RYE PARK WIND FARM

Biodiversity Offset Strategy

EPBC 2020/8837 (Condition 13 - 14)

September 2022

WEDGETAIL PROJECT CONSULTING

renewables

Rye Park Wind Farm

Document Title: Rye Park Wind Farm Biodiversity Offset Strategy
Version: Final
Revision: 4
Date: 26 September 2022

Document History and Status

Revision	Date	Description	By	Review	Approved
2	8/11/2021	Updated to address department comments	C. Layton	-	C. Layton
3	31/05/2022	Updated to reflect variation request	J. Beckett	-	C. Layton
4	26/09/2022	Updated to reflect conditions of Development Consent & updated credit liability	J. Beckett	C. Layton	J. Shuker

Declaration of Accuracy

I declare that:

1. To the best of my knowledge, all the information contained in, or accompanying the Management Plan Title, revision number and date is complete, current and correct.
2. I am duly authorised to sign this declaration on behalf of the Applicant / approval holder.
3. I am aware that:
    a) Section 490 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence for an approval holder to provide information in response to an approval condition where the person is reckless as to whether the information is false or misleading.
    b) Section 491 of the EPBC Act makes it an offence for a person to provide information or documents to specified persons who are known by the person to be performing a duty or carrying out a function under the EPBC Act or the Environment Protection and Biodiversity Conservation Regulations 2000 (Cth) where the person knows the information or document is false or misleading.
    c) The above offences are punishable on conviction by imprisonment, a fine or both.

Signed:  Date: 26 September 2022

Full Name & Title: Tom Villiers, Executive General Manager, Delivery

Organisation: Rye Park Renewable Energy Pty Ltd

Rye Park Renewable Energy Pty Ltd

GPO Box 16080
Collins Street West
Melbourne
Victoria, 8007
Australia

Phone: 1300 660 623
tiltrenewables.com

Australian Government
Department of Climate Change, Energy, the Environment and Water

Mr James Beckett
Senior Environment and Development Planner
Tilt Renewables
Level 23, 535 Bourke Street
MELBOURNE VIC 3000

EPBC 2020/8837: Rye Park Wind Farm – Revised Management Plans

Dear Mr Beckett

Thank you for your letter dated 29 September 2022 to the department, seeking approval of the revised Offset Strategy and revised Biodiversity Management Plan, in accordance with condition 35 of the above project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Officers of the department have advised me on the revised management plans and the requirements of the conditions of the approval for this project. On this basis, and as a delegate of the Minister for the Environment and Water, I have decided to approve the *Rye Park Wind Farm Biodiversity Offset Strategy*, Revision 4 (26 September 2022) and *Biodiversity Management Plan - Rye Park Wind Farm*, Revision G (26 September 2022). The approved revised plans must now be implemented.

In accordance with condition 27, management plans must be published on the approval holder's website within 20 business days of the date the plan is approved.

As you are aware, the department has an active monitoring program which includes monitoring inspections, desk top document reviews and audits. Please ensure that you maintain accurate records of all activities associated with, or relevant to, the conditions of approval so that they can be made available to the department on request.

Should you require any further information please contact Kara DeFay on (02) 6275 9973 or PostApproval@environment.gov.au.

Yours sincerely

Karina Richards
A/g Director, Post Approvals (QLD, NT, SA) Section
Environment Assessments (Vic, Tas) and Post Approvals Branch
Environment Approvals Division

14 November 2022

Contents

1.0 Introduction

Rye Park Renewable Energy Pty Ltd, a wholly owned subsidy of Tilt Renewables Pty Ltd (the Applicant) is developing the Rye Park Wind Farm (the Development), an approximate $800 million investment located to the east of Rye Park, to the north-west of Yass and south-east of Boorowa, in New South Wales (Figure 1).

The Commonwealth approved the Development (EPBC 2020/8837) (EPBC Approval) under the *Environment, Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 1 June 2021[1], subject to conditions, following assessment by preliminary documentation under Section 87 of the EPBC Act. A variation to EPBC 2020/8837 was subsequently approved on 30 June 2022.

The Development was also granted a Development Consent (SSD 6693) (the Development Consent) by the NSW Planning Assessment Commission (PAC, now known as the Independent Planning Commission) under the *Environmental Planning & Assessment Act 1979* (EP&A Act) on 22 May 2017, and having subsequently modified the Development Consent on 15 April 2021. A further modification to the Development Consent was approved by a delegate of the Minister on 23 September 2022.

To compensate for impacts to MNES, the Applicant is required to submit an Offset Strategy for approval by the Minister[2] in accordance with Condition 13 of the EPBC Approval. This Offset Strategy also addresses biodiversity offsets required under the Development Consent.

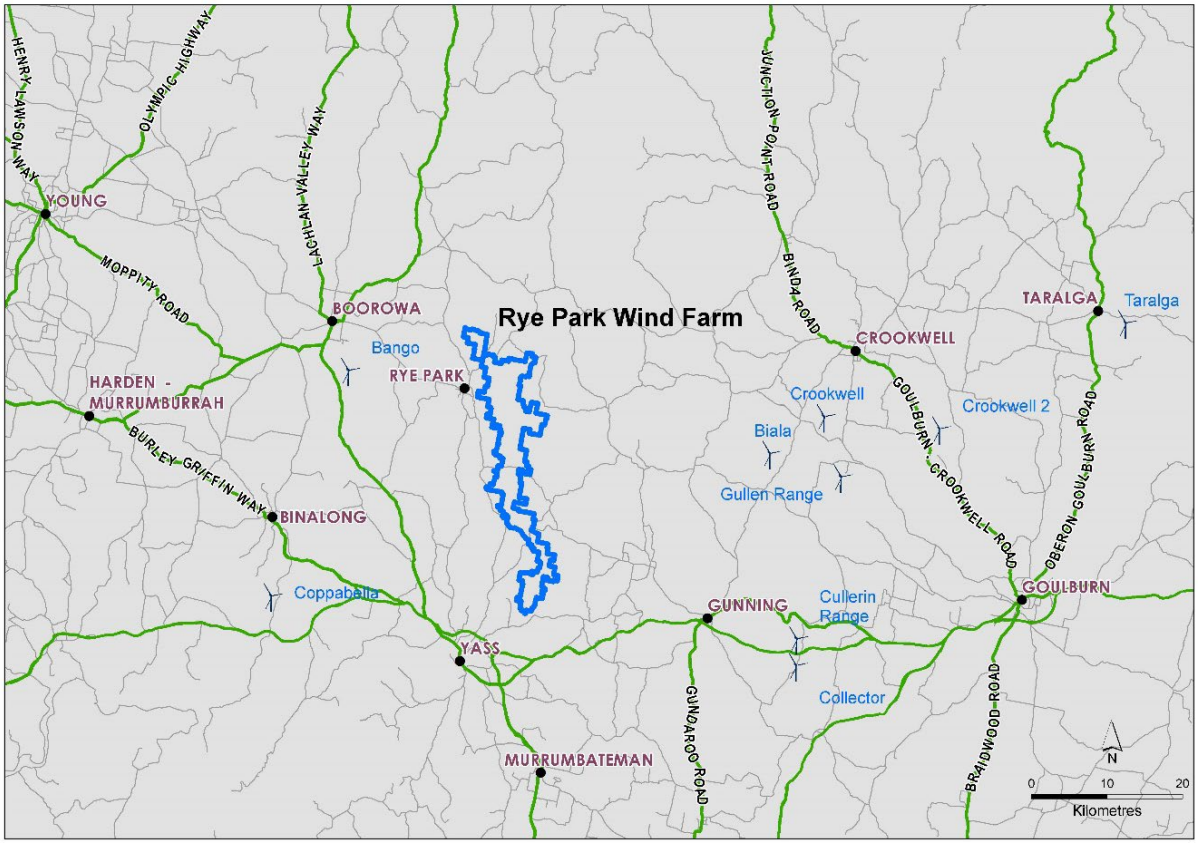

Figure 1: Project Location

[1] Note. the Rye Park Wind Farm was originally granted approval (EPBC 2014/7163) on 6 December 2017, however due to a number of proposed modifications to the action a new referral was made in 2020.

[2] **Minister** means the Australian Government Minister administering the EPBC Act including any delegate thereof.

1.1 Purpose

The purpose of this Offset Strategy is to outline the Applicant's strategy to compensate for the impacts on protected matters, including:

- Outline the regulatory offset obligations as set out within the EPBC Approval and Development Consent (Section 2.0);
- Present the pre-construction credit calculations (Section 4.0); and
- Set out the offset strategy including:
    - identification and finalisation of combination of credit generation / purchase options (Section 5.1, 5.2, and 5.3)
    - process for confirmation of final credit obligations (Section 5.4)
    - retirement of credits and notification to the department (Section 5.5)

1.2 Approach

The Offset Strategy has been prepared considering:

- Requirements of EPBC Approval and Development Consent conditions;
- Relevant Commonwealth and New South Wales legislative offset frameworks and policies;
- Reviewing the like-for-like biodiversity credits to be retired are to be calculated in accordance with the Biodiversity Assessment Method (BAM) under the NSW Biodiversity Offsets Scheme and in accordance with the *Biodiversity Conservation Regulation 2017* and *Biodiversity Conservation Act 2016* (BC Act);
- Reviewing options to satisfy credit obligations in accordance with Clauses 6.2 and 6.6A of the Biodiversity Conservation Regulation 2017 (NSW);
- Reviewing approaches to identify and secure land-based offsets; and
- Review of available biodiversity credits on the open market, that match the developments requirements.

This Offset Strategy has been prepared by the Applicant, together with suitably qualified experts as outlined within Table 1 and CVs are contained in Appendix A.

Table 1: Suitably Qualified Experts

Technical Area	Suitably Qualified Expert	Input Provided
Offset Strategy	Wedgetail Project Consulting **Adam Blundell** Principal Ecologist BAM accredited Assessor Offsets Scheme Broker	Provide expert advice and review of document, focused on Section 1.2, and Section 5.0.
Biodiversity Calculations	Umwelt (Australia) Pty Ltd **Bill Wallach** Senior Ecologist Accredited BAM Assessor	Preparation of Biodiversity Assessment Method (BAM) credit calculations contained in Appendix B and summarised in Section 4.0.

Once approved, the Offset Strategy will be published on the Rye Park Wind Farm website (www.ryeparkwf.com.au).

2.0 Regulatory Obligations

This Offset Strategy has been prepared to meet the requirements of Condition 13 and 14 of the EPBC Approval. Table 2 outlines where the specific requirements of Condition 13 and 14 are addressed within this document.

Table 2: Condition 13 and 14 Requirements

Requirement	Where addressed
Condition 13	
To compensate for **impacts** to **protected matters**, prior to commencement of the action, the approval holder must submit an Offset Strategy for approval by the **Minister**.	This document
Condition 14	
The Offset Strategy must be prepared by a **suitably qualified expert(s)**, and must:	Suitably qualified experts have prepared this document, as outlined in Section 1.2 Table 1. CVs are provided in Appendix A.
(a) based on the areas of habitat for **protected matters**, including **HBTs**, to be **impacted** in the **final layout**, propose offsets to compensate for **impacts** to: i. **Box Gum Woodland**; ii. **Superb Parrot habitat**, including **HBTs**; iii. **Golden Sun Moth habitat**; and iv. **Striped Legless Lizard habitat** in accordance with clauses 6.2 and 6.6A of the Biodiversity Conservation Regulation 2017 (NSW); and	Section 4.0 sets out the details of the impact on protected matters and the corresponding credit obligations to offset the impacts. These calculations are based on the pre-construction final layout, as shown on the final layout plans prepared in accordance with Condition 12 (and included in Appendix C for reference).
(b) provide the **Biodiversity Assessment Method** credit calculations used to determine the required number of **like-for-like biodiversity credits** to be **retired** to compensate for **impacts** to **protected matters**.	The credit obligations set out in Section 4.0, and full details provided in Appendix B, has been undertaken using the Biodiversity Assessment Method (BAM).

In addition to Condition 13 and 14, the Offset Strategy has been prepared in considering compliance with all conditions the EPBC Approval and relevant conditions of the Development Consent including (but not limited to) those summarised in Table 3 and Table 4 below.

Table 3: Other relevant EPBC Approval Conditions

Requirement	Where addressed / Commitment
Clearing Restrictions	
2. The approval holder must not **clear** within the **project area**, except: (a) within the area labelled as 'Project area - Road Upgrades' as shown on the maps in Appendix A and Appendix B; and **(b) HBTs** unless the Offset Strategy required under condition 13 has been approved by the Minister.	The Applicant will not clear within the project area, unless it is one of the activities listed in this condition, until this Offset Strategy has been approved.

Requirement	Where addressed / Commitment
3. The approval holder must not clear more than: (a) 35.73 ha of **Box Gum Woodland**; (b) 20.08 ha of **Superb Parrot habitat**; (c) 233 **HBTs**: (d) 85.28 ha of **Golden Sun Moth habitat**; and (e) 43.29 ha of **Striped Legless Lizard habitat** within the **project area**.	The Applicant commits to ensuring that the clearing limits set out in these conditions are not exceeded. The biodiversity calculations presented in Appendix B and summarised in Section 4.0, demonstrate that this condition can be met based on the final layout plans. Micrositing during construction will consider these limits and be reflected on the completed layout plans / updated Offset Strategy, as described in Section 5.4.
4. The approval holder must not **clear** any **confirmed Superb Parrot nest trees** within the project area.	
Final Layout Plans	
12. Prior to the **commencement of the action**, the approval holder must submit to the **Minister** detailed plans of the **final layout**.	As described in Section 3.0 the pre-construction final layout is shown on the final layout plans prepared in accordance with Condition 12 of the EPBC Approval and Schedule 2 Condition 10 of the Development Consent. The final layout has been submitted to the Minister, including in Appendix C for reference, and will be available on the Rye Park Wind Farm website (www.ryeparkwf.com.au). The layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of the wind turbines is permitted under the conditions of the EPBC Approval (discussed further in Section 5.4).
Completed Layout	
15. Prior to the commencement of **operation**, the approval holder must submit to the **Minister** detailed plans of the **completed layout**. If **impacts** to **protected matters** from the **completed layout** are more than those proposed in the **final layout**, the approval holder must submit, for approval by the **Minister,** a version of the Offset Strategy revised to compensate for **impacts** to **protected matters** from the action. The approval holder must not commence **operation** unless the **Minister** has either confirmed that the **completed layout** has not increased impacts relative to the **final layout** or approved the revised Offset Strategy in writing.	As discussed in Section 5.4, the Applicant commits to submit to the Minister completed layout plans in accordance with this condition.
Retirement of Credits and Notification	
16. The approval holder must **retire** the **like-for-like biodiversity credits**, as required in the approved Offset Strategy or, if a revision of the Offset Strategy is required in accordance with condition 15, the approved revised Offset Strategy, within two (2) years of the **commencement of the action**, and prior to the commencement of	Section 5.5 confirms that the Applicant will retire the like-for-like biodiversity credits as required by this Offset Strategy (or revised Offset Strategy, see Section 5.4) within two (2) years of

Requirement	Where addressed / Commitment
operation.	the commencement of the Development (being 16 November 2021) and prior to the commencement of the operation, and that the required evidence will be provided to the department.
17. Within 20 **business days** of completing the requirements of condition 16, the approval holder must provide the **department** with **evidence** of when and how the **like-for-like biodiversity credits** were **retired.**	
Notification of date of commencement	
23. The approval holder must notify the **department** in writing of: (a) the date of **commencement of the action** within 10 **business days** after the date of **commencement of the action**; (b) the date of commencement of **commissioning** within 10 **business days** after the date of commencement of **commissioning**; (c) the date of commencement of **operation** within 10 business days after the date of commencement of **operation**.	The Applicant will retire like-for-like biodiversity credits within two (2) years of the commencement of the Development (being 16 November 2021) and prior to the commencement of the operation, as per the notified dates in accordance with this condition.
Compliance Records	
25. The approval holder must maintain accurate and complete **compliance records**.	The Applicant acknowledges the requirements of these conditions, including maintenance of accurate and complete compliance records, and the provision of those compliance records to the Department upon request.
26. If the **department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **department** within the timeframe specified in the request. **Note: Compliance records** may be subject to audit by the **department** or an independent auditor in accordance with section 458 of the **EPBC Act,** and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **department's** website or through the general media.	
Submission and Publication of Plans	
27. The approval holder must: (a) submit **plans** electronically to the **department** for approval by the **Minister**; (b) unless otherwise agreed in writing by the **Minister**, publish each **plan** on the website within **20 business days** of the date: I. the **plan** is approved by the **Minister**, or II. the **plan** is submitted to the **Minister** or the **department**; (c) exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and (d) keep **plans** published on the **website** until the end date of this approval.	The submission of this Offset Strategy will comply with the requirements of this condition. This will include the publication of the approved document on the Rye Park Wind Farm website (www.ryeparkwf.com.au). Furthermore, Section 5.4 acknowledges this requirement in relation to the submission, approval and publication of a revision to the Offset Strategy (in accordance with Condition 5).
28. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under a **plan**, is prepared in accordance with the **department**'s *Guidelines for biological survey and mapped data (2018)* and submitted electronically to the	

Requirement	Where addressed / Commitment
department in accordance with the requirements of the **plan**.	
Annual Compliance Reporting	
29. The approval holder must prepare a **compliance report** for each 12 month period following the date of **commencement of the action**, or as otherwise agreed to in writing by the **Minister**. The approval holder must: (a) publish each **compliance report** on the **website** within 60 **business days** following the relevant 12 month period; (b) notify the **department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within five (5) **business days** of the date of publication; (c) keep all **compliance reports** publicly available on the **website** until this approval expires; (d) exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**; and (e) where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **department** within five (5) **business days** of publication. **Note: Compliance reports** may be published on the **department's** website.	As part of the annual compliance reporting, the Applicant will detail how compliance has been achieved against this Offset Strategy.
Reporting Non-compliance	
30. The approval holder must notify the **department** in writing of any: **incident**; non-compliance with the conditions; or non-compliance with the commitments made in **plans**. The notification must be given as soon as practicable, and no later than two (2) **business days** after becoming aware of the incident or non-compliance. The notification must specify: (a) any condition which is or may be in breach; (b) a short description of the **incident** and/or non-compliance; and (c) the location (including co-ordinates), date, and time of the **incident** and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.	The Applicant commits to notifying the department of any non-compliance with this Offset Strategy in accordance with these conditions.
31. The approval holder must provide to the **department** the details of any **incident** or noncompliance with the conditions or commitments made in plans as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying: (a) any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future; (b) the potential **impacts** of the **incident** or non-compliance; and (c) the method and timing of any remedial action that will be undertaken by the approval holder.	
Independent Audit	
32. The approval holder must ensure that **independent audits** of	If an independent audit is requested by

Requirement	Where addressed / Commitment
compliance with the conditions are conducted as requested in writing by the **Minister**.	the department (in writing), it will include an audit of compliance against this Offset Strategy.
33. For each **independent audit,** the approval holder must: (a) provide the name and qualifications of the **independent auditor** and the draft audit criteria to the **department**; (b) only commence the **independent audit** once the audit criteria have been approved in writing by the **department**; and (c) submit an audit report to the **department** within the timeframe specified in the approved audit criteria.	
34. The approval holder must publish the audit report on the **website** within 10 **business days** of receiving the **department's** approval of the audit report and keep the audit report published on the **website** until the end date of this approval.	
Revision of action management plans	
35. The approval holder may, at any time, apply to the **Minister** for a variation to an action management plan approved by the **Minister** under conditions 5, 8 and 13 or as subsequently revised in accordance with these conditions, by submitting an application in accordance with the requirements of section 143A of the **EPBC Act.** If the **Minister** approves a revised action management plan then, from the date specified, the approval holder must implement the revised action management plan in place of the previous action management plan.	Section 5.4 acknowledges that the Applicant may, at any time, apply to the Minister for a variation to this Offset Strategy in accordance with the requirements set out in Condition 35 of the EPBC Approval.

Table 4: Biodiversity Offset Development Consent Conditions

Requirement	Where addressed / Commitment
Schedule 3 Condition 20	
Prior to the commencement of construction, unless the Planning Secretary agrees otherwise, the Applicant must: (a) update the baseline mapping of the vegetation and key habitat within the final disturbance area; and (b) calculate the biodiversity offset credit liabilities for the development in accordance with the Biodiversity Assessment Method under the NSW Biodiversity Offsets Scheme, in consultation with BCS, and to the satisfaction of the Department	The credit obligations set out in Section 4.0, and full details provided in Appendix B, has prepared to meet Schedule 3 Condition 20 of the Development Consent, including consultation with BCS and approval by the Department.
Schedule 3 Condition 21	
Within two years of the commencement of construction, unless the Planning Secretary agrees otherwise, the Applicant must retire the required biodiversity credits, to the satisfaction of BCS. The retirement of the credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme, and can be achieved by: (a) acquiring or retiring 'biodiversity credits' within the meaning of	Generally consistent with the requirements of the EPBC Approval, the Development Consent requires the retirement of credits within two years of the commencement of construction (being 1 December 2021)[3].

[3] The definition of commencement of construction within the Development Consent and commencement of the action within the EPBC Approval differ slightly in that the definition of pre-construction activities are different in each.

<table>
<tr><th>Requirement</th><th>Where addressed / Commitment</th></tr>
<tr><td>the Biodiversity Conservation Act 2016;
(b) making payments into an offset fund that has been established by the NSW Government; or
(c) funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the biodiversity offset scheme.</td><td></td></tr>
<tr><td colspan="2">Schedule 3 Condition 21A</td></tr>
<tr><td>Prior to the commencement of construction for works associated with Modification 2, the Applicant must retire biodiversity credits of a number and class specified in Table 1 and Table 2 below, unless the Planning Secretary agrees otherwise.
The retirement of these credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme and can be achieved by:
(a) acquiring or retiring ‘biodiversity credits’ within the meaning of the Biodiversity Conservation Act 2016;
(b) making payments into an offset fund that has been established 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>Tussock grass – sedgeland fen – rushland – reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion</td><td>335</td><td>11</td></tr>
<tr><td>Candlebark – Blakely’s Red Gum – Long leaved Box grassy woodland in the Rye Park to Yass region of NSW</td><td>350</td><td>8</td></tr>
</table>
Table 2: Species Credit Requirements
<table>
<tr><th>Species Credit Species</th><th>Credits Required</th></tr>
<tr><td>Superb parrot (breeding habitat) (Polytelis swainsonii)</td><td>9</td></tr>
<tr><td>Squirrel glider (Petaurus norfolcensis)</td><td>134</td></tr>
</table>
</td><td>Addressed in Section 4.1.</td></tr>
</table>

3.0 The Development

The EPBC Approval approved the taking of the Development as follows:

> *To construct and operate a wind farm with up to 77 wind turbines, and associated infrastructure at Rye Park, New South Wales (see EPBC Act referral 2020/8837)*

The Development has undergone further optimisations as part of the progression of detailed design, and to ensure the Development complies with the conditions of the EPBC Approval and Development Consent, in addition to other key requirements.

The main components of the Development is as follows:

- 66 wind turbines (Vestas V162), each with:
    - a capacity to generate up to approximately 6 MW
    - three blades mounted on a tubular steel tower, with a combined height of blade and tower limited to a maximum tip height of 200 m
- crane hardstand area, and related turbine lay down area
- a new 33 kV wind farm collection substation in the northern section of the project area
- a new 330 kV wind farm connection substation located adjacent to the existing TransGrid 330 kV transmission line in the southern section of the project area
- a temporary construction compound at the northern section of the project area
- a temporary construction compound to facilitate the upgrades on the TransGrid owned existing 330kV Transmission Line at the southern section of the project area
- a new overhead powerline approximately 30 km in length, rated at up to 330 kV (nominal) capacity, running north-south along the length of the wind farm between the two substations. The powerline would be mounted on a single pole type structure and will either be single-circuit or double-circuit as required.
- underground and overhead 33 kV electrical cabling linking the wind turbines to the on-site collection substations and connection substation
- operation and maintenance facility incorporating a control room and equipment storage at the northern section of the project area
- temporary concrete batching plants and construction facilities
- access tracks required for each wind turbine and the related ancillary facilities above
- minor upgrades to local roads, as required for the delivery of the wind turbines
- up to six temporary meteorological masts and up to six permanent monitoring masts for wind speed verification, weather and general monitoring purposes. The permanent monitoring masts may be either static guyed or un-guyed structures and will be to a minimum height of the wind turbine hubs (119 m).

