0	0	Retain	685570	6399567
14	Eucalyptus albens	100	0	0	0	Retain	685531	6399638
15	Eucalyptus albens	200	0	0	0	Retain	685476.6	6399557
16	Eucalyptus albens	60	0	0	0	Remove	685454.6	6399580
17	Eucalyptus albens	60	0	0	0	Remove	685438.7	6399588
18	Eucalyptus albens	80	0	0	0	Retain	685409.4	6399524
19	Eucalyptus albens	100	0	0	0	Retain	685408.6	6399511
20	Eucalyptus albens	90	0	0	0	Retain	685379.6	6399561
21	Eucalyptus albens	70	0	0	0	Remove	685387.1	6399567

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
22	Eucalyptus albens	90	0	0	0	Retain	685335.7	6399549
23	Eucalyptus albens	100	0	0	0	Remove	685335.1	6399566
24	Eucalyptus albens	60	0	0	0	Remove	685321.3	6399572
25	Eucalyptus albens	80	0	0	0	Remove	685349.2	6399585
26	Eucalyptus albens	100	0	0	0	Remove	685376.2	6399593
27	Eucalyptus albens	100	0	0	0	Remove	685397.3	6399613
28	Eucalyptus albens	70	0	0	0	Remove	685426.9	6399604
29	Eucalyptus albens	50	0	0	0	Remove	685433.7	6399604
30	Eucalyptus albens	200	0	0	0	Remove	685452.8	6399612
31	Eucalyptus albens	100	0	0	0	Remove	685465	6399612
32	Eucalyptus albens	100	0	0	0	Remove	685477.4	6399615
33	Eucalyptus albens	60	0	0	0	Remove	685354.9	6399610
34	Eucalyptus albens	60	0	0	0	Remove	685262.5	6399614
35	Stag	50	0	0	0	Remove	685246	6399616
36	Eucalyptus albens	100	0	0	0	Remove	685195.2	6399590
37	Eucalyptus albens	90	0	0	0	Retain	685192.3	6399545
38	Eucalyptus albens	90	0	0	0	Retain	685167.4	6399511
39	Stag	80	0	0	0	Remove	685230.8	6399564
40	Eucalyptus albens	40	0	0	0	Remove	685879.2	6399646
41	Eucalyptus albens	50	0	0	0	Remove	685895.6	6399617
42	Eucalyptus albens	60	0	0	0	Remove	686023.4	6399618

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
43	Eucalyptus albens	60	0	0	0	Remove	686026	6399608
44	Eucalyptus albens	50	0	0	0	Remove	686035.1	6399623
45	Eucalyptus albens	70	0	0	0	Remove	686022.1	6399652
46	Eucalyptus albens	40	0	0	0	Remove	686033.2	6399656
47	Eucalyptus albens	50	0	0	0	Retain	686105.1	6399682
48	Eucalyptus albens	100	0	0	0	Retain	686118.5	6399700
49	Eucalyptus albens	60	0	0	0	Retain	686122	6399706
50	Eucalyptus albens	90	0	0	0	Remove	686231.6	6399651
51	Eucalyptus albens	70	0	0	0	Remove	686241.3	6399652
52	Eucalyptus albens	60	0	0	0	Remove	686243.1	6399661
53	Eucalyptus albens	70	0	0	0	Remove	686253.1	6399668
54	Eucalyptus albens	60	0	0	0	Remove	686262.3	6399660
55	Eucalyptus albens	80	0	0	0	Retain	686255.1	6399713
56	Stag	80	0	0	0	Retain	686247.4	6399714
57	Eucalyptus albens	40	0	0	0	Remove	686240	6399686
58	Eucalyptus albens	70	0	0	0	Remove	686238.2	6399678
59	Eucalyptus albens	70	0	0	0	Remove	686234.8	6399668
60	Not recorded	200	0	0	0	Remove	686788.4	6401785
61	Eucalyptus albens	60	0	0	0	Remove	686675.4	6401391
62	Eucalyptus albens	65	0	0	0	Remove	686687.3	6401301
63	Eucalyptus albens	90	0	0	0	Remove	686644.2	6401077

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
64	Eucalyptus albens	80	0	0	0	Remove	686645.3	6401084
65	Eucalyptus albens	60	0	0	0	Remove	686620.6	6401073
66	Eucalyptus albens	100	0	0	0	Remove	686584.6	6400828
67	Eucalyptus albens	200	0	0	0	Remove	686608.7	6400846
68	Eucalyptus albens	50	0	0	0	Remove	686458.2	6399984
69	Eucalyptus albens	100	0	0	0	Remove	686433.1	6399992
70	Eucalyptus albens	45	0	0	0	Remove	686427.2	6400019
71	Eucalyptus albens	45	0	0	0	Remove	686451.1	6400033
72	Eucalyptus albens	40	0	0	0	Remove	686455.5	6400045
73	Eucalyptus albens	20	0	0	0	Remove	686461.1	6400048
74	Eucalyptus albens	45	0	0	0	Remove	686469.2	6400070
75	Eucalyptus albens	100	0	0	0	Remove	686384.4	6399744
76	Stag	100	0	0	0	Retain	686405	6399720
77	Stag	200	0	0	0	Remove	686378.1	6399728
78	Stag	100	0	0	0	Remove	686410.3	6399781
79	Not recorded	100	0	0	0	Remove	686396.8	6399779
80	Eucalyptus albens	100	0	0	0	Remove	686409.1	6399801
81	Eucalyptus albens	100	0	0	0	Remove	686383.2	6399806
82	Stag	0	0	0	0	Remove	683911.4	6403244
83	Stag	0	0	0	0	Remove	683908.5	6402985
84	Stag	80	0	0	0	Remove	684585.1	6402011