The Development will include three key phases, including construction (including commissioning), operations and decommissioning. The Development will be constructed in a single stage and is expected to have an operational life of 25-30 years.

The pre-construction final layout is shown on the final layout plans prepared in accordance with Condition 12 of the EPBC Approval and Schedule 2 Condition 10 of the Development Consent.

The final layout has been submitted to the Minister, including in Appendix C for reference, and is available on the Rye Park Wind Farm website (www.ryeparkwf.com.au).

The layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of the wind turbines is permitted under the conditions of the EPBC Approval (discussed further in Section 5.4).

4.0 Credit Calculations

This section provides a summary of the updated biodiversity credit requirement for the Development in accordance with Condition 14(b) of EPBC 2020/8837 and Schedule 3 Condition 20 of the Development Consent, whilst Appendix B provides the full documentation.

The updated calculations have been undertaken using the BAM, by Umwelt, following the progression of detailed design of the Development and considers the refined project footprint reflecting the pre-construction final layout. The pre-construction final layout is shown on the final layout plans prepared in accordance with Schedule 2 Condition 10 of the Development Consent and Condition 12 of EPBC 2020/8837. These plans have been revised to consider the indicative impacts as a result of modification to the Development Consent and variation to the EPBC Approval and are included in Appendix C. Table 5 below summaries the impacts on protected matters based on the revised pre-construction final layout.

Table 5: Pre-Construction Final Layout Protected Matter Impacts

Protected Matter	Condition 3 of EPBC2020/8837	Condition 19 of the Development Consent	Revised pre-construction final layout
	Area	**Area**	**Area**
Box Gum Woodland	35.73 ha	37.34 ha	31.21 ha
Superb Parrot	20.8 ha	-	19.34 ha
Hollow Bearing Trees (HBT)[4]	233	-	169
Golden Sun Moth Habitat	85.28 ha	85.22 ha	76.32 ha
Striped Legless Lizard habitat	43.29 ha	-	41.00 ha
Confirmed Superb Parrot Trees[5]	0	-	0

As discussed in Section 5.4, prior to the commencement of operations if impacts to protected matters from the completed layout are more than those proposed in the final layout, the Applicant will submit an updated version of the Offset Strategy to compensate for impact to projected matters from the Development. This update will involve updating the credit obligations set out in this section and in Appendix B.

Table 6 below presents the impact area and credit requirements for the revised pre-construction final layout associated of the Development (summarised from Appendix B)[6]. Results are presented separately for the NSW – South Western Slopes and South Eastern Highlands IBRA Regions. Similarly, ecosystem-credit and species-credit requirements are presented separately.

Furthermore, Table 7 (summarised from Appendix B) presents a summary of credits generated that align with the BC Act and EPBC Act listed CEECs, as the CEEC boundaries are not entirely consistent with the vegetation zones. The proportion of each vegetation zone that conforms with the CEECs was used to calculate the number of credits generated by the CEECs. Table 8 (summarised from Appendix B) presents

[4] Hollow-bearing trees, means hollow-bearing trees located within the areas marked orange and labelled as 'Vegetation Type - PCT 350' as shown in Appendix B of the EPBC Approval.

[5] Confirmed Superb Parrot Nest Trees' means the nest trees labelled as 'Confirmed Superb Parrot Nest Trees' as shown in Appendix B of the EPBC Approval

[6] The updated pre-construction final layout is consistent with the variation to the EPBC approval granted on 30 June 2022 and the layout approved as part of SSD-6693-MOD 2).

a summary of credits required.

Within the BAM – Credit Calculator, it is not possible to differentiate between the extent of vegetation zones which are identified as the BC Act listed CEEC and EPBC Act listed CEEC, or vice versa. In fact, the BAM – Credit Calculator only allows for the BC Act listed CEEC to be selected. In which case, the BAM – Credit Calculator assessment has been finalised and submitted identifying Vegetation Zones 3 and 4 as being the BC Act listed CEEC. Umwelt has then used these vegetation zones as proxies to determine the credit requirement specifically relating to the EPBC Act listed CEEC. Specifically, the area of impact and credit requirement was used to determine a ratio of credits per hectare, which we then applied to the area of impact identified for the EPBC Act listed CEEC to identify its specific credit requirement.

It is important to note that the total proportional number of CEEC credits under the BC Act and/or EPBC Act are not in addition to those credits identified in Table 6. Of the total number of credits required for impact to Vegetation Zone 3 and Vegetation Zone 4, Table 7 presents the amount which need to align with the BC Act and EPBC Act listed CEECs.

The full details of these calculations including mapping is contained in Appendix B.

Table 6: Final Ecosystem and Species-Credit Credit Requirements (Revised pre-construction final layout)

Veg Zone	PCT/Species-credit	Area (ha)	Credits Required
Ecosystem Credits			
NSW – South Western Slopes IBRA Bioregion			
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	0.73	24
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	4.19	110
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	8.13	341
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Derived Native Grassland*	10.42	223
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	35.67	1,230
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Derived Native Grassland*	112.40	908

Veg Zone	PCT/Species-credit	Area (ha)	Credits Required
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Acacia Shrubland*	4.15	97
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Sifton Bush Shrubland*	49.37	506
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Argyle Apple Forest*	1.29	39
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Non-native Vegetation*	73.01	0
South Eastern Highlands IBRA Bioregion			
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	-	-
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	1.56	27
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	11.22	398
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Derived Native Grassland*	3.34	74
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	29.18	976
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Derived Native Grassland*	45.73	403
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Acacia Shrubland*	5.56	106

Veg Zone	PCT/Species-credit	Area (ha)	Credits Required
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Sifton Bush Shrubland*	14.72	163
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Argyle Apple Forest*	-	-
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Non-native Vegetation*	40.82	0
Species Credits			
NSW – South Western Slopes IBRA Bioregion			
-	striped legless lizard (*Delma impar*)	41.00	284
-	southern myotis (*Myotis macropus*)	<0.01	1
-	squirrel glider (*Petaurus norfolcensis*)	44.45	1,702
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	8.12	273
-	golden sun moth (*Synemon plana*)	49.38	702
NSW – South Eastern Highlands IBRA Bioregion			
-	squirrel glider (*Petaurus norfolcensis*)	40.24	1,429
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	11.22	319
-	golden sun moth (*Synemon plana*)	26.94	423

Table 7: Credit Generation from the BC Act and EPBC Listed CEECs

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)		White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)	
	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*
Total Area of Vegetation Zone (ha)	19.35	13.76	19.35	13.76
Total Credits	739	297	739	297
Total Area of CEEC (ha)[7]	19.34	13.66	18.64	12.57

[7] Note. there is a discrepancy of 1.79 hectares between the impacts of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland' CEEC under the BC Act (32.89 hectares), to that of White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act (31.10 hectares). This discrepancy relates to a small number of patches of PCT 350 Vegetation Zone 3 and Vegetation Zone 4 not meeting the condition thresholds for the EPBC Act listed community.

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)		White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)	
	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*
Proportion of Vegetation Zone that is CEEC	99.9 %	99.3 %	96.3 %	91.34 %
Proportional Number of CEEC Credits per Vegetation Zone	739	295	712	271
Total Proportional Number of CEEC Credits	1,035		983	

Table 8: Summary of Credits Required

PCT/Species-credit and Vegetation Zone	Area (ha)	Credits Required
Non-listed		
PCT 289 (Vegetation Zone 1)	0.73	24
PCT 335 (Vegetation Zone 2)	5.75	137
PCT 351 – Native (Vegetation Zones 5 - 9)	298.07	4,428
PCT 351 – Non-native (Vegetation Zone 10)	113.83	0
BC Act and EPBC Act Listed		
Striped Legless Lizard	41.00	284
Superb Parrot	19.34	592
Golden Sun Moth	76.32	1,125
BC Act Listed		
Box Gum Woodland CEEC (BC Act)[8]	33.00	1,035
Squirrel Glider	84.69	3,131
Southern Myotis	>0.01	1
EPBC Act Listed		
Box Gum Woodland (EPBC Act) [9]	31.21	983

The EPBC Act HBT requirement is that from the Box Gum Woodland CEEC. The other EPBC Act credit requirements relate directly to the specific species, rather than hollow bearing trees.

HBTs were calculated for both the woodland (PCT350 – Vegetation Zone 3) and derived native grassland

[8] White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

[9] White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)

(PCT350 – Vegetation Zone 4) forms of the Box Gum Woodland CEEC. Therefore, all credits identified for the Box Gum Woodland CEEC (EPBC Act) as part of the updated calculations (Appendix B) need to support HBTs. Table 7 and Table 8 (and Table 4.3 of Appendix B) identify that 871 credits are required for impacts to Box Gum Woodland CEEC (EPBC Act). Therefore all 871 credits for this biodiversity value needs to support HBTs.

The retirement of ecosystem credits under the Biodiversity Offset Scheme in accordance with the BAM require a like for like retirement, this includes credits that must be HBT supporting credits. This is achieved via ecosystem credits from a Stewardship Site. The credit report from a Stewardship site will clearly identify what credits meet the EPBC CEEC requirement and also will clearly identify those that are HBT supporting as well. Only those matching the requirements set out in the biodiversity calculations will be retired against the Development's impact. This is in accordance with the Biodiversity Offset Scheme and BAM.

4.1 State-based Pre-construction biodiversity credits

Prior to undertaking any construction works relevant to the modification of the Development Consent approved on 23 September 2022 (referred to as Modification 2), the Applicant is required to retire biodiversity credits listed in Table 1 and 2 of Schedule 3 Condition 21A of the Development Consent.

The Applicant will retire biodiversity credits by making payment into an offset fund established by the NSW Government, being the Biodiversity Conservation Fund, managed by the NSW Biodiversity Conservation Trust.

5.0 Offset Strategy

There are three options, two land based and one fund, to satisfy credit obligations in accordance with the EPBC Approval and Development Consent conditions, including:

1. Creating new Stewardship Sites;
2. Purchasing the credits off the open market through existing Stewardship Sites; and/or
3. Paying into the BCF.

The credit obligation for the Development will be satisfied using a combination of the above options. The preference is to satisfy the majority of the credits through the land-based options, primarily through Option 1 and secondarily through Option 2.

Option 3, paying into the BCF, will be used where specifically required by the conditions of the Development Consent (refer to Section 4.1) or where particular credit types cannot be found by establishing a stewardship site, or purchased from the open market and ensures that the credit obligation can be satisfied.

5.1 Biodiversity Stewardship Sites (Option 1)

In order to create new Stewardship Sites and generate both ecosystem credits and species credits that can be retired against the Development to satisfy the development consent conditions, the below process will need to be followed.

The process from consultant engagement through to the Biodiversity Conservation Trust (BCT) sign off, takes approximately 12 months, subject to seasonality for targeting threatened species such as the Golden Sun Moth, Superb Parrot and Striped Legless Lizard.

The steps required in establishing a Stewardship Site are as follows:

5.1.1 Site Identification

1. Identify a property – land is identified via desktop searches for land for sale. Once land has been identified it is then assessed via desktop analysis to ensure it is:
    a. Located in the correct IBRA-Subregion to satisfy the development consent conditions, and
    b. Located in an area likely to support the correct PCTs.
    c. A site inspection is undertaken to confirm the correct PCTs (including whether they will address both BC Act and EPBC Act requirements) are in fact onsite.
2. Confirm the landowner (meets the fit and proper person test) and property (meets the eligibility criteria) are eligible, in accordance with the Biodiversity Stewardship Agreement application October 2018 (or most recent version).

Note: The Applicant has secured land tenure over four properties following the above process of site identification for the establishment of Biodiversity Stewardship Agreements. Detailed assessment of the sites is currently being undertaken prior to lodgment of relevant applications for a Biodiversity Stewardship Agreements (refer to Section 5.1.2). The details and anticipated generation of ecosystem credits and species credits for each site are identified in Table 9. Work is underway on investigating and securing several other sites already identified and identification of new sites.

Table 9: Stewardship Sites Secured – Indicative Credit Generation

Credits Generated	Bango 55 Bushs Road, Bango NSW 2582	Middle Arm Part 575 Back Arm Road, Middle Arm NSW 2580	Mumbil 1228 Neurea Road, Mumbil NSW 2820	Jerrong 470 The Glen Road, Jerrong NSW 2580	Total
Ecosystem Credits					
PCT 350	771		1,499		**2,270**
PCT 351	1,650	994		795	**3,439**
Species Credits					
Golden Sun Moth	362				**362**
Superb Parrot	207		41		**248**
Squirrel Glider	384	994	292	872	**2,542**

5.1.2 Biodiversity Assessment

Once a suitable property has been identified and deemed suitable in accordance with step 2 above and secured the following steps will be undertaken.

1. Engagement of an accredited assessor to apply the BAM to the property in order to generate biodiversity credits. The Accredited Assessor will complete a Biodiversity Stewardship Site Assessment Report (BSSAR), including the completion of a Total Fund Deposit worksheet (TFD) and required Management Plans, that will all be lodged to the BCT in order for the landowners to be able to enter into a Biodiversity Stewardship Agreement (BSA).
2. The BCT reviews all lodged documentation. Any changes required will be completed by the accredited assessor, and the BCT will sign off on the documentation.

5.1.3 Finalisation of Agreement and Retirement of Credits

Following the steps in Section 5.1.1and 5.1.2, the following will be undertaken:

1. The landowner enters into a BSA with the BCT.
2. Once credits have been generated, the landowner can retire those credits against their credit obligation for their project, or sell the credits on the open market.
3. To retire credits to a Project, the credit owner and project owner must complete the “Application to retire biodiversity credits” form, and pay a credit retire fee.
4. Credit Owner must pay the TFD obligation before BCT will retire the credits.
5. Once credits have been retired, proof of retirement will be provided to the Department and Planning Secretary in accordance with the requirements set out in Section 5.5.

It is noted that the retirement of the credits to the Development (Steps 2 - 5) will not be undertaken until confirmation of the final credits has been undertaken as described in Section 5.4.

5.2 Credit Market (Option 2)

Any shortfall in ecosystem credits and species credits, not generated on stewardship sites will be satisfied where possible from the open market.

The following process to purchase and retire identified credits will be undertaken:

1. Identify (including determining how/if the credits meet the BC Act and/or EPBC Act credit requirements) and negotiate a purchase price for the credits with the credit owner.

2. Credit owner will have to complete a “Application to transfer biodiversity offset scheme credits” form and pay the prescribed credit transfer fee (as outlined above in section 4.1.3).
3. Purchaser pays agreed credit price to credit owner prior to credits being transferred.
4. Credit Owner must pay TFD obligation before BCT will transfer credits to purchaser.
5. If credit owner, is also the developer, points 2 and 3 are not required.
6. Once the credits have been transferred, the “Application to retire biodiversity credits” form lodged, and the fee paid.
7. Once credits have been retired, proof of retirement will be provided to the department in accordance with the requirements set out in Section 5.5.

It is noted that the credit transfer process (Steps 2 - 7) will not be undertaken until confirmation of the final credits has been undertaken as described in Section 5.4.

Note: A search of the Biodiversity Offsets Scheme Public Credit Supply Register has identified the following potential ecosystem credits and species credits available on the market (Table 10). The Biodiversity Offset Strategy credit supply register was searched on the 10/08/2021 by Adam Blundell.

Table 10: Credits currently (as at 10/08/2021) available on the open market

PCT / Species	Credit Available	Contact Details
Ecosystem Credits		
PCT 266 (Can offset PCT 350)	8,600	David Merrin
PCT 266 (Can offset PCT 350)	731	Michael Dunn
PCT 21330 (Can offset PCT 350)	166	Wally McDonald
PCT 349 (Can offset PCT 351)	1,072	Wally McDonald
PCT 1330 (Can offset PCT 350)	Expression of Interest Only	BCT
PCT 1093 (Can offset PCT 351)	Expression of Interest Only	BCT
Species Credits		
Squirrel Glider	481	Michael Dunn
Squirrel Glider	1,245	Wally McDonald
Squirrel Glider	521	Adam Blundell as Broker (John Connor)
Southern Myotis	68	Adam Blundell as Broker (John Connor)
Squirrel Glider	1,211	Adam Blundell as Broker (Haydn Smith)
Squirrel Glider	5,227	Adam Blundell as Broker (Mark Farrell)
Golden Sun Moth	TBC	BCT Expression of interest
Superb Parrot	TBC	BCT Expression of interest

5.3 Fund (Option 3)

Once the first two options for finding the biodiversity credits required and retiring them against the Development, are exhausted or determined to be not achievable, the outstanding biodiversity (ecosystem and species) credits will be satisfied by paying into the BCF. The process for paying into the BCF is as follows:

1. The Applicant will complete the application for payment into the BCF for an offset obligation in NSW form and lodge it with the Biodiversity Conservation Trust.
2. BCT reviews the application and provides a reference number (3 - 5 business days).
3. BCT advises in writing whether the application has been approved and if so, provides payment details (payment term is seven days)
4. The Applicant will submit Recipient Created Tax Invoice or requests an invoice from the BCT (3 - 5 business days).
5. The Applicant will make the payment into the BCF.
6. BCT confirms receipt of payment and issues a certificate under section 6.33 of the BC Act.

The certificate issued by the BCT will be used by the Applicant to demonstrate to the Department and the Planning Secretary that the relevant offset obligation has been met, furthermore copies of any BSAs may be provided if required/requested.

5.4 Confirmation of Credit Obligations

Prior to the commencement of operations of the Development, the Applicant will submit to the Minister and Planning Secretary completed layout plans prepared in accordance with Condition 15 of the EPBC Approval and Schedule 5 Condition 6 of the Development Consent.

In accordance with Condition 15 of the EPBC Approval, if protected matters from the completed layout are more than those proposed in the final layout, the Applicant will submit for approval by the Minister, an updated version of the Offset Strategy to compensate for impact to projected matters from the Development. The Applicant will not commence operation unless the Minister has approved the updated version of the Offset Strategy in writing, if required.

This update will provide updated credit obligations set out in Section 4.0, and full details provided in Appendix B, using the BAM.

The updated version of the Offset Strategy will be submitted and published in accordance with the requirements set out in Condition 27 of the EPBC Approval, including publication of the revised Offset Strategy on the Rye Park Wind Farm website (www.ryeparkwf.com.au).

It is noted that the Applicant may, at any time, apply to the Minister for a variation to this Offset Strategy in accordance with the requirements set out in Condition 35 of the EPBC Approval.

5.5 Retirement of Credits and Notification

The Applicant will retire the like-for-like biodiversity credits and/or make payment into the BCF, as required in the approved Offset Strategy or the approved revised Offset Strategy (see Section 5.4), within two (2) years of the commencement of the Development, and prior to the commencement of operation.

In relation to the EPBC Approval, this requires that the credit obligation is retired by 16 November 2023, and the credit obligation is required to be delivered in accordance with the Development Consent by 1 December 2023 unless otherwise agreed with the Planning Secretary.

Within 20 business days of completing the retirement of credits, the Applicant will provide the Department and the Planning Secretary with evidence of when and how the like-for-like biodiversity credits were retired.

Acronyms, Abbreviations and Definitions

the Applicant	Rye Park Renewable Energy Pty Ltd, a wholly owned subsidy of Tilt Renewables Pty Ltd, and having the same meaning as Approval Holder under the EPBC Approval
BAM	Biodiversity Assessment Method, means the biodiversity assessment method established under the *Biodiversity Conservation Act 2016* (NSW) for the purpose of assessing the impact of actions on threatened species and threatened ecological communities, and their habitats.
BC Act	*Biodiversity Conservation Act 2016*
BCF	Biodiversity Conservation Fund
BCT	Biodiversity Conservation Trust
Box Gum Woodland	means *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland* and *Derived Native Grassland* ecological community, listed as critically endangered under the EPBC Act.
BSA	Biodiversity Stewardship Agreement
BSSAR	Biodiversity Stewardship Site Assessment Report
Business days	means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.
CEEC	Critically Endangered Ecological Community
Clearing/clear/cleared	means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds-see the *Australian weeds strategy 2017 to 2027* for further guidance).
commencement of the action / commence the action	means the first instance of any specified activity associated with the action including clearing and construction. Commencement of the action does not include minor physical disturbance necessary to: a) undertake surveys or monitoring programs; b) install signage and /or temporary fencing to prevent unapproved use of the project area; c) protect environmental and property assets from fire, weeds and pests, including installing temporary fencing, and use of existing surface access tracks; d) install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on protected matters; and e) conduct investigative drilling, excavation or salvage.
commissioning	means all activities, including turning of turbines, after the components of the first complete wind turbine are installed. The date on which commissioning commences is the first date on which the blades of the first completed wind turbine start rotating.
completed layout	means the post-construction layout of the Development, including the actual locations and GPS coordinates of all wind turbines, transport routes, underground and overhead wiring locations and associated operational and maintenance infrastructure within the project area, and specifying the total

	area of habitat for each protected matter that will be impacted by the Development.
completion data	means an environmental report and spatial data clearly detailing how the conditions of this approval have been met. The department's preferred spatial data format is shapefile. This includes, but is not limited to, the total area of habitat for each protected matter cleared within the project area.
completion of the Development	means all specified activities associated with the Development have permanently ceased.
compliance records	means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the Aplicant's possession or that are within the Applicant's power to obtain lawfully.
compliance report	means written reports: a) providing accurate and complete details of compliance, incidents, and non-compliance with the conditions and the plans; b) consistent with the department's Annual Compliance Report Guidelines (2014); c) include a shapefile of any clearance of any protected matters, or their habitat, undertaken within the relevant 12-month period; and d) annexing a schedule of all plans prepared and in existence in relation to the conditions during the relevant 12-month period.
confirmed Superb Parrot Nest Trees	means the nest trees labelled as 'Confirmed Superb Parrot Nest Trees' as shown in Appendix B of the EPBC Approval
Construction	means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of temporary fences and signage.
Cwth	Commonwealth
Department	means the Australian Government agency responsible for administering the EPBC Act
the Development	The Project as described in the EPBC Approval and the Development Consent, as modified or varied from time to time.
Development Consent	The Development Consent SSD 6693 granted under the EP&A Act for 77 wind turbines with a 200 m tip height, as modified from time to time.
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwth)
EPBC Approval	EPBC 2020/8837 granted for the Action under the EPBC Act
Evidence	means documentation from the relevant authority showing that like-for-like biodiversity credits have been retired.
Final layout	means the pre-construction layout of the action, including the proposed locations and GPS coordinates of all wind turbines, transport routes, underground and overhead wiring locations and associated operational and maintenance infrastructure within the project area, and specifying the total

	area of habitat for each protected matter that will be impacted by the action.
Golden Sun Moth	means the species Synemon piano listed as critically endangered under the EPBC Act.
Golden Sun Moth habitat	means habitat preferred by the Golden Sun Moth, which is dependent on the presence of grasslands, including non-native grasslands. Golden Sun Moth habitat is located where the species is listed to or may occur, and any known Golden Sun Moth foraging or breeding habitat. A list of key species habitat characteristics is given in the Approved Conservation Advice for Synemon plana (golden sun moth), which is available on the department's website (equivalent NSW plant community type (PCT) includes: PCT 350 and 351).
ha	hectares
HBTs	Hollow-bearing trees, means hollow-bearing trees located within the areas marked orange and labelled as 'Vegetation Type - PCT 350' as shown in Appendix B of the EPBC Approval.
Impact/s/ed (verb)	means to cause any measurable direct or indirect disturbance or harmful change as a result of any activity associated with the action. Impact (noun) means any measurable direct or indirect disturbance or harmful change as a result of any activity associated with the action.
Incident	means any event which has the potential to, or does, impact on one or more protected matter(s) other than as permitted under this approval.
Independent	means a person(s) that does not have an individual or by employment or family affiliation, any conflicting or competing interests with the Applicant; the Applicant's staff, representatives or associated persons; or the project, including any personal, financial, business or employment relationship, other than receiving payment for undertaking the role for which the condition requires an independent person.
Independent audit/s	means an audit conducted by an independent and suitably qualified person as detailed in the *Environment Protection and Biodiversity Conservation Act 1999* Independent Audit and Audit Report Guidelines (2019), or subsequent revisions.
IPC	Independent Planning Commission
Km	kilometres
Like-for-like biodiversity credits	means like-for-like ecosystem credits and like-for-like species credits.
Like-for-like ecosystem credits	has the meaning given under the BC Act.
Like-for-like species credits	has the meaning given under the BC Act.
Minister	means the Australian Government Minister administering the EPBC Act including any delegate thereof.
MNES	Matters of National Environmental Significance
Monitoring data	means the data required to be recorded under the conditions of this approval.
NSW	New South Wales

Operation	means all activities after the components of the final wind turbine are installed.
PAC	NSW Planning Assessment Commission (now known as IPC)
PCTs	Plant Community Types
Plan/s	means any of the documents required to be prepared, approved by the Minister, and/or implemented by the Applicant and published on the website in accordance with these conditions (includes action management plans and/or strategies).
the Project	the Rye Park Wind Farm Project
Project area	means all of the area marked in blue and labelled as 'Project Area -Road Upgrades' as shown in Appendix A of the EPBC Approval, and the area outlined in black and labelled as 'Development Corridor- Wind Farm', the areas marked in blue and labelled as 'Project Area -Road Upgrades' and the areas outlined in green and labelled as 'Development Corridor - Permanent Met Masts' as shown in Appendix B of the EPBC Approval.
Protected matter/s	means a matter protected under a controlling provision in Part 3 of the EPBC Act for which this approval has effect.
Retire/retired	means change the status of a like-for-like biodiversity credit such that the like-for-like biodiversity credit can no longer be bought or sold.
Sensitive ecological data	means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data -Access and Management Policy V1.0*.
Shapefile/s	means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.
SSD	State Significant Development
Striped Legless Lizard	means the species *Delma impar* listed as vulnerable under the EPBC Act.
Striped Legless Lizard habitat	means areas with ecological conditions supporting the Striped Legless Lizard, as described in the *Conservation Advice Delma impar striped legless lizard and the National Recovery Plan for the Striped Legless Lizard (Delma impar) 1999-2003*, which are available on the department's website.
Suitably qualified expert(s)	means a person who has professional qualifications and at least three (3) years of work experience designing and implementing surveys for and managing or studying and preparing prescriptions for the management of Box Gum Woodland, Superb Parrot, Golden Sun Moth, Striped Legless Lizard and White-throated Needletail (*Hirundapus caudacutus*), and can give an authoritative assessment and advice on the presence of and management requirements of Box Gum Woodland, Superb Parrot, Golden Sun Moth, Striped Legless Lizard and White-throated Needletail (*Hirundapus caudacutus*) using relevant protocols, standards, methods and/or literature.
Suitably qualified person	means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards,

	methods and/or literature.
Superb Parrot	means the species *Polytelis swainsonii* listed as vulnerable under the EPBC Act.
Superb Parrot habitat	means habitat preferred by the Superb Parrot where the species may occur, and any known Superb Parrot foraging or breeding habitat. A list of key species habitat characteristics is given in the *Conservation Advice Polytelis swainsonii superb parrot and National Recovery Plan for the Superb Parrot* Polytelis swainsonii, which are available on the department's website (equivalent NSW PCT's include: PCT 350).
TFD	Total Fund Deposit
website	means a set of related web pages located under a single domain name attributed to the Applicant and available to the public.

Appendix A: Suitably Qualified Expert CVs

Adam Blundell

Curriculum Vitae

My business career started over 20 years ago, by accepting an opportunity to start an environmental arm within an engineering firm. Being fresh out of University, this required me to start the steep learning curve of understanding business operations, staff management and budgets early in my career, as well as learn my craft in ecology.

Within 6 years I had grown this environmental service line to 6 staff. In 2006 I negotiated the acquisition of the environmental service line with two of my staff members. Hence our new business, EcoBiological was birthed. For the subsequent 7 years, I acted in the role of principal ecologist and Managing Director of EcoBiological, successfully growing the business to 32 staff, and acquiring another small planning approvals firm. In 2012 I negotiated the sale of EcoBiological to a huge international firm, based in the United States known as Kleinfelder.

From 2012 to 2019, I acted as the NSW and QLD manager. During my time as a manager, I had the amazing opportunity to receive business coaching myself. This included team performance coaching and vision workshops for my teams to ensure the business performed at its optimum.

With my 20 years of experience in consulting, I have teamed with an experienced environmental advisor, Jonathan Berry to start Wedgetail Project Consulting and Wedgetail Offsets Scheme Brokers. Wedgetail Project Consulting aims to partner with clients, to deliver projects, and have fun doing it. We bring expertise to bridge the ever-widening gap between consultants and developers. We help developers gain project approvals and management consultants to achieve this approval. We provide advice, and management skills and are prepared to partner with clients with time, expertise and finances to get approvals.

QUALIFICATIONS

Bachelor of Environmental Science The University of Newcastle, Australia

Honours project Research project - "The Powerful Owl (*Ninox strenua*) in disturbed Environments". The University of Newcastle, Australia

Accredited BAM Assessor (under Biodiversity Conservation Act 2016)

Accredited Fauna Spotter Catcher – (cert no JAM: V1557)

Certificate II Bushland Regeneration

Planning for Bushfire Prone Areas (UTS)

International Coaching Community – International Coaching Certification Training – **International Certified Coach February 2020.**

11 Jody Close
Jewells, NSW 2280
ABN: 93 640 388 683

Wedgetail Offset Scheme Brokers provides developers and land owners expert advice on how the BC Act legislation works, how to interpret the BAM, and understand both a developers offset obligations and a land owners sites potential as a stewardship site. We offer the experience and training to guide both sides of the legislation (developers and stewardship site owners) through the process of remaining compliant with development consent, and the stewardship site establishment process, and we also bring the ability to help with purchasing and selling of biodiversity credits.

My primary areas I have developed over my career include; project management, purchase and sales of biodiversity credits, design and implementation of ecological surveys, stewardship site establishment, Biodiversity Development Assessment Reports, Management Plans, client and consent authority liaison, mammalogy and large forest owls.

I have been an accredited biobanking assessor since its inception in 2009, and has undertaken the training and been accredited under the new BC Act legislation as a BAM assessor.

My experience as the Managing Director and NSW and Qld manager has equipped me to manage multiple tasks at one time, perform under stressful situations, be decisive and understand the driving forces behind business, which allows him to understand and work with clients to achieve their goals. I have learned through trial and error and business coaching how to manage a team, allow the team to operate at it potential and how to development a healthy business culture. These skills lead me to deciding to become an accredited international business coach in 2019.

Below is a very small subset of the type of projects I have been involved with over my career.

Adam Blundell
Principal Advisor
Offsets Scheme Broker
M: 0429 484 088
ablundell@wedgetail.com.au

Project Experience

Project Management

- **AGL - Newcastle Gas Storage Facility,** a $300 million infrastructure project which involves the building of 5.5km of pipeline, a 30,000 t storage tank, processing plant and associated infrastructure.

  Baseline flora and fauna surveys were conducted of the subject site to identify ecological constraints to the development. This involved mapping the distribution of vegetation communities, Threatened Ecological Communities, and habitat for nationally listed threatened species including Koala, New Holland Mouse and Earp's Gum.

  Planning activities were undertaken to support the development approval process including the preparation of:

  - An Offset Strategy involving the reservation of land, installation of artificial nest boxes and propagation and replanting of Earps Gum;
  - Bushfire Threat Assessment;
  - Conservation Agreements under the NPW Act;
  - Vegetation Management Plan for the Conservation Area;
  - Monitoring Plan for the Conservation Area;
  - Flora and Fauna Management Plan for the Construction Phase; and
  - Vegetation Rehabilitation Management Plan.

- Kleinfelder was commissioned by **Peabody Energy** to provide expert sub-consultant assistance in preparing a Rehabilitation Monitoring Report for Coppabella Coal Mine which is located approximately 159km south-west of Mackay near the townships of Nebo and Moranbah.

  The survey assessment involved sampling 18 survey plots in a series of different aged rehabilitation areas throughout Coppabella. Two analogue survey plots were established in native vegetation to acquire benchmark floristic data. Each survey plot was assessed for the following;

  - Floristic composition (plant species diversity and stratum structure);
  - Ecosystem function analysis (several parameters);
  - Soil Analysis (physical and chemical); and
  - Microbial analysis (soil biological health)

- **Yancoal Australia** owns and operates three mines (one open-cut and two underground) within close proximity to Newcastle. As part of the conditions of consent for operating as a coal mine, extensive ecological monitoring is required to take place within nominated conservations areas surrounding each operation. The ultimate goal of such monitoring is to determine the short and long term effects (if any) to surrounding biodiversity and ecosystem function. Kleinfelder has conducted this ecological monitoring since 2001. This involves the monitoring of 6 different sites on an annual basis.
- **QGC** – Kleinfelder has been subcontracted by Corbets, to service the QGC Queensland Coal Liquefied Natural Gas project. This involves the supervision of clearing, shearing and grinding operations for well pads and access sites, in accordance with the fauna Management Plan and Queensland legislation. This project requires 16 full time staff on rotating shifts for 356 days per year for 2 years.

Offset Scheme Broker

I have been operating as an Offset Scheme Broker for Wedgetail Offsets Scheme Broker since May 2020. Wedgetail Offsets Scheme Brokers has 4 Stewardship Site owners that have signed exclusively, with over 30 millions dollars worth of biodiversity credits to be sold.

BAM Assessment Oversight

- Biodiversity Stewardship Site Assessment Report – Mark Farrell. The Stewardship site was 1350 ha in area, and lodged with the BCT in early 2019.
- Biodiversity Stewardship Site Assessment Report – Hayden Smith. The Stewardship site was 238 ha in area, and lodged with the BCT in early 2019.
- Biodiversity Development Site Assessment Report – Scorpi Holdings Pty Ltd. This was complex site, with 3 BDARS being written for lodgement to Lake Macquarie City Council.

Biobanking Assessments and Assessment Oversight

- Blundell, A. (2009). BioBanking Assessment for the Boydtown Master Plan, Boydtown NSW. A report prepared by **ecobiological** for Boydtown Pastoral Co.
- Blundell, A. (2009). BioBanking Assessment of Tricketts Arm, 605 Jaunter Road, Jaunter. A report prepared by **ecobiological** for Peter and Sharon Dykes.
- Biobanking Site – Delta Associates. The biobanking Assessment was undertaken over 230 ha, which was subsequently subdivided into 3 lots, with 3 separate biobanking sites being produced and lodged in 2018.

- Biobanking Site – Delta Associates. The biobanking Assessment was undertaken over 104 ha site at east Seaham, with a Biodiversity Assessment Report being lodged in mid-2017, and a biobanking site being approved in set up in early 2018.
- Biobanking Site – Delta Associates. The biobanking Assessment was undertaken over 243 ha site at Seaham, with a Biodiversity Assessment Report being lodged in late-2017

Threatened Species Assessment

These projects involved a full flora and fauna assessment of the subject property and the application of the 8 or 7-part test of significance and impact as prescribed in the *NSW Threatened Species Conservation Act 1995.*

- Paull, D., Pedersen, D., Peters, K, and Blundell, A. (2010) Flora, Fauna and Threatened Species surveys for the proposed My Penny Coal Mine at Bylong NSW. Report prepared for Mt Penny Coal Pty Ltd.
- Parsons, R., Peters, K., & Blundell, A. (2010). Flora, Fauna and Threatened Species surveys for the proposed subdivision of Lot 115 DP 1019827 and Lot 31 DP 859686 Redgum Drive, Clarence Town, NSW. A report prepared by **ecobiological** for Hill Top Planners.
- Blundell, A. (2009). Preliminary Ecological Investigations and Feasibility Assessments of the Merimbula Airport extension options. A report prepared by **ecobiological** for Garret Barry Planning Services Pty Ltd.
- Clulow, S., Peters, K., & Blundell, A. (2009). Flora, Fauna and Threatened Species surveys for the Duralie Coal Mine operations in Gloucester, NSW. A report prepared by **ecobiological** for Gloucester Coal Pty Ltd to support an Environmental Assessment for the expansion of mining operations.
- Peters, K. & Blundell, A. (2008b). Threatened Species Assessment: Proposed Used Oil Re-refining and Exchange facility, Lot 3 DP 858206, 71 Raven Street, Kooragang Island, NSW. A report prepared by **ecobiological** for Lube Oil Re-refining and Exchange Pty Ltd (LOREX) with instruction from ENSR Australia Pty Ltd (ENSR).
- Blundell A. & Pedersen D. (2005). Flora, Fauna and Threatened Species Assessment: a Proposed Industrial Subdivision on Part Lot 1102 DP 1041439 & Part Lot 35 DP 1041438 Masonite Road, Heatherbrae. A report prepared by **ecobiological** for Residual Pty Ltd.
- Driscoll C., Blundell A., & Pedersen D. (2004b). Flora, Fauna and Threatened Species Assessment: Lot 11 DP 1037851 off Yengo Drive, Putty. A report prepared by **ecobiological** for Mr. John Stokes.

Fauna

- Blundell, A., Clulow, S, and Peters, K,. (2011) Specific Grass Owl Survey to determine Grass Owl home range and extent of regional population in the Tomago Area NSW. Survey undertaken as part of a Development Application for an industrial subdivision at Tomago NSW. Report prepared for Northbank Enterprise Hub.
- Paull,D. & Blundell,A. (2010). Monitoring populations of the Wallum Froglet (Crinia tinnula) in Munmorah and Lake Macquarie State Conservation Areas and Wyrrabalong National Park, Central Coast, New South Wales. A report prepared by ecobiological for Department of Environment, Climate Change & Water.
- Clulow, S. & Blundell, A. (2008). A Survey of the herpetofauna of Palm Grove Nature Reserve, Central Coast, New South Wales. A report prepared by ecobiological for Department of Environment, Climate Change & Water.
- Driscoll C. & Blundell A. (2003). Assessment of the Potential Impact on Certain Threatened Species, of the Construction of a Proposed Dwelling on a Property at Dickson Rd Dooralong. A report prepared by Barker Harle for Mr. & Mrs. Castle. This work included a Species Impact Assessment on the Yellow-bellied Glider.

Flora and Fauna Monitoring projects

- Donaldson Coal Pty Ltd open cut coalmine, Beresfield
  ecobiological has managed the Flora and Fauna monitoring program at the Donaldson Opencut Coalmine (Beresfield), a requirement of the mine's conditions of consent, since 2001. This has involved twice yearly flora and fauna monitoring of the mine site as well as the installation and monitoring of 45 nest boxes.
- Tasman underground coalmine, Mount Sugarloaf
  ecobiological has managed the Flora and Fauna monitoring program at the Tasman Underground Coalmine (Sugarloaf), a requirement of the mine's conditions of consent, since 2005. This has involved annual flora and fauna monitoring of the mine site, and the establishment of a Compensatory Habitat area, baseline reporting and monitoring program.
- Abel underground coalmine, Beresfield
  ecobiological has managed the Flora and Fauna monitoring program at the Abel Underground Coalmine (Beresfield), a requirement of the mine's conditions of consent, since 2008. This has involved annual flora and fauna monitoring of the footprint of mining area and the establishment of a baseline reporting and monitoring program.
- Centennial Coal, Mandalong / Awaba operations – new Haulage Road.
  ecobiological was commission by Centennial Coal to undertake a nest box research project. The research project includes the installation and 5 year monitoring of 150 nest boxes. The research proposal will allow for both a robust assessment of the success of the research project, as well as making a significant contribution to the knowledge base of the scientific community on the value of nest box monitoring programs as management tools.

Bushfire Threat Assessments

Includes assessments of individual lots with industrial, rural/ residential and residential zones, sub-division design and additions and alterations to existing dwellings.

- Pedersen,D., Blundell, A., Couch,P., Parsons,R. and Aurecon staff (2010). Review of Bushfire Threat to 301 schools across Victoria, identifying a safer place and creating heat contour mapping. Reviews and reporting prepared under instruction of Aurecon for the Victorian Government.
- Pedersen, D. & Blundell, A. (2010). Bushfire Threat Assessment: for the proposed dwelling at Lot 9 Ritchie Terrace, Vivonne Bay, Kangaroo Island, South Australia. A report prepared by **ecobiological** for Torren Bell Building Design.
- Pedersen, D. & Blundell, A. (2009). Bushfire Threat Assessment: for Lot 120 DP1113792 Konara Crescent Fletcher, NSW. A report prepared by **ecobiological** for Mr Scott King.
- Pedersen, D. & Blundell, A. (2005). Proposed development of 10, 12 and 14 Leicester Avenue, Belmont North: Bushfire Threat Assessment. A report prepared by **ecobiological** for Resitech.

Expert Witness - NSW Land & Environment Court

- Wendy Bishop v Cessnock City Council. Land and Environment Court Proceedings NO 10619 OF 2008. Premises: Lot 1, DP569264 Sandy Creek Road, Mulbring (Flora and Fauna Expert Consultant Expert Witness)
- Jeremy Rowe v Wyong Shire Council. Environmental Court Proceedings No 10564 of 2008. Premises: Lot 13 DP4097 Pryor Road, Ourimbah (Flora and Fauna Consultant Expert Witness)
- DCR Property Consultants -v- Great Lakes Council Land & Environment Court Proceedings No. 10263 of 2003. Premises: Lot 474, DP95462, Parish of Carrington. (Bushfire Consultant Expert Witness)

Community Consultation

- 2009 - Aboriginal Reference Group consultation along east coast of NSW in accordance with the requirements of the EPC Act for the Draft National Recovery Plan for the Grey-headed Flying Fox.

Publications

- Foster, L., O'Brien, D., Blundell, A. (2012). *Factors influencing the usage rate of nest boxes in Coastal NSW*. Presented at the 2012 Australian Mammal Society conference in Port Augusta, SA.
- Clulow, S., Blundell, A. (2011). Deliberate insectivory by the fruit bat Pteropus poliocephalus by aerial hunting. *Acta Chiropterologica,* in press.
- Clulow, S., Peters, K., Blundell, A. & Kavanagh, R. (2011). "Resource predictability and foraging behaviour facilitates shifts between nomadism and residency in the eastern grass owl (Tyto longimembris)". *Journal of Zoology*, in press.
- Clulow, Simon., Blundell, Adam T., Clulow, John & Peters, Kristy L. (2010).Temporal and seasonal use of compensatory nest boxes by vertebrate fauna in the Hunter Valley of NSW, Australia. Proceedings of the 23rd meeting of the Australasian Wildlife Management Society, Torquay.
- Blundell, Adam T., Clulow, Simon, Clulow, John & Peters, Kristy L. (2010). Nest Boxes as a Monitoring Tool: annual and seasonal use by vertebrate fauna over a 5-year period in the Hunter Valley, NSW (Poster). Proceedings of the 56th Scientific and Annual General Meetings of the Australian Mammal Society Canberra, ACT July 2010.
- Clulow, S., Peters, K., Blundell, A. & Kavanagh, R. (2008). Diet of a permanently resident (non-nomadic) population of the Eastern Grass Owl *Tyto longimembris* on the Mid North Coast of New South Wales and its relation to seasonality and prey availability (Poster). Proceedings of the 2nd meeting of the Australasian Raptor Association, Coffs Harbour, New South Wales.
- Blundell, A., Clulow, S., Peters, K., & Kavanagh, R. (2008). (Conference presentation) Distribution, habitat usage and observed behaviour of a southern resident population of the Eastern Grass Owl Tyto longimembris near Newcastle, New South Wales. Proceedings of the 2nd meeting of the Australasian Raptor Association, Coffs Harbour, New South Wales.

Bill Wallach

Senior Ecologist and Accredited BAM Assessor

Bill has extensive experience in ecological and environmental consulting. He is experienced in coordinating, designing and conducting flora and fauna surveys for a range of different projects, primarily focusing on flora surveys, vegetation community mapping and description and is particularly experienced in undertaking biometric surveys for Biodiversity Assessment Methodology (BAM) projects in NSW.

Primarily working as a Botanical Ecologist, Bill has worked on numerous major-project vegetation assessments across wide areas. He has extensive experience on ecological assessments for renewable energy projects across NSW, including impact assessments through BAM, regulator consultation, preparation of post approval management plans and ecological assessments of potential offset sites. Bill has considerable experience in threatened species assessment, particularly for threatened flora species and ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Biodiversity Conservation Act, 2016* (BC Act), and preparing EPBC Act referrals for nationally listed species and ecological communities for large-scale developments in NSW.

Qualifications/Affiliations:	Bachelor of Biological Sciences (Hons), La Trobe University Accredited BAM Assessor (NSW) - BAAS17068 expiry 31/10/2021 (pending update relating to the completed re-accreditation).
Years' Experience:	12+
Specialisation:	BAM surveys and reporting, terrestrial flora, vegetation community survey and assessment, ecological monitoring and project management

Professional Training

Biodiversity Assessment Method (BAM) Accreditation (BAAS17068) | November 2017| Following confirmation that Bill had the necessary education and years of ecological assessment experience in NSW, he enrolled and successfully became an Accredited BAM Assessor. This involved pre-course reading and assessments, a 4 day in person training course, a 1-day field training course, and subsequent accreditation assessment.

BAM Re-accreditation | October 2021| Bill has recently undertaken the necessary BAM re-accreditation process. This involved completion of pre-course reading and assessments, a 3-day online training course, post-training material assessment and completion of a Continuing Professional Development Log. All of these components have now been completed and submitted for review by the training provider and currently awaiting approval.

Relevant Project Experience

Ecological Surveys and Advice for Rye Park Wind Farm | Tilt Renewables | 2017 – current | NSW | Senior Ecologist/Project Manager | Bill is a senior ecologist and project manager for this Project, he is involved in regular meetings with the client and project staff and completes necessary invoicing components. He is heavily involved in the field program for this Project including the planning and preparation for the field work as well as completing of surveys. Field surveys for the Project involve extensive targeted threatened flora and fauna surveys, detailed floristic plots in line with BAM and FBA methodologies, rapid vegetation assessments and nocturnal surveys. The surveys include extensive coverage of the proposal impact area for the Project as well as several proposed offset sites. Bill has also run multiple iterations of the online FBA and BAM calculator tools to determine credit requirements of the impact area and credit yields of the proposed offset sites. State agencies provided positive feedback regarding the quality of the biodiversity assessment and Biodiversity Development Assessment Report (BDAR) for this project. The Project has recently received state approval and is currently in determination federally.

Ecological Surveys and Advice for Liverpool Range Wind Farm | Tilt Renewables | 2020 – current | NSW | Senior Ecologist/Project Manager | Initially, Bill completed an extensive review of the modified project compared to the previously approved Project, including detailed desktop review and subsequent GAP analysis of survey effort. As part of the project modification, Bill is managing an extensive impact assessment including agency (state and federal) consultation. The BAM is being applied as the impact assessment methodology. Including, multiple ecological survey programs, vegetation community mapping and description, BAM Vegetation Integrity Plots, targeted flora and fauna surveys, Threatened Ecological Community analysis and Bird and Bat Utilisation Surveys.

Biodiversity Assessment for Spicers Creek Wind Farm | CWP Renewables | Current | NSW | Senior Ecologist/Project Manager| Bill has undertaken a desktop based preliminary category 1 land mapping exercise. This GIS based package of work was completed across a wider desktop boundary being considered in the early stages for the Project. Subsequently, Bill is working as Project Manager on delivering the biodiversity assessment for the Project, which involves agency consultation, client liaison, survey planning and coordination, survey completion, GIS mapping, operation of the BAM – Credit Calculator and eventually preparation of the BDAR.

Biodiversity Assessment for Thunderbolt Energy Hub | Neoen | 2020 - Current | NSW | Senior Ecologist/Project Manager| Bill completed a review of a preliminary Fatal Flaw Analysis that was completed by another consultant for the Project. Following this, Bill undertook a preliminary ecological field survey to ground truth the Fatal Flaw Analysis and subsequent review. As part of the Project approval process, Bill is project managing an extensive biodiversity impact assessment including agency (state and federal) consultation. The BAM is being applied as the impact assessment methodology. The assessment includes multiple ecological survey programs, vegetation community mapping and description, BAM Vegetation Integrity Plots, targeted flora and fauna surveys, Threatened Ecological Community analysis and Bird and Bat Utilisation Surveys.

Furthermore, Bill participated in a promotional video for the project, describing the process of a biodiversity assessment for a wind and solar energy project; and attended a community consultation event for the project in the local township, appearing as the responsible ecologist for the Project.