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
85	Eucalyptus albens	100	0	0	0	Remove	684707.1	6402153
86	Eucalyptus albens	70	0	0	0	Remove	684673.5	6402158
87	Eucalyptus albens	80	0	0	0	Remove	685221.4	6402448
88	Eucalyptus blakelyi	60	0	0	0	Retain	685245.1	6401655
89	Eucalyptus blakelyi	60	0	0	0	Retain	685288.2	6401633
90	Eucalyptus blakelyi	50	0	0	0	Retain	685273.9	6401634
91	Eucalyptus blakelyi	80	0	0	0	Retain	685302.4	6401625
92	Eucalyptus melliodora	200	0	0	0	Remove	684098.3	6403925
93	Eucalyptus blakelyi	30	0	0	0	Retain	683460.4	6403313
94	Eucalyptus melliodora	100	0	0	0	Remove	683337.2	6403215
95	Not recorded	100	0	0	0	Retain	682680.8	6402504
96	Stag	0	0	0	0	Retain	682324.8	6402182
97	Eucalyptus melliodora	50	0	0	0	Retain	682247.7	6402065
98	Eucalyptus melliodora	100	0	0	0	Retain	682185.8	6401997
99	Eucalyptus melliodora	70	0	0	0	Retain	682136.1	6402051
100	Stag	0	0	0	0	Retain	682122.3	6402081
101	Stag	0	0	0	0	Retain	682090.3	6402111
102	Eucalyptus melliodora	100	0	0	0	Remove	682250.1	6402188
103	Eucalyptus melliodora	0	0	0	0	Remove	682280.6	6402239
104	Eucalyptus albens	90	0	0	0	Remove	682036.3	6402350
105	Eucalyptus albens	100	0	0	0	Remove	681951.9	6402393

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
106	Eucalyptus albens	100	0	0	0	Remove	681960.5	6402469
107	Stag	60	0	0	0	Remove	682110.6	6403267
108	Eucalyptus albens	70	0	0	0	Retain	682102	6403292
109	Eucalyptus albens	80	0	0	0	Retain	682076.5	6403280
110	Eucalyptus albens	60	0	0	0	Retain	682028.3	6403270
111	Eucalyptus albens	60	0	0	0	Retain	682024.4	6403266
112	Stag	0	0	0	0	Retain	682052.3	6403293
113	Stag	50	0	0	0	Retain	682073.3	6403300
114	Eucalyptus albens	70	0	0	0	Retain	682084	6403336
115	Eucalyptus albens	50	0	0	0	Retain	682060.4	6403398
116	Eucalyptus albens	50	0	0	0	Retain	682055.8	6403405
117	Eucalyptus albens	40	0	0	0	Remove	682087	6403497
118	Eucalyptus albens	50	0	0	0	Retain	682091.2	6403472
119	Eucalyptus albens	50	0	0	0	Retain	682106.8	6403442
120	Eucalyptus albens	70	0	0	0	Retain	682089.5	6403409
121	Stag	0	0	0	0	Retain	682085.2	6403374
122	Stag	0	0	0	0	Retain	682091.7	6403368
123	Eucalyptus melliodora	60	0	0	0	Retain	682209	6403448
124	Eucalyptus albens	70	0	0	0	Retain	682247.1	6403418
125	Eucalyptus melliodora	40	0	0	0	Retain	682281.4	6403403
126	Eucalyptus albens	100	0	0	0	Retain	682308	6403352