Preliminary Biodiversity Assessment for Confidential Solar Farm | RES | Current | NSW | Senior Ecologist/Project Manager | Bill delivered a preliminary ecological assessment of this proposed solar project. This included an initial desktop assessment, with review of existing ecological databases, regional vegetation mapping products and mapping of Category 1 – Exempt Land. The last component involved a GIS mapping exercise where land historically cleared of native vegetation (through intensive agricultural land use) was identified and will subsequently be excluded from application of BAM and therefore any biodiversity offset liability should the project progress.

Following this, Umwelt completed a preliminary ecological field survey of the Project site (excluding the Category 1 – Exempt Land) to assess the likely ecological constraints for the Project. This included rapid vegetation assessments, preliminary vegetation community identification, preliminary Threatened Ecological Community analysis and fauna habitat assessment.

Melbourne to Brisbane Inland Railway (MBIR) Desktop Assessment and Constraints Analysis | ARTC | 2016| Narromine to Narrabri | NSW | Senior Ecologist | Bill is senior ecologist for the desktop assessment, constraints analysis and field surveys for the N2N section of the MBIR Project. This role involved Bill completing literature reviews, database searches, review of regional mapping projects and preliminary field surveys to identify potential ecological constraints along the proposed alignments being considered for this section of the MBIR Project during the constraints phase. In total Bill has assessed ecological constraints along 18 potential alignments. Bill has also attended the two Multi-Criteria Analysis workshops undertaken with GHD and ARTC to determine the most suitable alignments for multiple sections of the N2N Project.

Melbourne to Brisbane Inland Railway (MBIR) Seasonal Threatened Species Surveys | ARTC | 2016| Narrabri to North Star | NSW | Senior Ecologist | Bill was senior ecologist for the threatened flora and vegetation community mapping surveys between N2NS. Surveys were planned and conducted to meet seasonal survey requirements of the NSW Biodiversity Offset Policy for Major Projects. Surveys targeted Belson's panic (*Homopholis belsonii*), finger panic grass (*Digitaria porrecta*) and creeping tick-trefoil (*Desmodium campylocaulon*) as well as numerous threatened ecological communities listed under the TSC Act and/or EPBC Act. The results of the surveys provided ARTC with information on the threatened species likely to be impacted and the credit load each species is likely to generate under the Framework for Biodiversity Assessment.

Stand Condition Assessment of woody vegetation within the Murray Darling Basin| Murray Darling Basin Authority (MDBA) | 2016 - 17 | NSW – VIC | Bill was a senior ecologist and project manager for this Project, he was involved in regular meetings with the client and project staff, assisted in access arrangement liaison and completed necessary invoicing components. He was heavily involved in the field program for this Project including the planning and preparation for the field work as well as completing more than two weeks of field survey. Field surveys for the Project targeted black box (*Eucalyptus largiflorens*), river red gum (*Eucalyptus camaldulensis*) and coolabah (*Eucalyptus coolabah*) communities in the basin throughout NSW and parts of VIC. Almost 200 sites were surveyed as part of the Project, with 20 sites being in Victoria and the balance within NSW. Bill was also heavily involved in the desktop assessment, data handling for the Project including packaging up and delivery of data to the client. Bill prepared and delivered two progress reports as part of the Project.

Upper Hunter Strategic Assessment | Glencore/BHP Billiton | 2013-15 | NSW | Botanist | The Commonwealth and NSW Governments have entered into an agreement to undertake a strategic assessment of a Biodiversity Plan for the Upper Hunter Valley. Bill undertook field surveys for two sites in the Hunter Valley for Glencore's Upper Hunter Strategic Assessment, those being Mangoola and United. This involved the planning and coordination of field surveys with multiple field teams, collecting floristic and biometric data, undertaking threatened flora and fauna surveys, mapping vegetation communities and detailed assessments of Threatened Ecological Communities (TECs). The number of ecosystem and species credits were determined using the BioCertification methodology to help guide future development of these sites. The two sites that Bill led the surveys and BioCertification analysis of totaled almost 4,000 hectares.

CERTIFICATE OF ACCREDITATION AS A BIODIVERSITY ASSESSMENT METHOD ASSESSOR under the *Biodiversity Conservation Act 2016* (NSW)

BAM Assessor		
Bill Wallach		
Accreditation number	**Accreditation date (Date of issue)**	**Expiry Date of**
BAAS17068	31 October 2021	31 October 2024

The person named above is accredited under section 6.10 of the *Biodiversity Conservation Act 2016* (NSW) (**BC Act**) as a Biodiversity Assessment Method Assessor to apply the Biodiversity Assessment Method in connection with the preparation of biodiversity stewardship site assessment reports, biodiversity development assessment reports and biodiversity certification assessment reports pursuant to Part 6 of the BC Act.

The accreditation is in force until and including the Expiry Date. The accreditation is subject to the conditions set out in the *Accreditation Scheme for the Application of the Biodiversity Assessment Method*, under the BC Act, and the conditions specified on the reverse of this certificate.

LUCIAN MCELWAIN

Manager Ecosytem Programs
Department of Planning, Industry & Environment

NOTES

- DPIE maintains a register of Accredited Biodiversity Assessment Method (BAM) Assessors accessible from the DPIE website.
- The BAM Assessor's accreditation expires on the Expiry Date unless renewed in accordance with the *Accreditation Scheme for the Application of the Biodiversity Assessment Method*. It is the BAM Assessor's responsibility to monitor the Expiry Date of their accreditation, and apply for any renewal with sufficient time for the application to be processed prior to the Expiry Date.
- Words and expressions used in this accreditation instrument and which are also used in the Act have the same meaning.

SUMMARY OF CONDITIONS UNDER SCHEME

The following are conditions of all accreditations granted under the Scheme:

1. an accredited person must prepare Biodiversity Assessment Reports (and conduct surveys and other activities in connection with the preparation of such reports) in accordance with:
   a. the Biodiversity Assessment Method Manual,
   b. the Credit Calculator Operational Manual,
   c. Accredited Person Code of Conduct.
   d. this Scheme,
   e. any guidance materials published by the Department of Planning, Industry and Environment in connection with preparation of Biodiversity Assessment Reports or the application of the BAM
   f. any accreditation requirements notified by the Department of Planning, Industry and Environment to the accredited assessor from time to time.
2. an accredited person must maintain a detailed and up to date working knowledge of, and comply with, all relevant legislation.
3. an accredited person must maintain records of surveys and assessments, including field data sheets and targeted flora and fauna surveys, undertaken and used as part of the preparation of a Biodiversity Assessment Report, for at least ten years after certification of the relevant Biodiversity Assessment Report.
4. all records required kept by an accredited person must be in legible form, or in a form that can be readily be reduced to a legible form.
5. an accredited person must provide to the Department of Planning, Industry and Environment any information related to biodiversity assessment reports required to be provided by all accredited persons, or by a group of accredited persons, by way of a notice specified on a website maintained by it, in the form and within the time frames required in that notice.
6. an accredited person must comply with any scientific licence conditions relating to survey records.
7. an accredited person must possess, or operate under, an appropriate scientific licence as required for the type work, they are completing in the Biodiversity Offsets Scheme.

Note. Information that the Environment Agency Head (EAH) may require to be provided may include information collected during the application of the BAM such as site specific survey data.

Note. In addition to the conditions above, accredited persons must comply with obligations under the BC Act and regulations, including Part 6 Division 3 of the BC Act. Failure to comply with any of the conditions above may result in the EAH exercising the power to vary, suspend or cancel that accreditation under Part 5 of this Scheme.

Appendix B: Biodiversity Calculations and Mapping

umwelt
Environmental & Social Consultants

RYE PARK WIND FARM – MODIFICATION 2 (WITH COOKS HILL ROAD)

Confirmation of Credit Liabilities

REVISED FINAL

September 2022

RYE PARK WIND FARM – MODIFICATION 2 (WITH COOKS HILL ROAD)

Confirmation of Credit Liabilities

REVISED FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
Tilt Renewables Pty Ltd

Project Director:	Allison Riley
Project Manager:	Bill Wallach
Report No.	4107D
Date:	September 2022

Newcastle

75 York Street
Teralba NSW 2284

T| 1300 793 267
E| info@umwelt.com.au

www.umwelt.com.au

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Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
1 (R20)	Allison Riley	17/05/2022	Allison Riley	17/05/2022
2 (R20)	Bill Wallach	05/09/2022	Bill Wallach	06/09/2022
3	Bill Wallach	26/09/2022	Bill Wallach	26/09/2022

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Appendices

1.0 Executive Summary

This report provides the updated biodiversity credit requirement for the Rye Park Wind Farm project (the Development) by Rye Park Renewable Energy Pty Ltd (RPRE) in accordance with Schedule 3 Condition 20 of the NSW Approval (SSD 6693-Mod1) detailed in **Section 2.0**. Furthermore, these calculations will form an attachment to the Offset Strategy prepared to meet the requirements of Condition 14 of EPBC 2020/8837, detailed in **Section 2.0**.

The updated calculations have been prepared following the progression of the Development's detailed design. This includes consideration and assessment of minor works proposed along Cooks Hill Road as required by Upper Lachlan Shire Council as part of the road upgrades of the Development. The total extent of impact area proposed along Cooks Hill Road is 0.12 hectares.

The updated biodiversity credit requirements outlined in this report has been prepared using the same methodology employed in the updated biodiversity credit requirements report prepared in October 2021 for MOD 1 (Umwelt 2021a). This revised design of the Development for MOD 2 is hereafter referred to as the 'revised pre-construction final development footprint'. This is a revised Mod 2 Confirmation of Credit Liability report (R19 dated 6 September 2022) that was submitted with the Mod2 application in September 2022 (Umwelt 2022).

The pre-construction final development footprint is shown on the final layout plans prepared in accordance with Schedule 2 Condition 10 of the Development Consent and Condition 12 of EPBC 2020/8837.

Umwelt has completed a detailed review of the pre-construction development footprint including GIS analysis to ensure the Project is in accordance with impact thresholds identified in Condition 18 of the NSW Approval (SSD 6693-Mod1) and Condition 3 of EPBC 2020/8837.

This review has confirmed that the revised pre-construction final development footprint has reduced impacts on the BC Act and EPBC Act CEECs and four species-credit species (striped legless lizard, squirrel glider, superb parrot and golden sun moth) when compared against the MOD 1 Impact Assessment Addendum (Umwelt 2021b).

When compared against the MOD 1 confirmation of credit liabilities (Umwelt 2021a) the striped legless lizard remains unchanged, superb parrot has increased by 0.11 hectares, golden sun moth has decreased by 0.24 hectares and squirrel glider has increased by 2.53 hectares. Impacts for the southern myotis remains unchanged (Umwelt 2020b). A summary of the comparison of impacts is provided below:

- Striped legless lizard:
    - 41.00 hectares of impact proposed in the revised pre-construction final development footprint, remaining unchanged with the Confirmation of Credit Liabilities (Umwelt 2021a)
    - 43.07 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 2.07 hectares.**
- Superb parrot:
    - 19.34 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 0.11 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
    - 19.92 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 0.58 hectares.**

- Golden sun moth:
    - 76.32 hectares of impact proposed in the revised pre-construction final development footprint, a decrease of 0.24 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
    - 85.22 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 8.9 hectares.**
- Squirrel glider:
    - 84.59 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 2.43 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a).
    - 103.23 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 18.64 hectares.**

Three of the four PCTs recorded for the Project have reduced impacts and PCT 335 has an increased impact (0.03 hectares). The latter is not a threatened ecological community and does not provide habitat for any threatened species.

The additional Biodiversity Assessment undertaken for MOD2 within the revised pre-construction final development footprint did not identify new Matters of National Environmental Significance (MNES) applicable to the Project. In summary, MOD2 proposes to impact the same MNES identified, assessed and approved through MOD1 (EPBC 2020/8837).

Based on the following information presented in this report, it is considered MOD 2 is categorised as a *'Modification involving minimal environmental impact'* under Section 4.55(1A) of the EP&A Act as the proposed changes will have a 'like-for-like' environmental impact to what has been approved as part of SSD 6693-MOD 1.

Furthermore, Umwelt consider MOD 2 does not result in an increased impact on the biodiversity values of the Project area. Therefore MOD 2 is in line with Part 7, Division 4, Section 7.17(2c) of the BC Act. We seek consideration of this from DPE and confirmation that a BDAR is not required for MOD 2. Rather, it is proposed that this report, in combination with the MOD 2 report prepared by Tilt Renewables to support assessment and approval MOD 2.

It is understood that the developed layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of infrastructure is permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837. Further detail on micro-siting is provided in **Section 7.0**.

Prior to the commencement of operations (or following any upgrades of any wind turbines or ancillary infrastructure), executed plans showing the comparison to the revised pre-construction final development footprint will be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 15 of the EPBC 2020/8837, and will be submitted to the relevant departments. Similarly, the offset strategy for the project will be prepared and submitted to DAWE for approval by the Minister, in accordance with Condition 14 of EPBC 2020/8837. If the executed plans (completed layout) show increased impacts to protected matters, a revised Offset Strategy will be submitted for approval by the Minister, that compensates for those increased impacts, in accordance with Condition 15 of EPBC 2020/8837.

2.0 Introduction

Rye Park Renewable Energy Pty Ltd (RPRE) is developing the Rye Park Wind Farm Project (the Development) in southern NSW broadly between Yass and Boorowa (**Figure 2.1**).

The Project was granted a Development Consent (SSD 6693) (the Development Consent) by the NSW Planning Assessment Commission (PAC, now known as the Independent Planning Commission), subject to conditions, under the *Environmental Planning & Assessment Act 1979* (EP&A Act) on 22 May 2017, and a modification (MOD 1) approved 15 April 2021.

The Commonwealth approved the Development (EPBC 2020/8837) under the *Environment, Protection and Biodiversity Conservation Act 1999* (EPBC Act) on 1 June 2021[1], subject to conditions, following assessment by preliminary documentation under Section 87 of the EPBC Act.

This report been prepared to support the Modification Application 2 Report being prepared by Tilt Renewables to request to modify Development Consent State Significant Development (SSD) 6693 – Modification 1 (Development Consent, or SSD 6693-MOD 1) under the *Environment Planning and Assessment Act 1979* (EP&A Act).

As part of the progression of the Project's design and ongoing discussions with stakeholders, MOD 2 involves updates to the Development Corridor – Wind Farm to facilitate optimisations to several sections of access track and increase efficiencies in the overall Project layout. It also considers ongoing consultation with landholders relating to progression of the detailed design of the Project. Further to MOD 2, this assessment also considers additional public road upgrades, being the assessment of minor works proposed along Cooks Hill Road as required to meet the design specification requested by Upper Lachlan Shire Council. The total extent of impact area proposed along Cooks Hill Road is 0.12 hectares, which is in addition to the previously assessed public road upgrade disturbance as part of the Development

This report provides an update to the areas of impact and credit requirements for the Development using the Biodiversity Assessment Method – Credit calculator (BAM CC) following progression of detailed design of the Development and reflects the revised pre-construction final development footprint. This will be made available on www.ryeparkwf.com.au. The information provided in this report relates to the detailed assessment completed for the Project in accordance with the Biodiversity Assessment Method (2017), specifically the Biodiversity Development Assessment Report (BDAR) exhibited in August 2020 (Umwelt 2020a), the Impact Assessment Addendum lodged in November 2020 (Umwelt 2020b) and the previous MOD 1 Confirmation of Credit Liabilities report (Umwelt 2021a) and the MOD 2 Confirmation of Credit Liabilities report (Umwelt 2022).

This report has been prepared in accordance with the requirements of Schedule 3 Condition 20 of the NSW Approval (SSD 6693-Mod1) which requires:

> *20. Prior to the commencement of construction, unless the Planning Secretary agrees otherwise, the Applicant must:*
>
> *a) update the baseline mapping of the vegetation and key habitat within the final disturbance area; and*

[1] Note. the Rye Park Wind Farm was originally granted approval (EPBC 2014/7163) on 6 December 2017, however due to a number of proposed modifications to the action a new referral was made in 2020.

b) calculate the biodiversity offset credit liabilities for the development in accordance with the Biodiversity Assessment Method under the NSW Biodiversity Offsets Scheme,

in consultation with BCS, and to the satisfaction of the Department.

Furthermore, these calculations will form an attachment to the Offset Strategy prepared to meet the requirements of Condition 14 of EPBC 2020/8837, specifically to address Condition 14(b):

14. The Offset Strategy must be prepared by a suitably qualified expert(s), and must:

b) based on the areas of habitat for protected matters, including HBTs, to be impacted in the final layout, propose offsets to compensate for impacts to:

i. *Box Gum Woodland;*

ii. Superb Parrot habitat, including HBTs;

iii. Golden Sun Moth habitat; and

iv. Striped Legless Lizard habitat

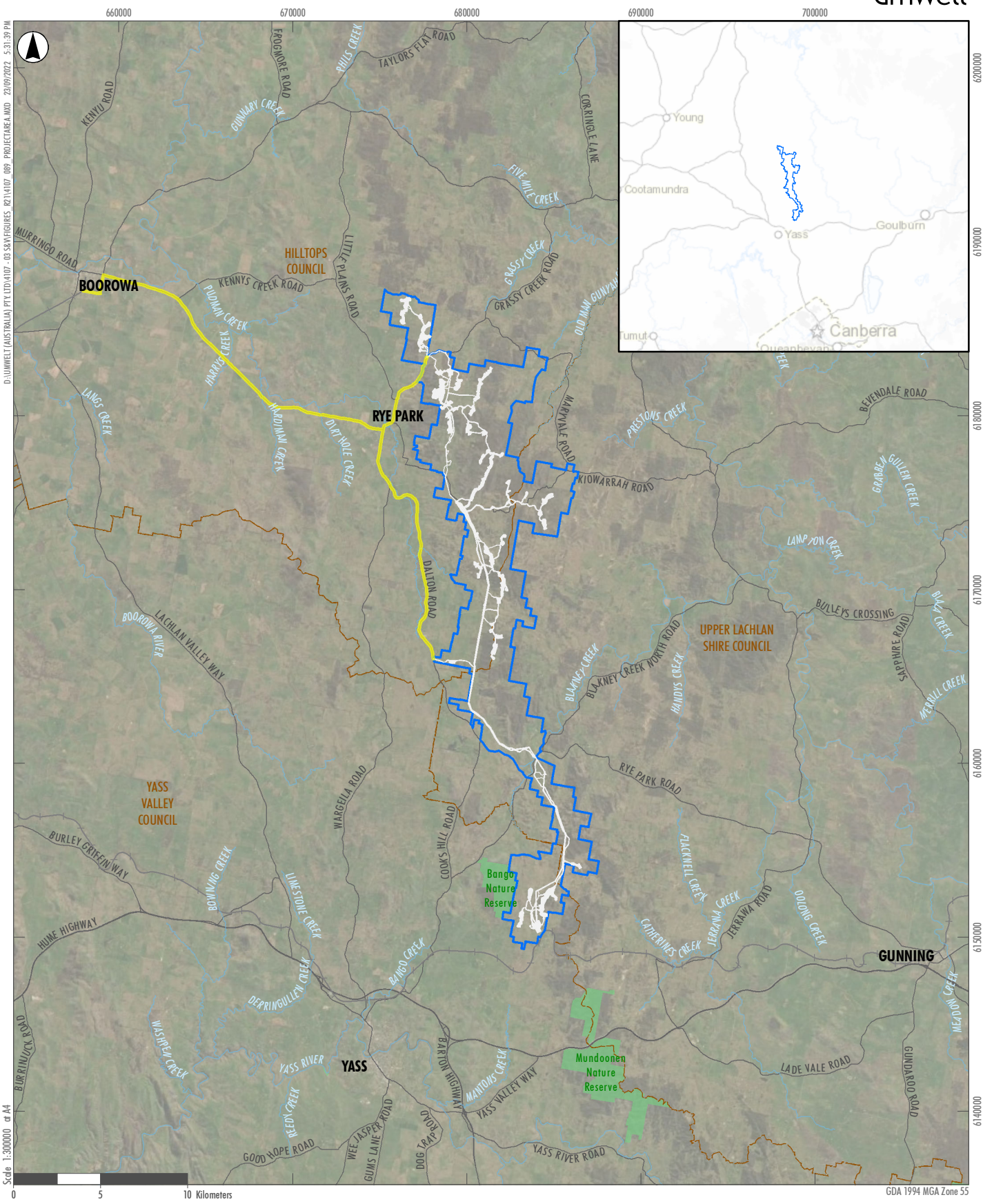
in accordance with clauses 6.2 and 6.6A of the Biodiversity Conservation Regulation 2017 (NSW); and

c) provide the Biodiversity Assessment Method credit calculations used to determine the required number of like-for-like biodiversity credits to be retired to compensate for impacts to protected matters.

It is considered MOD 2 is categorised as a *'Modification involving minimal environmental impact'* under Section 4.55(1A) of the EP&A Act as the proposed changes will have a 'like-for-like' environmental impact to what has been approved as part of SSD 6693-MOD 1.

Furthermore, Part 7, Division 4, Section 7.17(2c) of the *Biodiversity Conservation Act 2016* (BC Act), states that an application for the modification of a development consent (SSD 6693-MOD 1) does not require a Biodiversity Development Assessment Report (BDAR) if "*the authority or person determining the application for modification (or determining the environmental assessment requirements for the application) is satisfied that the modification will not increase the impact on biodiversity values*".

This report aims to provide the necessary information to support statements from Section 4.55(1A) of the EP&A Act and Part 7, Division 4, Section 7.17(2c) of the BC Act.



Legend

- Rye Park Wind Farm Project Area
- Rye Park Wind Farm Development Corridor
- Transport Route (Boorowa to Wind Farm Site)
- Local Government Area (LGA)
- Raod
- Railway
- Watercourses

FIGURE 2.1

Rye Park Wind Farm
Pre-Construction
Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; NSW LPI (2020); Rye Park Renewable Energy Pty Ltd (2020)

2.1 The Final Development

Since the Development Consent was granted and EPBC 2020/8837 obtained, the Development has undergone further optimisations as part of the progression of the Development's detailed design, and to ensure the Development complies with the conditions of consent/approval and other key requirements.

The main components of the final Development are as follows:

- 66 wind turbines (Vestas V162), each with:
    - a capacity to generate up to approximately 6 MW
    - three blades mounted on a tubular steel tower, with a combined height of blade and tower limited to a maximum tip height of 200 m
    - crane hardstand area, and related turbine lay down area
- a new 33 kV wind farm collection substation in the northern section of the Development site
- a new 330 kV wind farm connection substation located adjacent to the existing TransGrid 330 kV transmission line in the southern section of the Development site
- a temporary construction compound at the northern section of the Development site
- a temporary construction compound to facilitate the upgrades on the TransGrid owned existing 330kV Transmission Line at the southern section of the Development site
- a new overhead powerline approximately 30km in length, rated at up to 330 kV (nominal) capacity, running north-south along the length of the wind farm between the two substations. The powerline would be mounted on a single pole type structure and will either be single-circuit or double-circuit as required.
- underground and overhead 33 kV electrical cabling linking the wind turbines to the on-site collection substations and connection substation
- operation and maintenance facility incorporating a control room and equipment storage at the northern section of the Development site
- temporary concrete batching plants and construction facilities
- access tracks required for each wind turbine and the related ancillary facilities above
- minor upgrades to local roads, as required for the delivery of the wind turbines
- three temporary meteorological masts and two permanent monitoring masts for wind speed verification, weather and general monitoring purposes. The permanent monitoring masts may be either static guyed or un-guyed structures and will be to a minimum height of the wind turbine hubs (119 m).
- reduction to the number of wind turbines proposed, from 77 to 66
- identification of the extent of vegetation removal required for electrical clearance along both the 330kV and 33kV overhead transmission lines, e.g., where the vegetation is or has the potential to grow to a height four metres or higher
- reduction to the number of permanent meteorological masts proposed, from 6 to 2

- optimisation of cabling and access tracks within the Development Corridor

The revised pre-construction final development footprint is shown on the final layout plans prepared in accordance with Schedule 2 Condition 10 of the Development Consent and Condition 12 of EPBC 2020/8837.

The key revisions to the Development that have occurred relating to MOD 2 and the biodiversity calculations are:

- alternate internal access track design to access the transmission line north of High Rock Road to utilise an existing farm access track and avoid multiple waterway crossings
- alternate internal access track design to utilise an existing farm access track in the far northeast of the Project, east of High Rock Road
- alternate internal access track design to optimise transmission line access north of Flakney Creek Road
- alternate internal access track design to access the transmission line north and south of Blakney Creek Road South
- alternate internal access track design to access the transmission line north of Coolalie Road
- optimisation of internal access tracks.

Further efficiencies in the Development layout have been considered to ensure that the requirements of the development consent were met in relation to biodiversity, including the consideration of the public road upgrades as part of this report.

It is understood that the developed layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of infrastructure is permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837. Further detail on micro-siting is provided in **Section 7.0**.

Prior to the commencement of operations (or following any upgrades of any wind turbines or ancillary infrastructure), executed plans showing the comparison to the revised pre-construction final development footprint will be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 5 of the EPBC 2020/8837, will be submitted to the relevant departments.

3.0 Methods

The sections below describe the work undertaken to determine the impact and credit calculations.

3.1 Previous Assessments

All biodiversity values assessed have been identified and described in full as part of the extensive reports prepared, submitted and exhibited for the Development Modification (SSD 6693 Mod-1). This includes:

- Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a)
- Rye Park Wind Farm – Biodiversity Attachment, Environment Protection and Biodiversity Conservation Act 1999 Referral (November 2020) (Umwelt 2020b)
- Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b)
- Rye Park Wind Farm – Confirmation of Credit Liabilities (October 2021) (Umwelt 2021a)
- Rye Park Wind Farm – MOD 2 Confirmation of Credit Liabilities (September 2022) (Umwelt 2022).

The most recent impact assessment which impact thresholds are compared to throughout this document is the Rye Park Wind Farm – MOD 2 Confirmation of Credit Liabilities (September 2022) (Umwelt 2022).

All necessary surveys, analyses and descriptions are provided within these reports. Biodiversity values considered as part of this final assessment include Plant Community Types (PCTs), vegetation zones, Threatened Ecological Communities (TECs) and species-credit species. A summary of work completed is however provided below.

3.1.1 Previous Ecological Surveys

Extensive ecological surveys have been completed for the Project across multiple years between 2011 and 2021. This included surveys that were completed as part of the original approval (SSD 6693), that occurred in October and November 2011, April and November 2012, July, November and December 2013, March and October 2014, June 2015 and September 2016. These surveys including vegetation community identification and mapping, TEC analysis, habitat surveys, Bird and Bat Utilisation Surveys (BBUS) and threatened flora and fauna surveys. They were not completed in accordance with BAM (2017).

Since 2017, Umwelt completed all surveys on the Project in accordance with BAM (2017). Surveys were completed in September, October and December 2017, January, February, March, October and November 2018, January, February, March, April, July, August, September, November and December 2019, January, February and July 2020. Surveys have included vegetation community identification and mapping, TEC analysis, habitat surveys, Bird and Bat Utilisation Surveys (BBUS) and threatened flora and fauna surveys.

Full detail and dates of surveys completed for the Project which has facilitated the process of determining the impact and credit calculations is provided in Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a).

3.1.2 GIS Mapping

The identification, classification, assessment and subsequent GIS mapping of vegetation (including TEC) and threatened species was completed in accordance with BAM (2017). Full detail of the work completed is presented in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a). The Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) presents the updated assessments for two threatened species, being Golden Sun Moth (*Synemon plana*) and striped legless lizard (*Delma impar*).

The Rye Park Wind Farm – Confirmation of Credit Liabilities (Umwelt 2021a) used the previously prepared GIS mapping to assess the impacts of the pre-construction final development footprint.

3.1.3 Prescribed Impact Assessments

In accordance with Section 9.3.3 of BAM (2017) a number of prescribed impacts were considered for the Project, being impacts of threatened microbat species associated with caves, impacts from risk of vehicle strike, impacts of turbine strikes, removal of non-native vegetation supporting threatened species and the interruption and fragmentation to connectivity of native vegetation and associated habitat corridors.

Full detail of the prescribed impact assessments completed is presented in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a). The Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) presents an updated assessment relating to the removal of non-native vegetation supporting golden sun moth.

The Rye Park Wind Farm – Confirmation of Credit Liabilities (Umwelt 2021a) documented the final analysis relating to the removal of non-native vegetation supporting golden sun moth within the pre-construction final development footprint.

3.1.4 Direct Partial Impacts

The finalisation of the Development's design has confirmed the extent of impact associated with the transmission line for the Development, including 132 kV and 33 kV. Specifically, the pre-construction final development footprint confirmed where the proposed transmission line easement would impact on vegetation identified for the Project due to electrical clearance. This was presented in the Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a). Impacts were identified in vegetation that is currently or can grow equal to or greater than four metres tall. Vegetation zones 1, 3, 5, 7 and 9 were considered to meet these characteristics. Where these vegetation zones occur within the proposed transmission line easement electrical clearance, direct partial impacts were assessed for the Project.

In our assessment of partial impacts for the Project, a proportion of biodiversity values is considered likely to remain within these areas. The BAM – CC was operated to manually edit the future integrity scores for the Composition, Structure and Function components of the applicable Vegetation Zones.

Canopy species, understorey and ground stratum flora species will persist and also provide substantial cover. Section 5.1.1.2 of the BDAR exhibited for the Development (Umwelt 2020a) details the process of considering, assessing and calculating impacts associated with direct partial impacts. Specifically, Table 5.4 of this BDAR presents the values of reduction assessed for each of the Composition, Structure and Function components (Umwelt 2020a).

3.2 Additional Assessment

3.2.1 Additional Ecological Surveys

Umwelt have undertaken an additional ecological survey for MOD 2 focussing entirely on components of the revised pre-construction final development footprint that are located beyond the approved Modified Development Corridor.

The additional survey was undertaken in accordance with BAM (2020) for ecosystem credits. However, targeted species credit surveys were not undertaken in accordance with BAM (2020) in that multiple seasonal survey programs were not undertaken specifically for MOD 2. Rather the approach applied for MOD 2 is to utilise the previous extensive survey effort completed as part of the approved MOD 1.

The additional ecological survey in the internal wind farm components of MOD 2 were undertaken across four days, 5 – 8 October 2021, by two Umwelt Accredited BAM Assessor ecologists, Bill Wallach and Travis Peake.

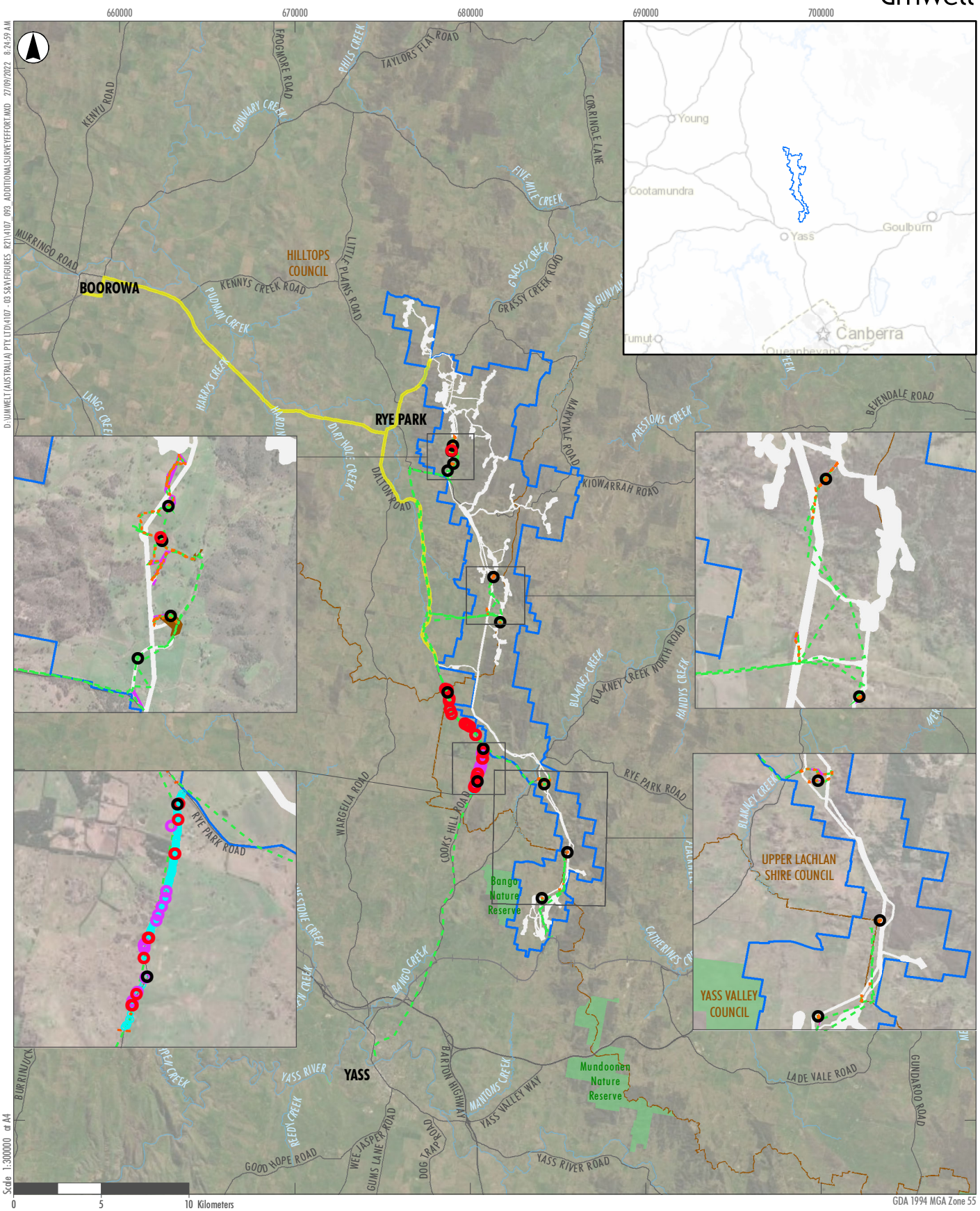
The methodology of the additional ecological survey included:

- 9 BAM Vegetation Integrity Plots,
- walked parallel transects for threatened flora species,
- rapid vegetation assessments and
- habitat assessments for threatened flora and fauna species.

Additional ecological surveys specifically along Cooks Hill Road were undertaken on 12 and 13 January 2022 by two Umwelt ecologists: then 5 and 6 April 2022, 2 – 4 May 2022 by one Umwelt ecologist. The methodology of the additional ecological surveys along this aspect of the proposed public road upgrades included:

- rapid vegetation assessments,
- walked parallel transects for threatened flora species,
- habitat assessments for threatened flora and fauna species, and
- tree assessments.

The additional ecological survey undertaken within the revised pre-construction final development footprint which occurred beyond the approved Modified Development Corridor are presented in **Figure 3.1**.



Legend

- Rye Park Wind Farm Project Area
- Rye Park Wind Farm Development Corridor
- Transport Route (Boorowa to Wind Farm Site)
- Local Government Area (LGA)
- Raod
- Railway
- Watercourses
- Habitat Assessments
- BAM - Vegetation Integrity Plots
- Rapid Vegetation Assessments
- Tree Assessments
- Walked parallel threatened flora transects
- General Transects
- Habitat Assessments
- Rapid Vegetation Assessment Polygons

FIGURE 3.1

Additional ecological surveys within the revised pre-construction final development footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; NSW LPI (2020); Rye Park Renewable Energy Pty Ltd (2020)

3.2.2 Additional GIS Mapping

The identification, classification, assessment and subsequent GIS mapping of vegetation (including TEC) and threatened species was completed in accordance with BAM (2020). Importantly however, all GIS mapping completed for the revised pre-construction final development footprint was done consistently with the approaches taken in the previous biodiversity assessments for the Development (Umwelt 2020, 2021a and 2021b). This approach was carefully considered and deemed to be accurate and appropriate given the small nature of the changes extending beyond the Approved Development Corridor.

3.2.3 Prescribed Impact Assessments

As the MOD 2 revised pre-construction final development footprint does not involve any modification to the Developments wind turbines, being number of, location or extent of footprint, there has been no revision to the Prescribed Impact Assessment relating to impacts of turbine strike. Therefore, the prescribed impact assessment relating to turbine strike is within the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).

An updated assessment relating to the removal of non-native vegetation supporting golden sun moth has been completed for the revised pre-construction final development footprint. This assessment is consistent with the methodology described in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) and Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a). A summary of the methodology is also presented above in **Section 3.1.3**.

The MOD 2 revised pre-construction final development footprint does not involve any modification to the Development that would interact with other Prescribed Impacts considered under BAM (DPE 2020). Therefore, all other prescribed impact assessments are presented within the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).

3.2.4 Direct Partial Impacts

An updated assessment relating to the direct partial impacts within the transmission line of the revised pre-construction final development footprint has been completed. This assessment has been done consistent with the methodology described in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) and Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a). A summary of the methodology is also presented above in **Section 3.1.4**.

3.3 Revised Pre-Construction Final Development Footprint

The calculations are based on the MOD 2 revised pre-construction final development footprint which includes both permanent (areas disturbed and required for ongoing operation of the wind farm) and temporary disturbance (areas disturbed to enable the construction of the wind farm), including:

- Temporary disturbance: temporary construction compounds, batch plant hardstands, temporary laydown hardstands, stockpile locations, cable routes, and disturbance along the edge of permanent disturbance areas.

- Permanent disturbance: sealed access tracks and turbine hardstands, sealed access tracks and turbine hardstands/engineered batters, clearance to maintain electrical safety, operations and maintenance facility, substations, sealed temporary construction pounds/hardstands which the landowner wishes to keep for their existing agricultural practices, and minor works associated with areas of public road upgrade.

Importantly, all disturbance has been calculated as full loss of biodiversity using the BAM (including the resulting biodiversity offset credits), except for areas where the disturbance is associated with clearance of overstory vegetation within the transmission line easement only. **Section 3.1.4** sets out the details of the methodology used to calculate this partial loss which will be verified in accordance with the process set out in **Section 7.0**.

3.4 BAM – Credit Calculator

In order to update the credit requirement for the Development, Umwelt revised the Biodiversity Assessment Method (BAM) – Credit Calculator to capture the impacts associated with the revised pre-construction final development footprint (the Development Footprints that pertains to the BAM). These revisions were made using the current BAM – Credit Calculator version, V54, that was updated on 16 June 2022. The BAM – Credit Calculator assessments have been re-submitted for agency review. Communication with the Biodiversity and Conservation Division (BCD) of Department of Planning, Industry and Environment (DPIE) confirmed this is the suitable approach for the credit finalisation. Specifically, this correspondence was received on 12 May 2022.

In August 2022, the two BAM-CC assessments for Mod 2 were revised to address several revisions and 'glitches' identified in the BAM-CC at the direction of BCD. These revisions included:

- removal and replacement of multiple vegetation zones,
- replacement of vegetation integrity data for multiple vegetation zones,
- removal and replacement of all partial direct impacts, and
- consideration of a new candidate species-credit species.

The update, finalisation and submission of the BAM – Credit Calculator was undertaken by Principal Ecologist and Accredited BAM Assessor, Bill Wallach (BAAS17068).

As described in **Section 7.0,** the development layout will continue to be refined through the detailed design/construction stages. It is noted that micro-siting of the wind turbines is permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837.

The process of micro-siting and confirming impacts will be undertaken sequentially across the construction of the Development, spanning approximately two years. As the Development Consent relates to the entire Development, in the event that any further impact credit updates are required as part of the detailed design, this will be undertaken using the current BAM Credit Calculator Version at the time (see **Section 7.0**).

In doing so, this will avoid scenarios whereby credit liabilities increase despite reductions in the area of impact through micro-siting efforts. It gives consistency to the credit generation and allows the Proponent to adequately finalise their offsetting strategy. In the absence of this approach, any update to the BAM – Credit Calculator could result in perverse outcomes.

3.5 Prescribed Impact Assessment for the Removal of Non-Native Vegetation Supporting Golden Sun Moth

As described above in **Section 3.1.3**, a number of prescribed impacts were considered for the Development, including the removal of non-native vegetation supporting threatened species. This assessment was completed in accordance with Section 9.2.1.4 of the BAM 2017 (OEH 2017). We note that the prescribed impact assessment criteria for removal of non-native vegetation supporting threatened species is revised within the BAM 2020 (DPIE 2020). Umwelt carefully reviewed the differences in the criteria of the assessment and conclude the changes are marginal and non-consequential for the outcome of the assessment.

Furthermore, due to the extent and nature of the changes of the revised pre-construction final development footprint which extends outside of the Approved Development Corridor, Umwelt believe the approved methodology employed through the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a), Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b) and Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a) is appropriate.

As per the Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a), full detail of this prescribed impact assessment is presented in the Rye Park Wind Farm – Biodiversity Development Assessment Report, Final (August 2020) (Umwelt 2020a) and the Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b).

4.0 Results

The sections below present the outcomes of the methods undertaken for the revised assessment of the revised pre-construction final development footprint.

4.1 Plant Community Types and Vegetation Zones

The additional detailed ecological surveys that were undertaken in the MOD 2 revised pre-construction final development footprint confirmed that Plant Community Types (PCTs) and Vegetation Zones were consistent with those that were identified for MOD 1, assessed and described in the Biodiversity Development Assessment Report (Umwelt 2020a) and the Impact Assessment Addendum (Umwelt 2021b). The particular PCTs and Vegetation Zones identified specifically in the revised pre-construction final development footprint are listed below:

- PCT 335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion
    - Moderate to Good (Vegetation Zone 2)
- PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion
    - Moderate to Good (Vegetation Zone 3)
- PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
    - Moderate to Good (Vegetation Zone 5)
    - Derived Native Grassland (Vegetation Zone 6)
    - Acacia Shrubland (Vegetation Zone 7)
    - Sifton Bush Shrubland (Vegetation Zone 8)
    - Non-Native Vegetation (Vegetation Zone 10).

Vegetation zones that occur along the Cooks Hills Road component of the public road upgrades include:

- PCT 350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion
    - Moderate to Good (Vegetation Zone 3)
    - Derived Native Grassland (Vegetation Zone 4)
- PCT 351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion
    - Acacia Shrubland (Vegetation Zone 7)
    - Non-Native Vegetation (Vegetation Zone 10).

Full description and detail on these vegetation zones is provided in Biodiversity Development Assessment Report (Umwelt 2020a).

A summary of impacts to all PCTs and vegetation zones within the revised pre-construction final development footprint is provided in **Section 4.6**.

The extent of PCT and vegetation zones is presented in the **Appendix A** figure set.

Species polygons for the five species-credit species is presented in the **Appendix B** figure set.

The extent of threatened ecological communities is presented in the **Appendix C** figure set.

4.2 BAM – Credit Calculator

The final impact areas and credit requirements for the Development are presented below in **Table 4.1**. Results are presented separately for the NSW – South Western Slopes and South Eastern Highlands IBRA Regions. Similarly, ecosystem-credit and species-credit requirements are presented separately. A comparison is made between the impact areas and credit liabilities of MOD 1, from the Rye Park Wind Farm – Impact Assessment Addendum (March 2021) (Umwelt 2021b), Rye Park Wind Farm – Confirmation of Credit Liability (Umwelt 2021a) and the revised pre-construction final development footprint.

The revised vegetation integrity data from all BAM – Vegetation Integrity Plots completed for the Project is provided in **Appendix D**. This package of data includes the original BAM – Vegetation Integrity plots undertaken as part of the Modified Project Approval, as well as the 9 additional BAM – Vegetation Integrity plots completed within revised pre-construction final development footprint.

Table 4.1 Final ecosystem and species-credit credit requirement for the Development (Revised Pre-construction)

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Change (ha)	Pre-construction Credits Required	Revised Pre-construction Final Area (ha)	Change (ha)	Revised Pre-construction Credits Required
Ecosystem Credits									
NSW – South Western Slopes IBRA Bioregion									
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	0.77	**25**	**0.73**	**-0.04**	**24**	**0.73**	**-0.04**	**24**
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	4.88	**117**	**4.22**	**-0.66**	**101**	**4.19**	**-0.69**	**110**
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	9.76	**305**	**8.11**	**-1.65**	**338**	**8.13**	**-1.63**	**341**
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Derived Native Grassland*	11.90	**204**	**10.55**	**-1.35**	**226**	**10.42**	**-1.48**	**223**
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	49.70	**1,620**	**36.48**	**-13.22**	**1,241**	**35.67**	**-14.03**	**1,230**
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Derived Native Grassland*	128.49	**1,135**	**111.47**	**-17.02**	**985**	**112.4**	**-16.09**	**908**
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Acacia Shrubland*	2.98	**61**	**3.51**	**0.53**	**72**	**4.15**	**+1.17**	**97**
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Sifton Bush Shrubland*	62.55	**641**	**49.36**	**-13.19**	**506**	**49.37**	**-13.18**	**506**
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Argyle Apple Forest*	0.93	**28**	**1.28**	**0.35**	**38**	**1.29**	**+0.36**	**39**
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Non-native Vegetation*	76.73	**0**	**71.72**	**-5.01**	**0**	**73.01**	**-3.72**	**0**
South Eastern Highlands IBRA Bioregion									
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	-	-	-	-	-	-	-	-
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion *Moderate to Good*	0.84	**13**	**1.62**	**0.78**	**25**	**1.56**	**+0.72**	**27**

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Change (ha)	Pre-construction Credits Required	Revised Pre-construction Final Area (ha)	Change (ha)	Revised Pre-construction Credits Required
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	10.16	**271**	**11.12**	**0.96**	**386**	**11.22**	**+1.06**	**398**
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Derived Native Grassland*	5.63	**100**	**3.34**	**-2.29**	**74**	**3.34**	**-2.29**	**74**
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	33.13	**1,025**	**29.29**	**-3.84**	**967**	**29.18**	**-3.95**	**976**
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Derived Native Grassland*	46.43	**447**	**45.86**	**-0.57**	**441**	**45.73**	**-0.7**	**403**
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Acacia Shrubland*	5.71	**91**	**5.31**	**-0.40**	**90**	**5.56**	**-0.15**	**106**
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Sifton Bush Shrubland*	18.02	**199**	**14.72**	**-3.30**	**163**	**14.72**	**-3.3**	**163**
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Argyle Apple Forest*	-	-	-	-	-	-	-	-
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Non-native Vegetation*	34.35	**0**	**39.56**	**5.21**	**0**	**40.82**	**+6.47**	**0**
Species Credits									
NSW – South Western Slopes IBRA Bioregion									
-	striped legless lizard (*Delma impar*)	43.07	**326**	**41.00**	**-2.07**	**310**	**41.00**	**-2.07**	**284**
-	southern myotis (*Myotis macropus*)	<0.01	1	<0.01	-	**1**	**<0.01**	-	**1**
-	squirrel glider (*Petaurus norfolcensis*)	60.19	**2,073**	**42.47**	**-17.72**	**1,607**	**44.45**	**-15.74**	**1,702**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	**305**	**8.11**	**-1.65**	**270**	**8.12**	**-1.64**	**273**
-	golden sun moth (*Synemon plana*)	57.66	**895**	**50.73**	**-6.93**	**791**	**49.38**	**-8.28**	**702**
South Eastern Highlands IBRA Bioregion									
-	squirrel glider (*Petaurus norfolcensis*)	43.04	**1,434**	**39.69**	**-3.35**	**1,386**	**40.24**	**-2.8**	**1,429**
-	superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	**271**	**11.12**	**0.96**	**309**	**11.22**	**+1.06**	**319**
-	golden sun moth (*Synemon plana*)	27.56	**489**	**25.83**	**-1.73**	**440**	**26.94**	**-0.62**	**423**

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liability (Umwelt 2021a)

4.3 Partial Impacts

Consistent in its application with the approved Development and as described above in **Section 3.1.4** and **Section 3.2.4**, Umwelt has operated the BAM-CC to apply a partial impact for vegetation zones 1, 3, 5, 7 and 9. This analysis is provided in **Table 4.2**. For areas identified as complete impact, the future vegetation integrity score is reduced to the default score of 0. For areas identified as Direct Partial Impact, the Composition, Structure and Function scores have been manually edited in accordance with BAM (2017) to capture the biodiversity values that are assessed as persisting.