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
127	Not recorded	40	0	0	0	Retain	682272	6403337
128	Stag	0	0	0	0	Retain	682259.6	6403297
129	Eucalyptus albens	60	0	0	0	Retain	682265	6403254
130	Eucalyptus melliodora	90	0	0	0	Retain	682054.1	6402074
131	Eucalyptus melliodora	60	0	0	0	Retain	682037.1	6402059
132	Eucalyptus melliodora	70	0	0	0	Retain	682025.3	6402047
133	Eucalyptus melliodora	80	0	0	0	Retain	682033.2	6402100
134	Eucalyptus melliodora	100	0	0	0	Retain	681989.4	6402106
135	Stag	60	0	0	0	Retain	682024.8	6402087
136	Eucalyptus melliodora	80	0	0	0	Retain	682050.8	6402083
137	Eucalyptus albens	90	0	0	0	Remove	682946.5	6401524
138	Eucalyptus albens	70	0	0	0	Retain	682938.2	6401442
139	Eucalyptus melliodora	100	0	0	0	Retain	682928.7	6401410
140	Stag	40	0	0	0	Retain	682921.4	6401399
141	Eucalyptus melliodora	100	0	0	0	Retain	682917.4	6401370
142	Eucalyptus melliodora	70	0	0	0	Retain	682913	6401366
143	Eucalyptus melliodora	60	0	0	0	Retain	682912.3	6401349
144	Eucalyptus melliodora	60	0	0	0	Retain	682907.7	6401352
145	Eucalyptus melliodora	200	0	0	0	Retain	682901.1	6401285
146	Eucalyptus melliodora	80	0	0	0	Remove	682737.1	6402473
147	Eucalyptus melliodora	80	0	0	0	Remove	683103.5	6402406

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
148	Eucalyptus melliodora	80	0	0	0	Remove	685170.8	6403968
149	Eucalyptus melliodora	80	0	0	0	Retain	685181	6404165
150	Eucalyptus melliodora	100	0	0	0	Retain	685170.2	6404113
151	Eucalyptus melliodora	0	0	0	0	Remove	685205.8	6404086
152	Eucalyptus melliodora	100	0	0	0	Retain	685114.5	6404124
153	Eucalyptus melliodora	90	0	0	0	Retain	685115.4	6404131
154	Eucalyptus melliodora	70	0	0	0	Retain	685039.6	6404087
155	Eucalyptus melliodora	90	0	0	0	Retain	685043.1	6404075
156	Eucalyptus melliodora	80	0	0	0	Retain	685035.3	6404069
157	Stag	50	0	0	0	Retain	685038.7	6404069
158	Eucalyptus melliodora	100	0	0	0	Remove	685059.7	6404042
159	Eucalyptus melliodora	90	0	0	0	Retain	684906.8	6404083
160	Eucalyptus albens	50	0	0	0	Retain	685609.1	6403488
161	Eucalyptus albens	90	0	0	0	Retain	685624.6	6403477
162	Eucalyptus albens	40	0	0	0	Retain	685609.5	6403469
163	Eucalyptus albens	60	0	0	0	Retain	685603.2	6403470
164	Eucalyptus albens	40	0	0	0	Retain	685597.8	6403473
165	Eucalyptus albens	70	0	0	0	Retain	685599	6403494
166	Eucalyptus albens	0	0	0	0	Remove	685593.4	6403514
167	Eucalyptus albens	30	0	0	0	Remove	685566.3	6403517
168	Not recorded	60	0	0	0	Remove	685532.7	6403525

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
169	Eucalyptus albens	50	0	0	0	Remove	685415.8	6403594
170	Eucalyptus albens	70	0	0	0	Remove	685399.5	6403489
171	Eucalyptus albens	50	0	0	0	Remove	685386.8	6403424
172	Eucalyptus albens	40	0	0	0	Remove	685386.7	6403404
173	Eucalyptus albens	40	0	0	0	Remove	685381.8	6403373
174	Eucalyptus albens	70	0	0	0	Remove	685377.2	6403354
175	Eucalyptus albens	90	0	0	0	Remove	685373.3	6403324
176	Eucalyptus albens	40	0	0	0	Retain	685353.9	6403237
177	Stag	40	0	0	0	Retain	685355.2	6403246
178	Eucalyptus albens	40	0	0	0	Retain	685348.2	6403217
179	Eucalyptus albens	40	0	0	0	Retain	685346.5	6403211
180	Eucalyptus melliodora	70	0	0	0	Retain	684128.8	6404060
181	Eucalyptus albens	60	0	0	0	Retain	682169.8	6404158
182	Eucalyptus albens	70	0	0	0	Retain	682158.1	6404134
183	Eucalyptus albens	70	0	0	0	Retain	682157.7	6404115
184	Eucalyptus albens	80	0	0	0	Retain	682152.8	6404079
185	Stag	50	0	0	0	Retain	682141.8	6404031
186	Eucalyptus albens	40	0	0	0	Retain	682081.8	6403560
187	Eucalyptus albens	40	0	0	0	Retain	682090.6	6403615
188	Eucalyptus albens	60	0	0	0	Retain	682081	6403649
189	Eucalyptus albens	80	0	0	0	Retain	682099.2	6403685

HBT ID	Species	DBH	No. Small Hollows	No. Medium Hollows	No. Large Hollows	Impacted Status	X	Y
190	Eucalyptus albens	80	0	0	0	Retain	682109.1	6403830
191	Not recorded	0	0	0	0	Retain	684808.1	6402119
192	Not recorded	0	0	0	0	Remove	684830.6	6402120
193	Not recorded	0	0	0	0	Remove	684849.2	6402117

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