Table 4.2 Direct Partial Impacts of the Development

Vegetation Zone	PCT and Condition Zone	Complete Impact (ha)	Direct Partial Impact (ha)	Total Impact (ha)
NSW – South Western Slopes IBRA Bioregion				
Vegetation Zone 3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	5.76	2.37	8.13
Vegetation Zone 5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	31.83	3.84	35.67
South Eastern Highlands IBRA Bioregion				
Vegetation Zone 3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion *Moderate to Good*	7.01	4.21	11.22
Vegetation Zone 5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Moderate to Good*	25.30	3.88	29.18
Vegetation Zone 7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion *Acacia Shrubland*	3.27	2.29	5.56

4.4 Impacts on Threatened Ecological Communities

The Development will impact a total of 33.00 hectares of *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* (referred to hereafter as 'White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland') CEEC under the BC Act within vegetation zones 3 (19.34 hectares) and 4 (13.66 hectares) (**Appendix C**).

The Development will impact a total of 31.21 hectares of White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act within vegetation zones 3 (18.64 hectares) and 4 (12.57 hectares).

There is a difference of 1.79 hectares between the impacts of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland' CEEC under the BC Act (33.00 hectares), compared to White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act (31.21 hectares). This discrepancy relates to a small number of patches of PCT 350 Vegetation Zone 3 and Vegetation Zone 4 not meeting the condition thresholds for the EPBC Act listed community.

Impact to the CEEC under the BC Act is **4.34 hectares less** than the area presented in the Development Impact Assessment Addendum, being 37.34 hectares (Umwelt 2021). Furthermore, impacts to the CEEC under the BC Act has been reduced by **0.02 hectares** based on the 33.00 hectares assessed as part of the revised pre-construction final development footprint compared with the 33.02 hectares assessed in the pre-construction final development footprint in the confirmation of credit liabilities (Umwelt 2021).

Impacts to White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act is **4.33 hectares less** than the area presented in the Development Impact Assessment Addendum, being 35.54 hectares for this TEC (Umwelt 2021). Furthermore, impacts to the CEEC under the EPBC Act has been reduced by **0.02 hectares** based on the 31.21 hectares assessed as part of the revised pre-construction final development footprint compared with the 31.23 hectares assessed in the pre-construction final development footprint in the confirmation of credit liabilities (Umwelt 2021).

Table 4.3 presents a summary of credits generated that align with the BC Act and EPBC Act listed CEECs, as the CEEC boundaries are not entirely consistent with the vegetation zones. Within the BAM – Credit Calculator, it is not possible to differentiate between the extent of vegetation zones which are identified as the BC Act listed CEEC and EPBC Act listed CEEC, or vice versa. In fact, the BAM – Credit Calculator only allows for the BC Act listed CEEC to be selected. In which case, the BAM – Credit Calculator assessment has been finalised and submitted identifying Vegetation Zones 3 and 4 as being the BC Act listed CEEC. Umwelt has then used these vegetation zones as proxies to determine the credit requirement specifically relating to the EPBC Act listed CEEC. Specifically, we used the area of impact and credit requirement to determine a ratio of credits per hectare, which we then applied to the area of impact identified for the EPBC Act listed CEEC to identify its specific credit requirement (**Table 4.3**).

It is important to note that the total proportional number of CEEC credits under the BC Act and/or EPBC Act are not in addition to those credits identified in Section 4.1. Of the total number of credits required for impact to Vegetation Zone 3 and Vegetation Zone 4, **Table 4.3** presents the amount which need to align with the BC Act and EPBC Act listed CEECs.

The extent of White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC listed under the BC Act and White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC listed under the EPBC Act associated with the Development is presented in the **Appendix C** figure set.

Table 4.3 Credit Generation from the BC Act and EPBC Listed CEECs

	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)		White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)	
	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*	Vegetation Zone 3 *Moderate to Good*	Vegetation Zone 4 *Derived Native Grassland*
Total Area of Vegetation Zone (ha)	19.35	13.76	19.35	13.76
Total Credits	739	297	739	297
Total Area of CEEC (ha)	19.34	13.66	18.64	12.57
Proportion of Vegetation Zone that is CEEC	99.9 %	99.3 %	96.3 %	91.3 %
Proportional Number of CEEC Credits per Vegetation Zone[1]	739	295	712	271
Total Proportional Number of CEEC Credits [1]	**1,035**		**983**	

[1] Rounded to the nearest whole number.

4.5 Prescribed Impacts Assessment – Non-Native Vegetation Supporting Golden Sun Moth Habitat

Based on the revised analysis of golden sun moth habitat within the revised pre-construction final development footprint, a total of 26.17 hectares of vegetation zone 10 (Non-native Vegetation) occur within the golden sun moth species polygon (**Appendix B**). This impact on golden sun moth represents a **1.01-hectare increase** compared to that assessed and presented in the Impact Assessment Addendum (Umwelt 2021), being 25.16 hectares. The combined impact on golden sun moth, being native vegetation assessed as the species polygon addressed (**Section 4.1**) and non-native vegetation assessed in this Section is 102.49 hectares. That represents a combined decrease of 7.89 hectares compared with the Impact Assessment Addendum (Umwelt 2021), being 110.38 hectares.

As described above in **Section 3.1.3**, the prescribed impact assessment has been updated for the impacts of the Development on non-native vegetation that supports golden sun moth. This updated assessment is presented below in **Table 4.4**. This assessment has been undertaken in accordance with Section 9.2.1.4 of the BAM 2017 (OEH 2017).

Table 4.4 Prescribed Impact Assessment of Non-Native Vegetation Supporting Golden Sun Moth

Criteria	Response
The assessment of the impacts of development on the habitat of threatened species or ecological communities associated with non-native vegetation must:	
a) identify the species and ecological communities likely to use the habitat	The golden sun moth has been recorded at several locations within the Development Footprints during surveys conducted by NGH and Umwelt. Consistent with the impact assessment for this species in the Biodiversity Assessment and Biodiversity Assessment Addendum (NGH Environmental 2014 and 2016), species habitat polygons were developed based on the extent of Vegetation Zones 4 and 6 (i.e., recorded DNGs) that intersect with 200 m buffers of known records for the species. As a result, 26.17 hectares of non-native vegetation fall within the species polygon for the species. This non-native vegetation comprises grassland areas have been extensively cleared of native flora species through intensive and historic agricultural land use. They predominantly support exotic grasses and herbs, the most abundant including squirrel tail fescue (*Vulpia bromoides*), soft brome (*Bromus hordeaceus*), silvery hairgrass (*Aira cupaniana*), prairie grass (*Bromus catharticus*), red brome (*Bromus rubens*) and paspalum (*Paspalum dilatatum*). A full description of this mapping unit is provided in Section 3.2.2 of the current BDAR (Umwelt 2020). While these areas occur within the habitat buffers for the golden sun moth, it is noted that the presence of native grass species utilised by the golden sun moth (i.e., *Rytidosperma* spp. and *Austrostipa* spp.) in these areas generally occur in close proximity to the mapped PCT 350 and PCT 351 DNGs. As distances from these PCTs increase, it is likely that so do occurrences of exotic pasture weeds that do not facilitate foraging or breeding for the species. Currently, the species is only known to occur in degraded grasslands when they are dominated by the exotic Chilean needlegrass (*Nassella nessiana*) (DEWHA 2009a), which has not been recorded within any of the areas of Non-native Vegetation occurring in the Development Footprints. Therefore, while this assessment includes the total 26.17 hectares of non-native vegetation which occurs within the golden sun moth habitat buffers, it is likely that the area of non-native vegetation with potential to be utilised by the species is considerably lower. Those areas of non-native vegetation used by the species would be based on the sporadic presence of native grass species and are considered sub-optimal habitat.
b) describe the nature, extent and duration of short and long-term impacts	The Development will result in direct and indirect impacts, which are described in full in Section 5.1 of the current BDAR (Umwelt 2020). Short-term indirect impacts will include non-native vegetation within and surrounding golden sun moth habitat buffers being subject to potential increase in erosion, dust pollution, noise and vibration during construction works. These will occur across the Development Footprints for approximately two years. Much of the Development Corridor is exposed to historical and ongoing disturbances from grazing and other agricultural pressures. The extent and risk of indirect impacts from construction activities associated with the Development is considered to be consistent with those presented, discussed and assessed as part of the original approval, including Biodiversity Assessment (NGH Environmental 2014) and Biodiversity Assessment Addendum (NGH Environmental 2016). Long-term impacts will include the removal of up to 26.17 hectares of non-native vegetation which occurs in areas where the Development Footprints intersect with golden sun moth habitat buffers. This may result in initial species decline due to mortality of adults and larvae during the clearing process. The removal of vegetation may also lead to (additional) feral weed encroachment to adjacent areas over time. Given the occurrence of existing weeds in habitat areas, the

Criteria	Response
	Development is unlikely to introduce invasive species such as weeds that are harmful to the golden sun moth or its habitat. Despite the Development undergoing a modification, the components of indirect and peripheral impacts remain unchanged in nature and extent.
c) describe, with reference to relevant literature and other reliable published sources of information, the importance within the bioregion of the habitat to these species or ecological communities	The Saving Our Species (SOS) report for the golden sun moth (OEH 2020) identifies two key management sites for the species: Site 1 – Upper Lachlan and Site 2 – Gundaroo/Queanbeyan. Areas within the Development Corridor occur in the Upper Lachlan Management Site, which encompasses Rye Park, the town of Kangiara and stretches across to Blakney Creek in the east. This covers a total area of approximately 140,664 hectares where objectives for minimising the impacts of commercial activities and maintaining low weed densities are in place. The areas of non-native vegetation forming potential golden sun moth habitat which will be removed by the Development comprise sub-optimal habitat which is not currently being managed in a way that is consistent with the SOS management objectives (i.e., reducing and maintaining weed densities through active weed control at priority sites). Therefore, although some patches of the Development Corridor fall within the Upper Lachlan Priority Site, it is considered unlikely that the removal of non-native vegetation within these areas will significantly affect the SOS objective to secure the species in the long term within this region. The *Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (Synemon plana)* (DEWHA 2009a) specify that the species is only known to occur in degraded grasslands when they are dominated by the exotic Chilean needlegrass (*Nassella nessiana*). This species was not recorded within any of the non-native vegetation areas to be cleared during surveys, and it is likely that these areas would only be used by the species based on the sporadic presence of native grasses. Furthermore, this species has not been recorded through any ecological surveys completed for the Development. There are extensive areas (i.e., several thousand hectares) of suitable habitat for the golden sun moth mapped as Yellow Box-Apple Box Grassy Woodlands in the NSW – South Western Slopes and South Eastern Highlands IBRA bioregions (Gellie 2005). These have groundcovers dominated by the species' preferred native grasses, including wallaby grass (*Rytidosperma racemosum* var. *racemosum*), kangaroo grass (*Themeda australis*), weeping grass (*Microlaena stipoides* var. *stipoides*) and speargrass (*Austrostipa scabra*), and are likely to be similar to golden sun moth habitat areas found in the Development Corridor. These grasses are essential in the maintenance of important life cycle processes for the species, as golden sun moth larvae feed exclusively on the roots of wallaby grasses (DPIE 2019). With this abundance of higher quality foraging and breeding habitat for the species in the wider region, areas of non-native vegetation would likely be utilised only by very small proportion of the species within the local area, and thus a negligible proportion of the species within the wider region. Additionally, there are several areas where the species is found or considered likely to occur within the relevant bioregions which are protected. These include Goorooyarroo Nature Reserve, Bango Nature Reserve, McLeod's Creek Nature Reserve, Oakdale Nature Reserve (OEH 2015) and the Yass River Gorge Council reserve (Yass Valley Council 2017). Taking into account the above information, it is considered that the non-native vegetation to be impacted by the Development may potentially be utilised by local populations of the golden sun moth but is unlikely to constitute important habitat for the species within the relevant bioregions.
d) predict the consequences of the impacts for the local and	The removal of 26.17 hectares of non-native vegetation will potentially have impacts on local populations occurring in these areas due to their limited dispersal ability. Clearing works may lead to mortality of both adults and larvae utilising

Criteria	Response
bioregional persistence of the suite of threatened species and communities likely to use these areas as habitat, with reference to relevant literature and other published sources of information	sporadic native grasses within Non-native Vegetation, as females of the species are generally reluctant to fly, and males will not fly greater than 100 m (DPIE 2019). However, the number of individuals utilising non-native vegetation is expected to be a small proportion of the local population due to the species' preference for intact native grasslands (DEWHA 2009). Currently, the species is only known to occur in degraded grasslands when they are dominated by the exotic Chilean needlegrass (*Nassella nessiana*) (DEWHA 2009a), which has not been recorded within any of the areas of non-native vegetation occurring in the Development Footprints or the Development as a whole. It is recognised that one of the major threats to the golden sun moth is the loss of their preferred habitat by vigorous exotic pasture grasses introduced for livestock grazing, nutrient enrichment and pasture cultivation (O'Dwyer & Attiwill 2000; DEWHA 2009a). As such, the non-native vegetation to be removed provides sub-optimal habitat for the species, and the impacts are not expected to affect the persistence of the golden sun moth in the local area. With regards to the wider ACT/NSW population, the areas of non-native vegetation are surrounded by vast amounts of higher quality native grassland habitat in the NSW – South Western Slopes, and South Eastern Highlands IBRA bioregions (Gellie 2005). These areas have groundcovers dominated by native grasses which are essential in the maintenance of important life cycle processes for the species, as golden sun moth larvae feed exclusively on the roots of wallaby grasses (DPIE 2019). Therefore, these areas would constitute habitat important to the persistence of the species and are likely the ones where minimising impacts and actively managing weeds would be of the most value. Additionally, the area of non-native vegetation to be removed is negligible when viewed in the regional context. Generally larger areas of connected habitat are considered the priority for protection of golden sun moth over the long-term (DEHWA 2009a). As populations separated by distances of greater than 200 m can be considered effectively isolated (DPIE 2019a and 2019b), regional populations are not expected to be affected by the Development. It is not considered likely that the removal of non-native vegetation occurring in golden sun moth habitat buffers will affect any populations in such a way that they will become extinct or have their movement restricted so that existing dispersal patterns are significantly affected. Consequences of the removal of 26.17 hectares of non-native vegetation are considered to be minor on both a local and regional scale.

4.6 Result Summary

The tables provided in this section summarise the impacts of the revised pre-construction final against the previous designs as clearly as possible. **Table 4.5** initially summarises the impacts of the Development per Vegetation Zone, **Table 4.6** then summarises the same impacts but for consolidated PCTs. Lastly, **Table 4.7** summarises the impacts for the Development per species-credit species.

Table 4.8 presents the revised pre-construction final impacts of the Development, including a comparison of impacts between the Development approved biodiversity assessments (Umwelt 2020a and Umwelt 2021) and the revised assessment prepared to determine the final credit requirements based on the detailed design.

The revised pre-construction final development footprint has reduced impacts on the BC Act and EPBC Act CEECs and four species-credit species (striped legless lizard, squirrel glider, superb parrot and golden sun moth) of MOD 1. Impacts for the southern myotis remains unchanged (Umwelt 2021). When the revised pre-construction final development footprint impacts are compared against the MOD 1 pre-construction final development footprint in the confirmation of credit liabilities (Umwelt 2021a), the striped legless lizard remains unchanged, superb parrot has increased by 0.11 hectares, golden sun moth has decreased by 0.24 hectares and squirrel glider has increased by 2.53 hectares.

A summary of the comparison of impacts is provided below:

- Striped legless lizard:
    - 41.00 hectares of impact proposed in the revised pre-construction final development footprint, remaining unchanged with the Confirmation of Credit Liabilities (Umwelt 2021a)
    - 43.07 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 2.07 hectares.**
- Superb parrot:
    - 19.34 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 0.11 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a), being 19.23 hectares
    - 19.92 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 0.58 hectares.**
- Golden sun moth:
    - 76.32 hectares of impact proposed in the revised pre-construction final development footprint, a decrease of 0.24 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a)
    - 85.22 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 8.9 hectares.**
- Squirrel glider:
    - 84.69 hectares of impact proposed in the revised pre-construction final development footprint, an increase of 2.53 hectares compared with the Confirmation of Credit Liabilities (Umwelt 2021a), being 82.16
    - 103.23 hectares of impact proposed in the MOD 1 Impact Assessment Addendum (Umwelt 2021b), **reduction of 18.54 hectares.**

Table 4.5 Summary of Impacts per Vegetation Zone

Veg Zone	PCT/Species-credit	Indicative Area (SSD6693-Mod1) (ha)[1]	Indicative Credits	Pre-construction Final Area (ha)[2]	Pre-construction Change (ha)	Mod 2 Area (ha)	Mod 2 Change (ha)
1	289 Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	25	0.73	-0.04	0.73	**-0.04**
	Moderate to Good						
2	335 Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	5.72	130	5.84	0.12	5.75	**0.03**
	Moderate to Good						
3	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	19.92	576	19.23	-0.69	19.35	**-0.57**
	Moderate to Good						
4	350 Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	17.53	304	13.89	-3.64	13.76	**-3.77**
	Derived Native Grassland						
5	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	82.83	2,645	65.77	-17.06	64.85	**-17.98**
	Moderate to Good						
6	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	174.92	1,582	157.33	-17.59	158.13	**-16.79**
	Derived Native Grassland						
7	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	8.69	152	8.82	0.13	9.71	**1.02**
	Acacia Shrubland						
8	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	80.57	840	64.08	-16.49	64.09	**-16.48**
	Sifton Bush Shrubland						
9	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	0.93	28	1.28	0.35	1.29	**0.36**
	Argyle Apple Forest						
10	351 Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	111.08	0	111.28	0.2	113.83	**2.75**
	Non-native Vegetation						

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liabilities (Umwelt 2021a)

Table 4.6 Summary of Impacts per PCT

	Indicative Impacts (SSD6693-Mod1) [1]	Pre-construction Final Impacts [2]	Revised Pre-construction Final Impacts [2]	Comparison of Mod1 / Revised Pre-Construction Final
	Area (ha)	Area (ha)	Area (ha)	Area (ha)
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	0.73	0.73	-0.04
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	5.72	5.84	5.75	0.03
350- Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	37.45	33.12	33.11	-4.34
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	459.02	408.56	411.90	-47.12

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liabilities (Umwelt 2021a)

Table 4.7 Summary of Impacts per Species-credit Species

	Indicative Impacts (SSD6693-Mod1)	Pre-construction Final Impacts	Revised Pre-construction Final Impacts	Comparison of Mod1 / Revised Pre-Construction Final
	Area (ha)	Area (ha)	Area (ha)	Area (ha)
Striped legless lizard	43.07	41.00	41.00	-2.07
Superb parrot	19.92	19.23	19.34	-0.58
Golden sun moth	85.22	76.56	76.32	-8.90
Squirrel glider	103.23	82.16	84.69	-18.54
Southern myotis	<0.01	<0.01	<0.01	-

Table 4.8 Comparison of the indicative and revised pre-construction impact analysis

	Indicative Areas (SSD 6693-Mod1) (ha) [3]	Indicative Credits	Pre-construction Final Areas (ha)[6]	Pre-construction Credits	Area Change (ha)	Credit Change	Revised Pre-construction Final Areas (ha)	Revised Area Change (ha)	Revised Credit Liability (ha)
Non-listed									
PCT 289 (Vegetation Zone 1)	0.77	25	0.73	24	-0.04	-1	0.73	-0.04	24
PCT 335 (Vegetation Zone 2)	5.72	130	5.84	126	0.12	-4	5.75	0.03	137
PCT 351 – Native (Vegetation Zones 5 - 9)	347.94	5,247	297.28	4,503	-50.66	-744	298.07	-49.87	4,428
PCT 351 – Non-native (Vegetation Zone 10)	111.08	0	111.28	0	0.20	0	113.83	2.75	0
BC Act and EPBC Act Listed									
Striped Legless Lizard	43.07	326	41.00	310	-2.07	-16	41.00	-2.07	284
Superb Parrot	19.92	576	19.23	579	-0.69	3	19.34	-0.58	592
Golden Sun Moth	85.22	1,384	76.56	1,231	-8.66	-153	76.32	-8.92	1,125
BC Act Listed									
Box Gum Woodland CEEC (BC Act) [1]	37.34	878	33.02	1,022	-4.32	144	33.00	-4.34	1,035
Squirrel Glider	103.23	3,507	82.16	2,993	-21.07	-514	84.69	-18.54	3,131
Southern Myotis	<0.01	1	<0.01	1	-	-	<0.01	-	1
EPBC Act Listed									
Box Gum Woodland (EPBC Act) [2]	35.54	Not calculated at the time [4]	31.23	972	-4.31	Not Possible[5]	31.21	4.33	983

[1] White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)
[2] White box - yellow box - Blakely's red gum grassy woodlands and derived native grasslands CEEC (EPBC Act)
[3] Impact Assessment Addendum (Umwelt 2021b)
[4] The area of impact on the EPBC Act listed CEEC was assessed and presented within the Impact Assessment Addendum (Umwelt 2021b), however the proportion of credits was not calculated at that time.
[5] In the absence of the previous calculation being completed, there is no ability to compare the credit requirements.
6 Confirmation of Credit Liabilities (Umwelt 2021a)

5.0 Matters of National Environmental Significance

The additional Biodiversity Assessment undertaken for MOD2 within the revised pre-construction final development footprint did not identify new Matters of National Environmental Significance (MNES) applicable to the Project. In summary, MOD2 proposes to impact the same MNES identified, assessed and approved through MOD1 (EPBC 2020/8837). The MNES proposed to be impacted are listed below:

- White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act: 31.21 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 4.33 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).
- Striped legless lizard (V – EPBC Act): 41.00 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 2.07 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).
- Superb parrot (V – EPBC Act): 19.34 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 0.58 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).
- Golden sun moth (V – EPBC Act): 76.32 hectares proposed to be impacted within the revised pre-construction final development footprint MOD 2, a reduction of 8.90 hectares compared with the Development Impact Assessment Addendum (Umwelt 2021).

6.0 Credit Summary

A summary of the revised credit liability for the Development is provided below in **Table 6.1**, including a comparison against the previous assessment. This final confirmation of biodiversity offset credit requirement for the Development has been completed in accordance with Schedule 3 Condition 20 (SSD 6693). The final credit requirements specifically relating to the BC Act and EPBC Act listed CEECs is presented above in **Table 4.3**. Those credit requirements specifically relating to those CEECs relate to a proportion of the credits identified for PCT 350 in **Table 6.1** below i.e., the credits are not in addition to.

The biodiversity credit reports for both BAM – Credit Calculator assessments submitted for the Development are provided in **Appendix E** and **Appendix F**. Both appendices include the like-for-like and variation biodiversity credit reports, noting that the variation rules do not apply to those threatened species or ecological communities listed under the Commonwealth EPBC Act.

Table 6.1 Ecosystem and Species-credit Credit Classes

	Indicative Impacts (SSD6693-Mod1) [1]		Pre-construction Final Impacts [2]		Revised Pre-construction Final Impacts [2]	
	Area (ha)	Total Credits	Area (ha)	Total Credits	Area (ha)	Total Credits
SWS IBRA Region						
Ecosystem Credits						
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.77	25	0.73	24	0.73	24
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	4.88	117	4.22	101	4.19	110
350- Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	21.66	509	18.66	564	18.55	564
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion (including Vegetation Zone 10 – Non-native Vegetation)	321.38	3,485	273.82	2,842	275.89	2,780
Species-credit Credits						
striped legless lizard (*Delma impar*)	43.07	326	41.00	310	41.00	284
southern myotis (*Myotis macropus*)	<0.01	1	<0.01	1	<0.01	1
squirrel glider (*Petaurus norfolcensis*)	60.19	2,073	42.47	1,607	44.45	1,702
superb parrot (breeding habitat) (*Polytelis swainsonii*)	9.76	305	8.11	270	8.12	273
golden sun moth (*Synemon plana*)	57.66	895	50.73	791	49.38	702
SEH IBRA Region						
Ecosystem Credits						
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	-	-	-	-	-	-
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	0.84	13	1.62	25	1.56	27
350- Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	15.79	371	14.46	460	14.56	472
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	137.64	1,762	134.74	1,661	136.01	1,648
Species-credit Credits						
striped legless lizard (*Delma impar*)	-	-	-	-	-	-
southern myotis (*Myotis macropus*)	-	-	-	-	-	-
squirrel glider (*Petaurus norfolcensis*)	43.04	1,434	39.69	1,386	40.24	1,429
superb parrot (breeding habitat) (*Polytelis swainsonii*)	10.16	271	11.12	309	11.22	319
golden sun moth (*Synemon plana*)	27.56	489	25.83	440	26.94	423

[1] Impact Assessment Addendum (Umwelt 2021b); [2] Confirmation of Credit Liabilities (Umwelt 2021a)

7.0 Micro-siting and Confirmation of Impacts

The developed layout will continue to be refined through the detailed design / construction stages. It is noted that micro-siting of the wind turbines is permitted under Schedule 2 Condition 8 of the Development Consent and the conditions of the EPBC 2020/8837.

The Biodiversity Management Plan for the Development sets out the micrositing requirements for the Development. Relating to biodiversity this includes:

- The micro-sited location must **remain within the Development Corridor** as approved by the Development Consent and project area as approved by EPBC 2020/8837.
- **Compliance with the micro-siting restrictions** described in Schedule 2 Condition 8 of the Development Consent, being:
    - no more than 250 m from the approved location
    - turbine numbers A06, A05, D07, D09, E04, E05, G01, and D06 are micro-sited to minimise (and if possible, avoid) impacts on high conservation value vegetation, including HBTs2
    - the revised location of a wind turbine is at least 50 m from existing HBTs; or, where the approved turbine location is already within 50 m of existing HBTs, the revised location of the turbine is not moved any closer to the existing or nearest HBTs.
- **Avoidance and minimisation of native vegetation clearing**, taking particular consideration of minimising impacts to Box Gum Woodland CEEC (BC Act and EPBC Act), Superb Parrot habitat (BC Act and EPBC Act), Striped Legless Lizard habitat (BC Act and EPBC Act), GSM habitat (BC Act and EPBC Act), Squirrel Glider habitat (BC Act) and Southern Myotis habitat (BC Act). Micro-siting must ensure that the impact of the Development does not exceed the clearing and habitat limits set out in the Development Consent or EPBC 2020/8837.
- Micro-siting during construction process will incorporate an avoidance hierarchy, where micro-siting will firstly prioritise avoidance of threatened ecological communities or habitat of threatened species in order of most to least threatened, and then secondly avoidance of non-listed native vegetation.
- Further consultation with BCD will be completed to confirm that micro-sited impacts are generally in accordance with the EIS (in accordance with Schedule 2 Condition 1 of the Development Consent) if micro-siting results in a movement of disturbance from an area of lower biodiversity (e.g., non-native vegetation, non-threatened species habitat or non-threatened ecological community) to higher biodiversity value (e.g., woodland/forest, threatened species habitat or threatened ecological community) and results in a exceedance beyond the thresholds set out in **Table 5.1** of this document.
- The **location of termite mounds** and avoiding impacts on them.
- **Will not result in any non-compliance with the conditions of consent** and ensure the development remains generally in accordance with the EIS.

[2] Previously known (and as described within the Development Consent) as 11, 12, 80, 83, 84, 85, 125 and 150. Additionally, note that turbine locations 48 and 143 are not being utilised within the final layout.

Prior to the commencement of operations (or following any upgrades of any wind turbines or ancillary infrastructure), executed plans showing the comparison to the revised pre-construction final development footprint will be prepared in accordance with Schedule 5 Condition 6 of the Development Consent and Condition 15 of the EPBC 2020/8837, will be submitted to the relevant departments and will be available on the Development's website.

The Biodiversity Management Plan for the Development sets a post clearing process to confirm the final micro-sited impact of the Development.

It is understood that this process will include:

- Following civil disturbance (progressively), the final disturbance footprint will be confirmed by a surveyor.
- Following the disturbance activities associated with clearance of overstory vegetation within the transmission line easement, a suitably qualified ecologist will undertake a post clearing assessment of this area to confirm the partial impact assumptions used to inform the revised pre-construction final biodiversity calculations (see **Section 3.1.4** and **Section 4.3**). This will include consideration of the Structure, Composition and Function attributes of the remaining vegetation in relation to BAM.

Once all disturbance has been undertaken (using the information captured from the above), a suitably qualified ecologist will calculate the final biodiversity impact of the confirmed final disturbance footprint and corresponding biodiversity offset credit liabilities for the Development in accordance with the BAM under the NSW Biodiversity Offset Scheme.

The final biodiversity calculations will be used to update the Offset Strategy in accordance with Condition 15 of the EPBC 2020/8837 and as evidence when retiring credits pursuant to Schedule 3 Condition 21 of the Development Consent.

8.0 References

Department of the Environment, Water, Heritage and the Arts, 2009a. Significant Impact Guidelines for the Critically Endangered Golden Sun Moth (*Synemon plana*).

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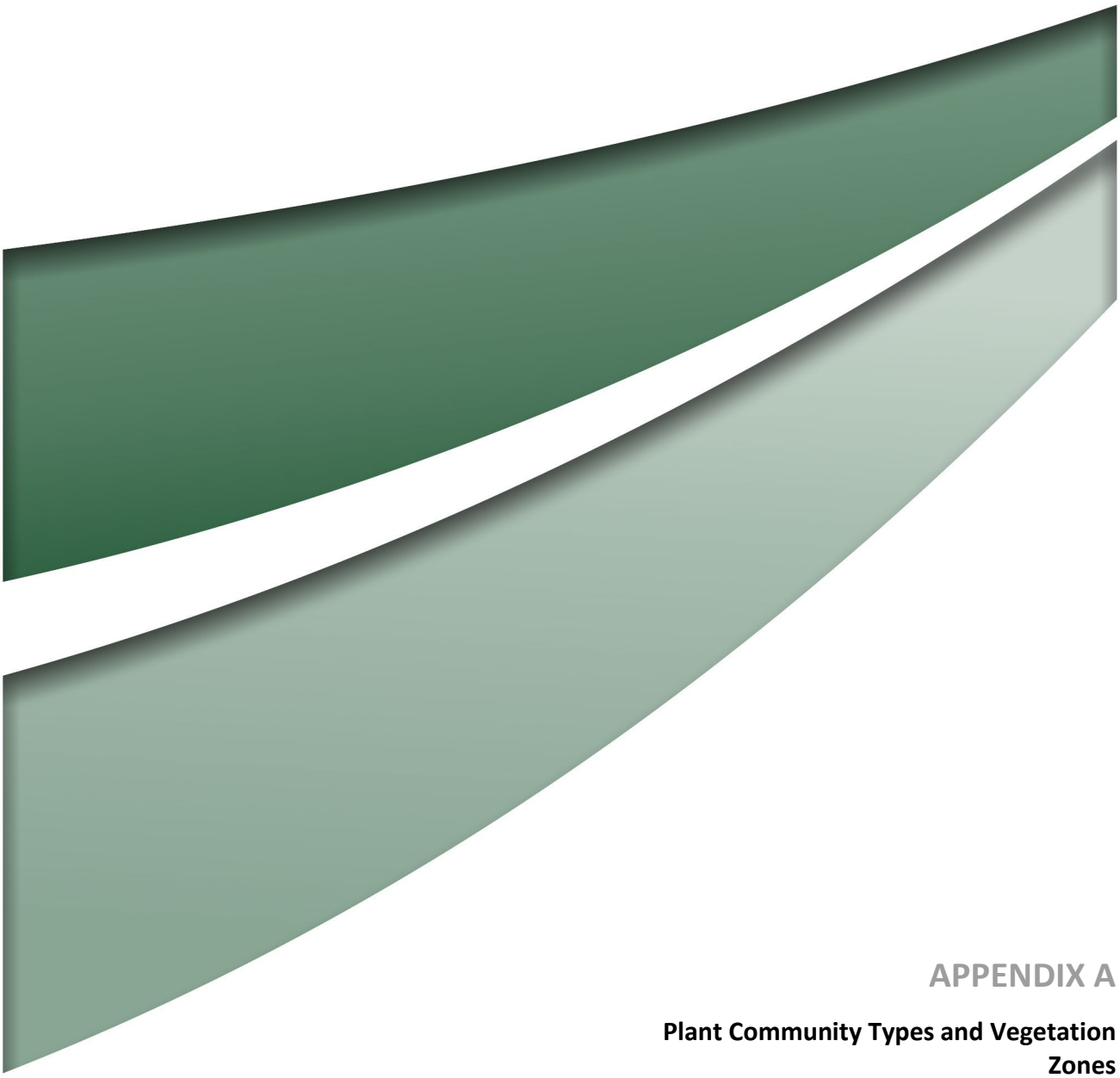
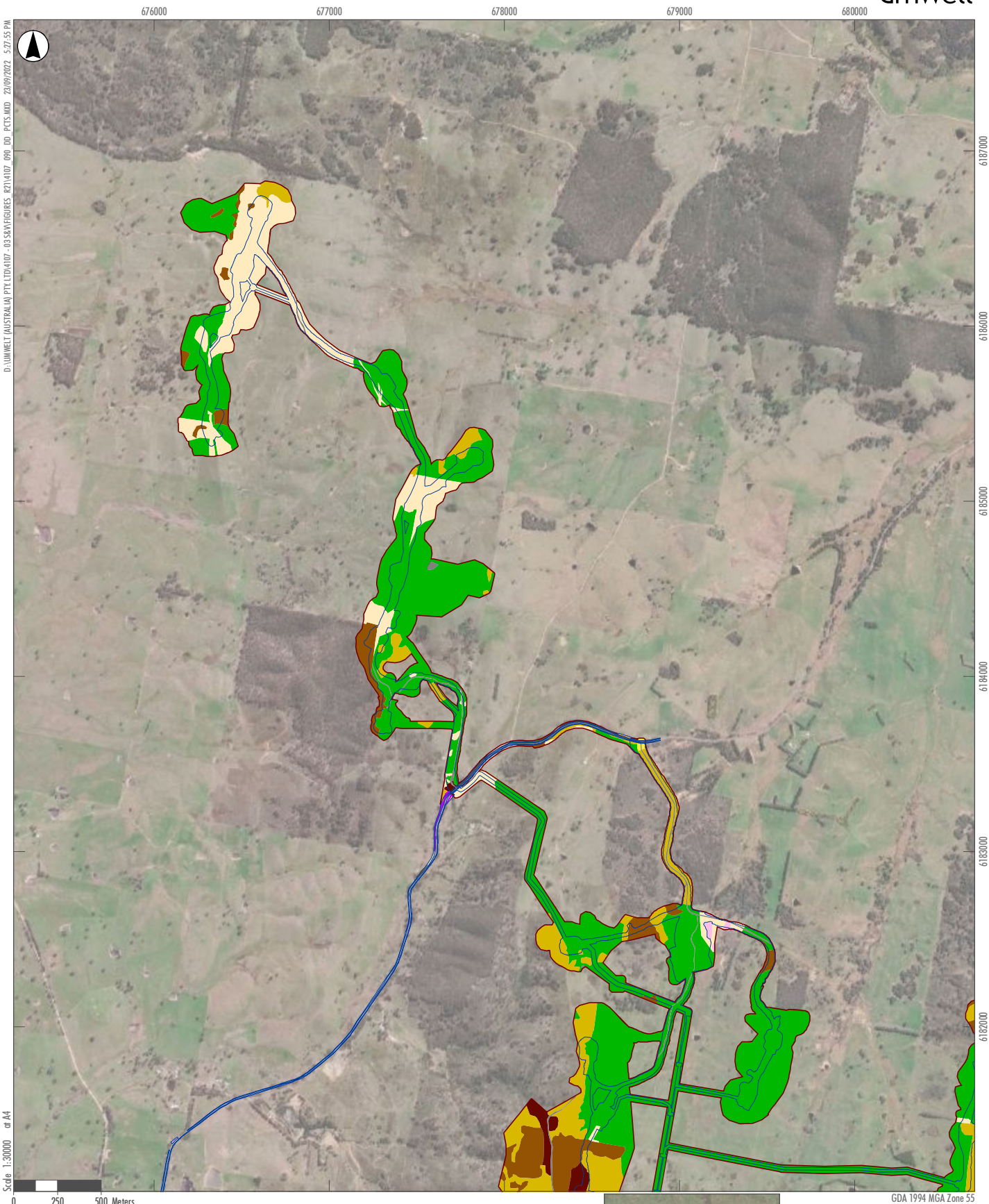


APPENDIX A

Plant Community Types and Vegetation Zones

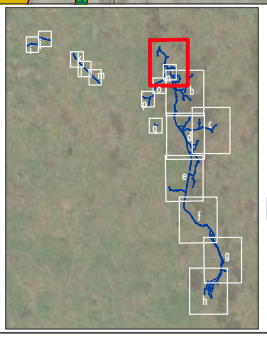


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

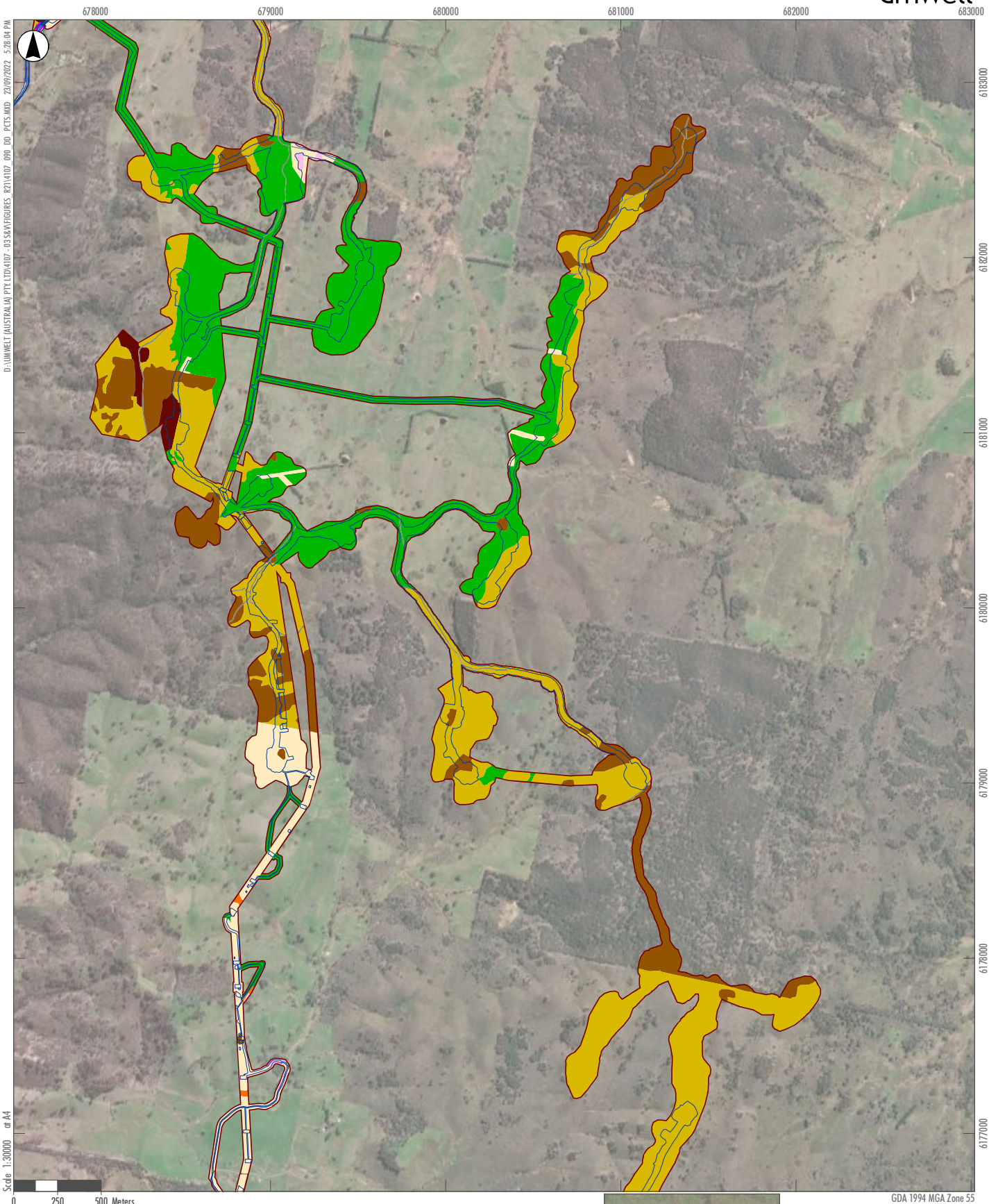
- Zone 1 -289 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.a

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

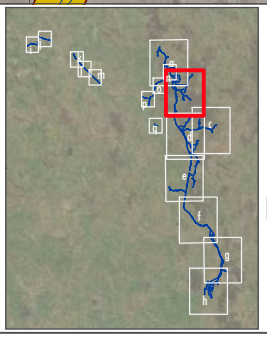


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

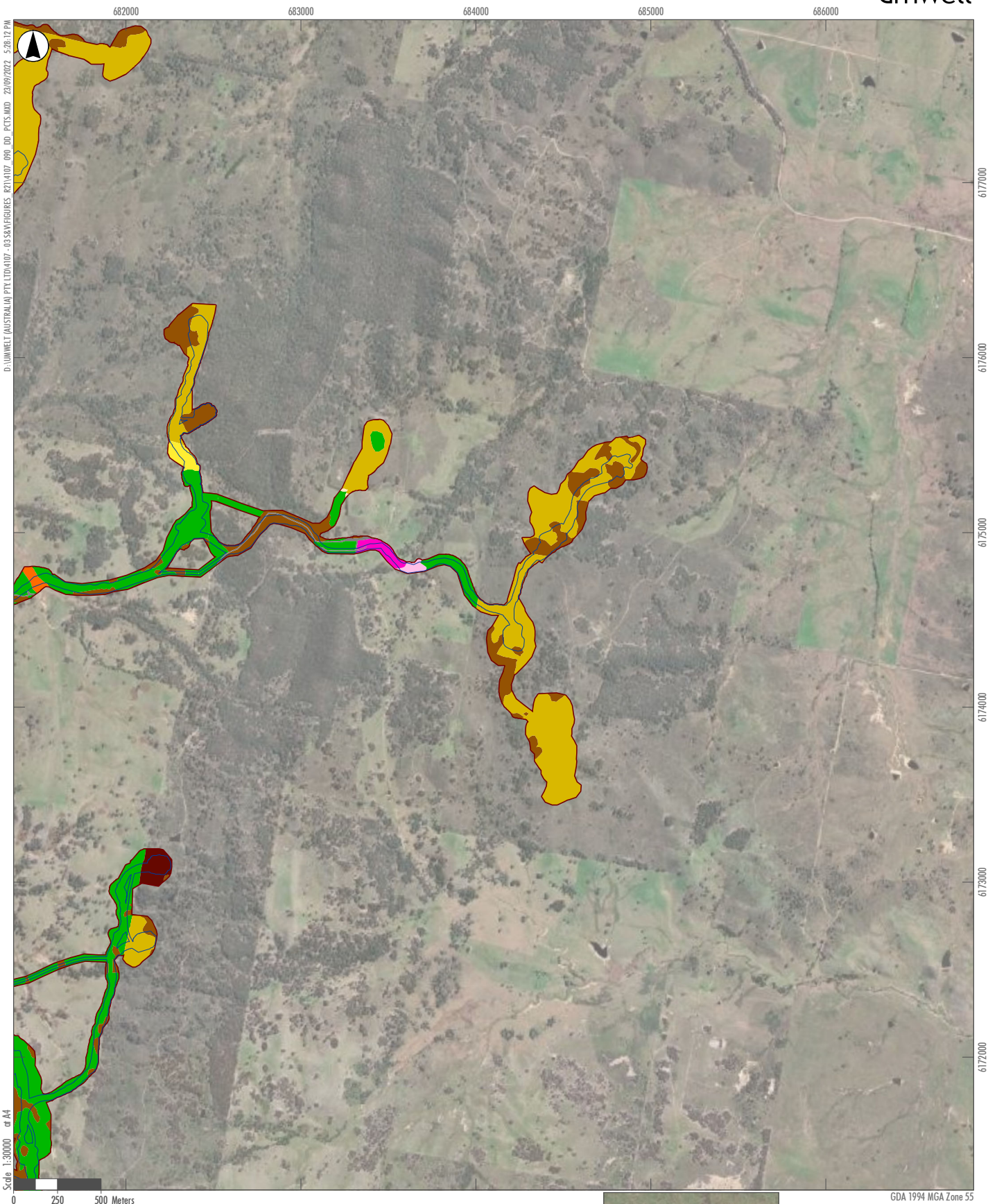
- Zone 1 -289 - Moderate to Good
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.b

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

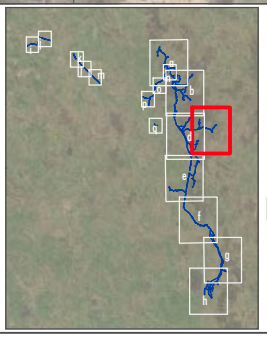


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

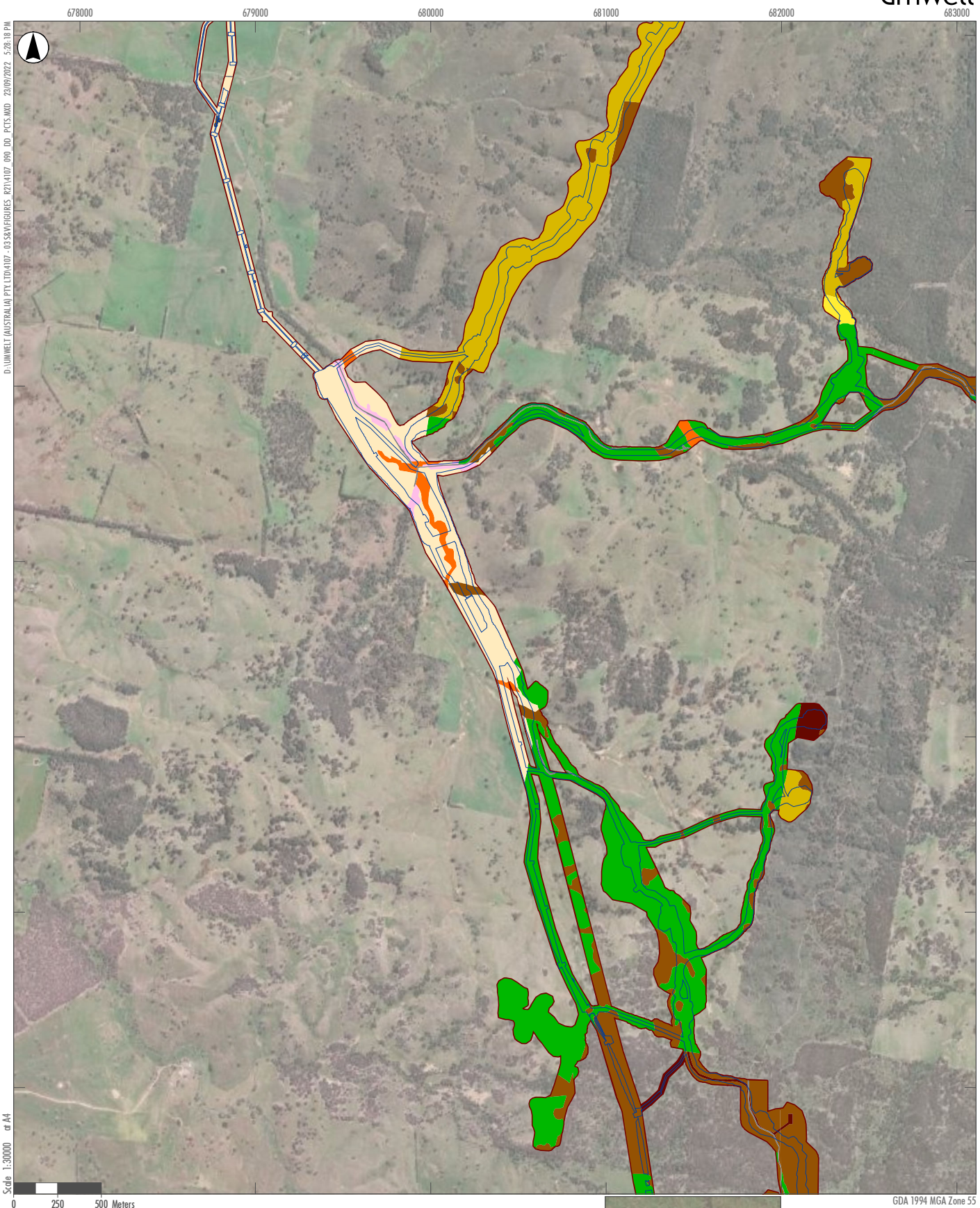
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.c

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

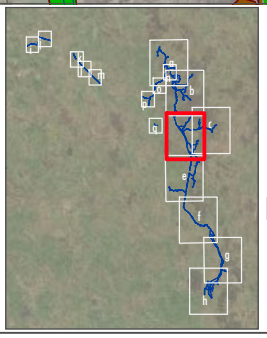


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

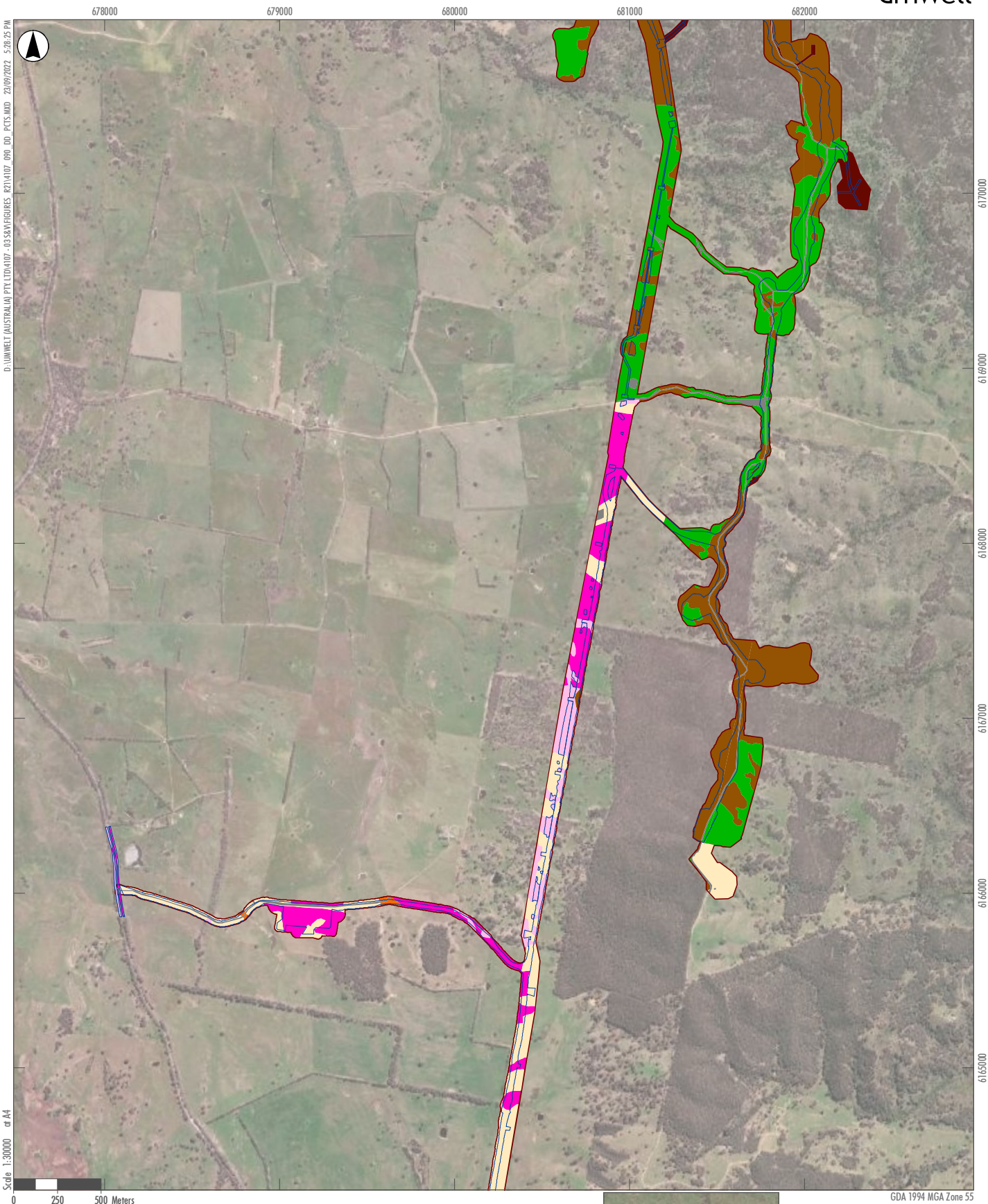
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.d

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

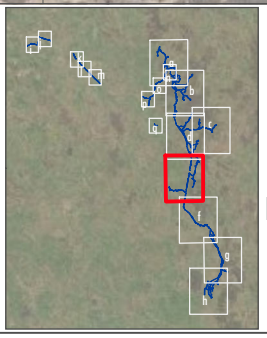


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads

PCT, Condition in the Rye Park Wind Farm

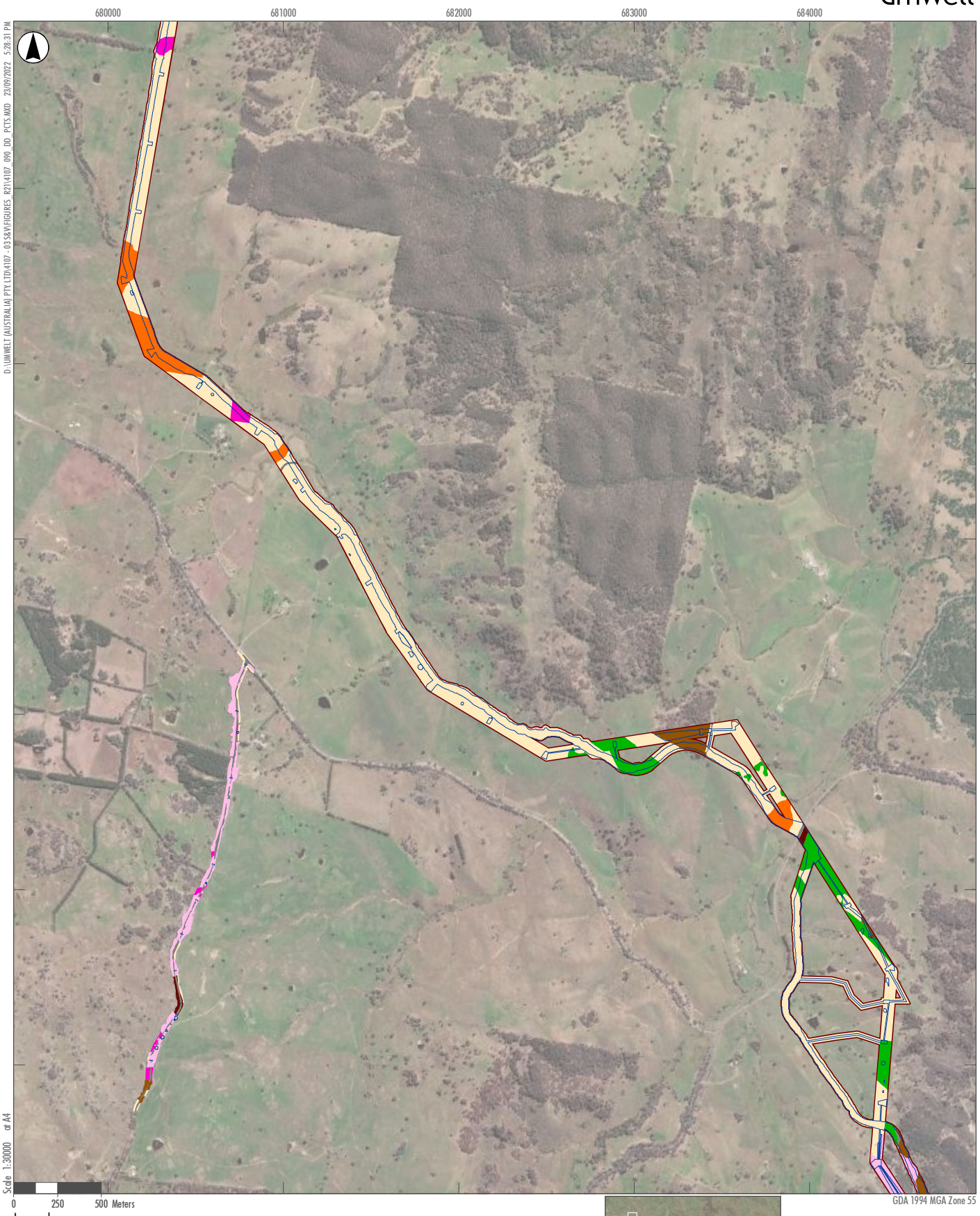
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland



APPENDIX A.e

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

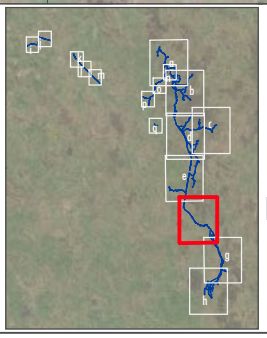


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads

PCT, Condition in the Rye Park Wind Farm

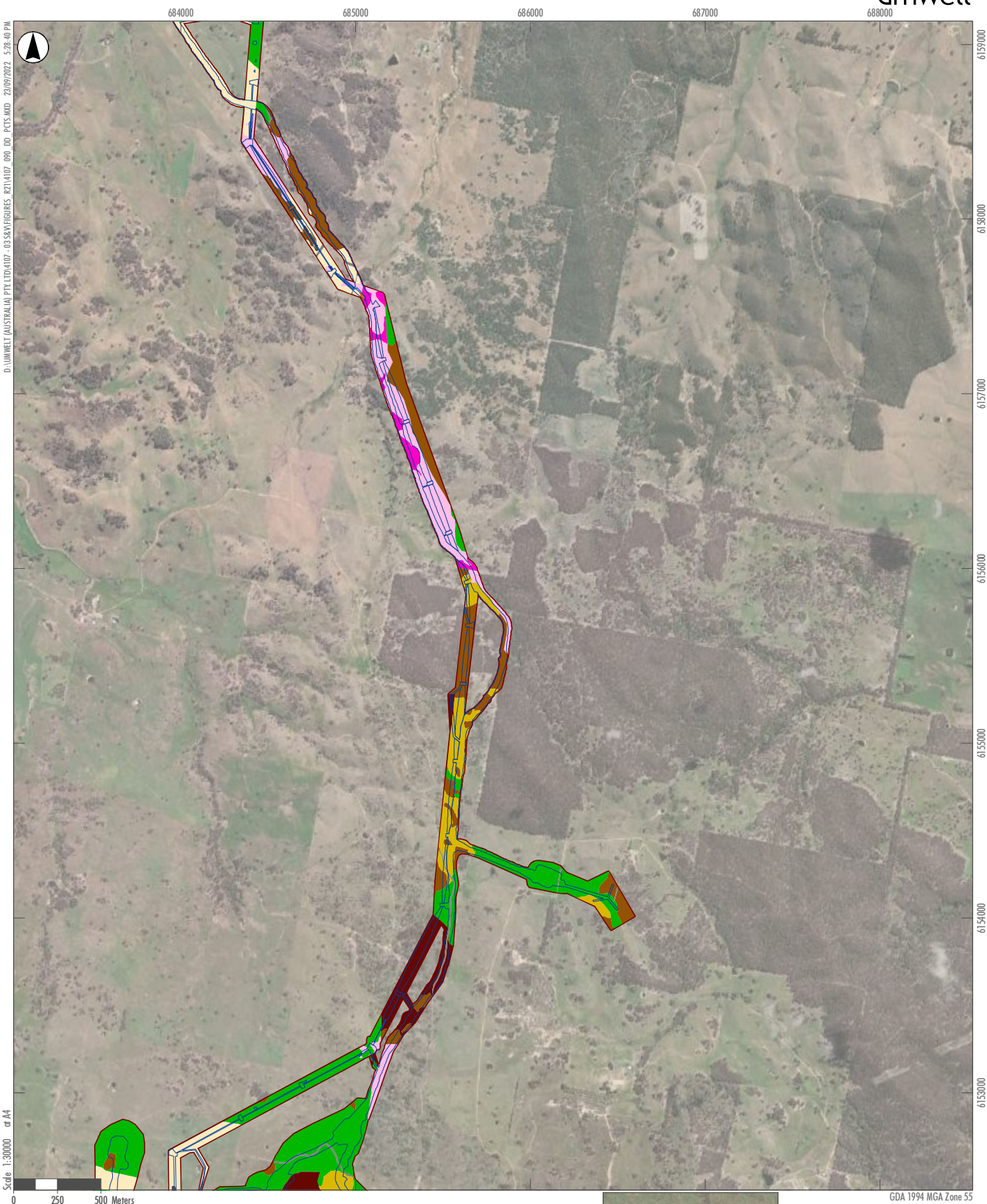
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland



APPENDIX A.f

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

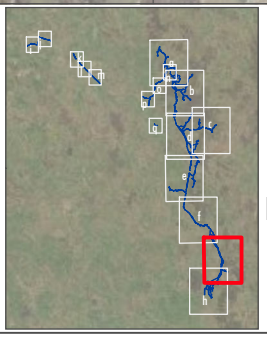


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

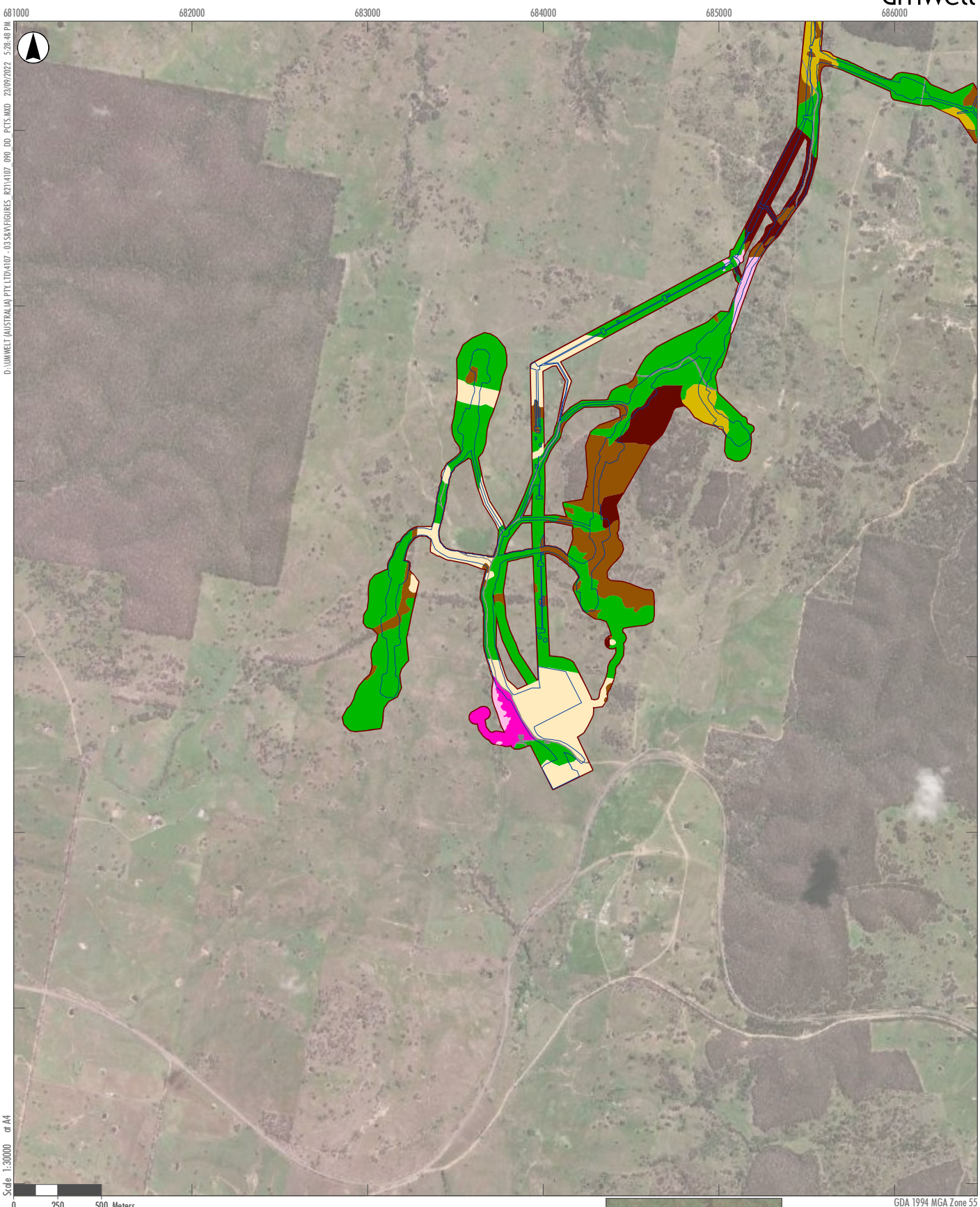
- Zone 2 -335 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.g

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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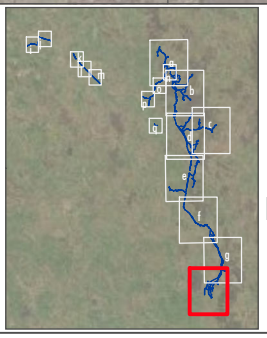
Scale 1:30000 at A4

Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.h

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads

APPENDIX A.i

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

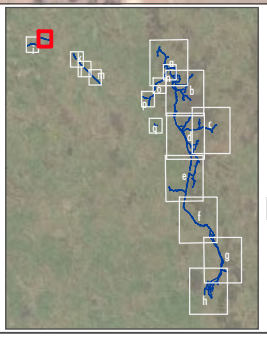
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.j

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

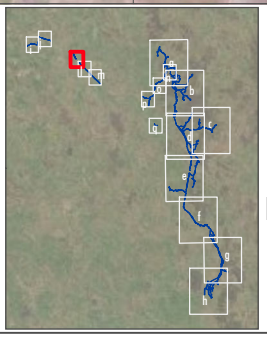
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 5 -351 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.k

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

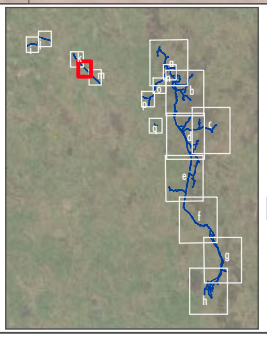
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 4 -350 - Moderate to Good - DNG
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.I

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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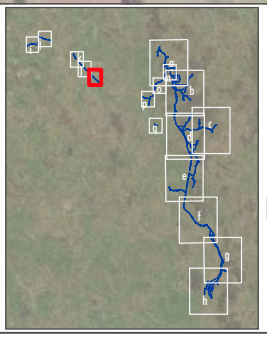
Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

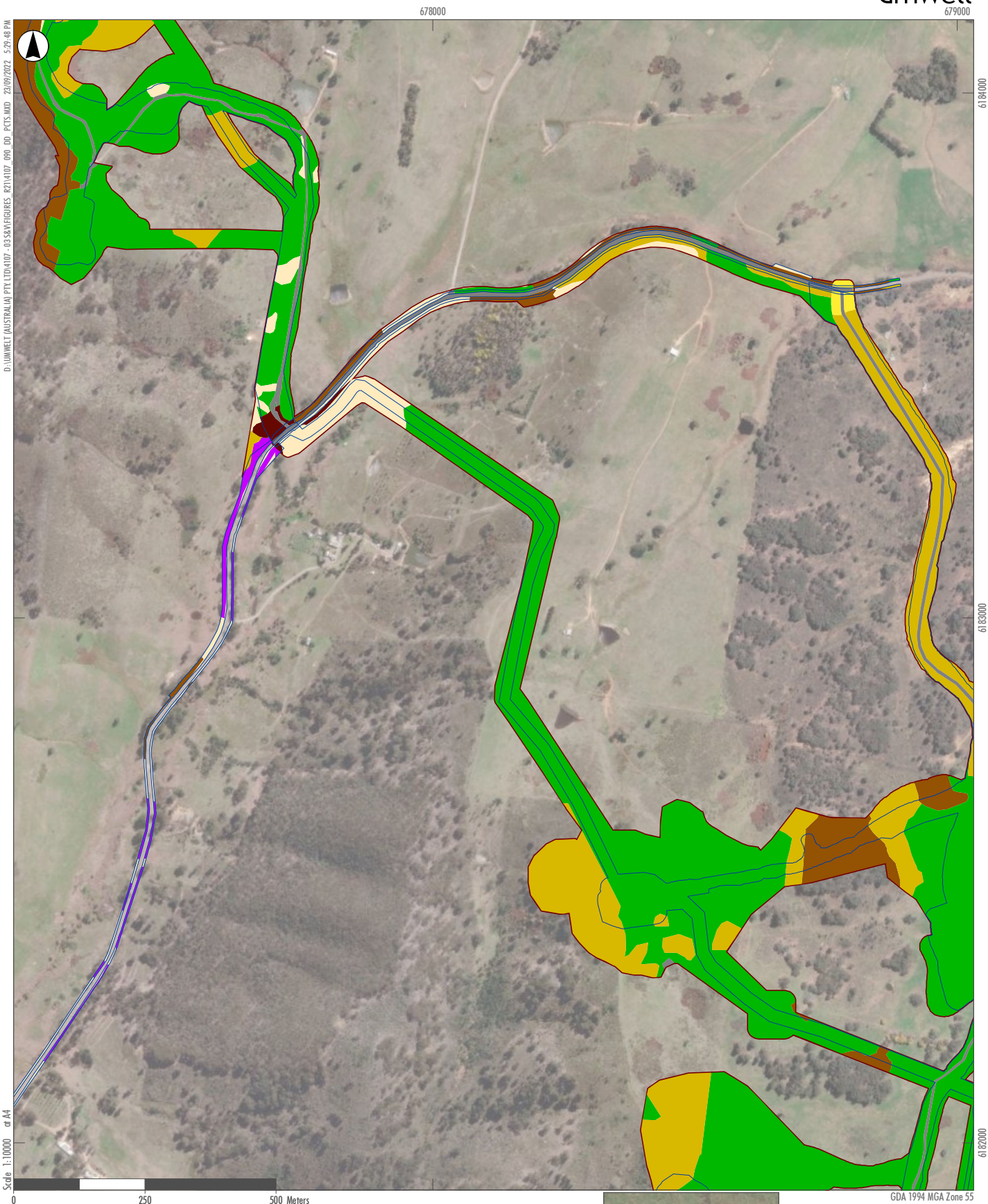
- Zone 3 -350 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.m

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

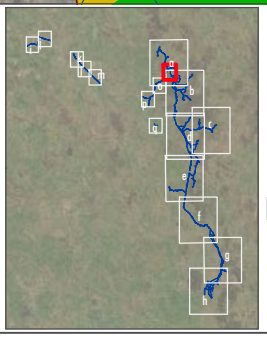


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

PCT, Condition in the Rye Park Wind Farm

- Zone 1 -289 - Moderate to Good
- Zone 5 -351 - Moderate to Good
- Zone 6 -351 - Moderate to Good - DNG
- Zone 7 -351 - Moderate to Good - Acacia Shrubland
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 9 -351 - Moderate to Good - Argyle Apple Forest
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.n

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

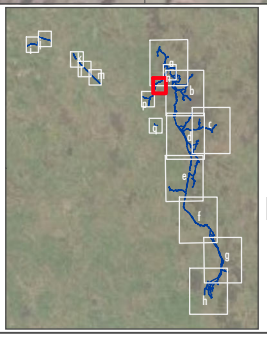
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 1 -289 - Moderate to Good
- Zone 3 -350 - Moderate to Good
- Zone 8 -351 - Moderate to Good - Sifton Bush Shrubland
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.o

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

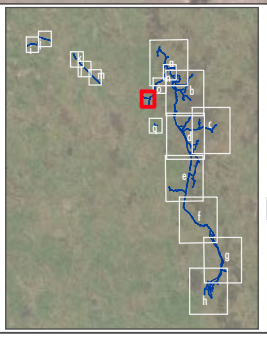
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 4 -350 - Moderate to Good - DNG
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



APPENDIX A.p

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

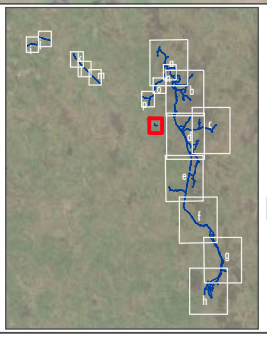
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

PCT, Condition in the Rye Park Wind Farm

- Zone 3 -350 - Moderate to Good
- Zone 10 -Non-native Vegetation
- Access Tracks/Roads



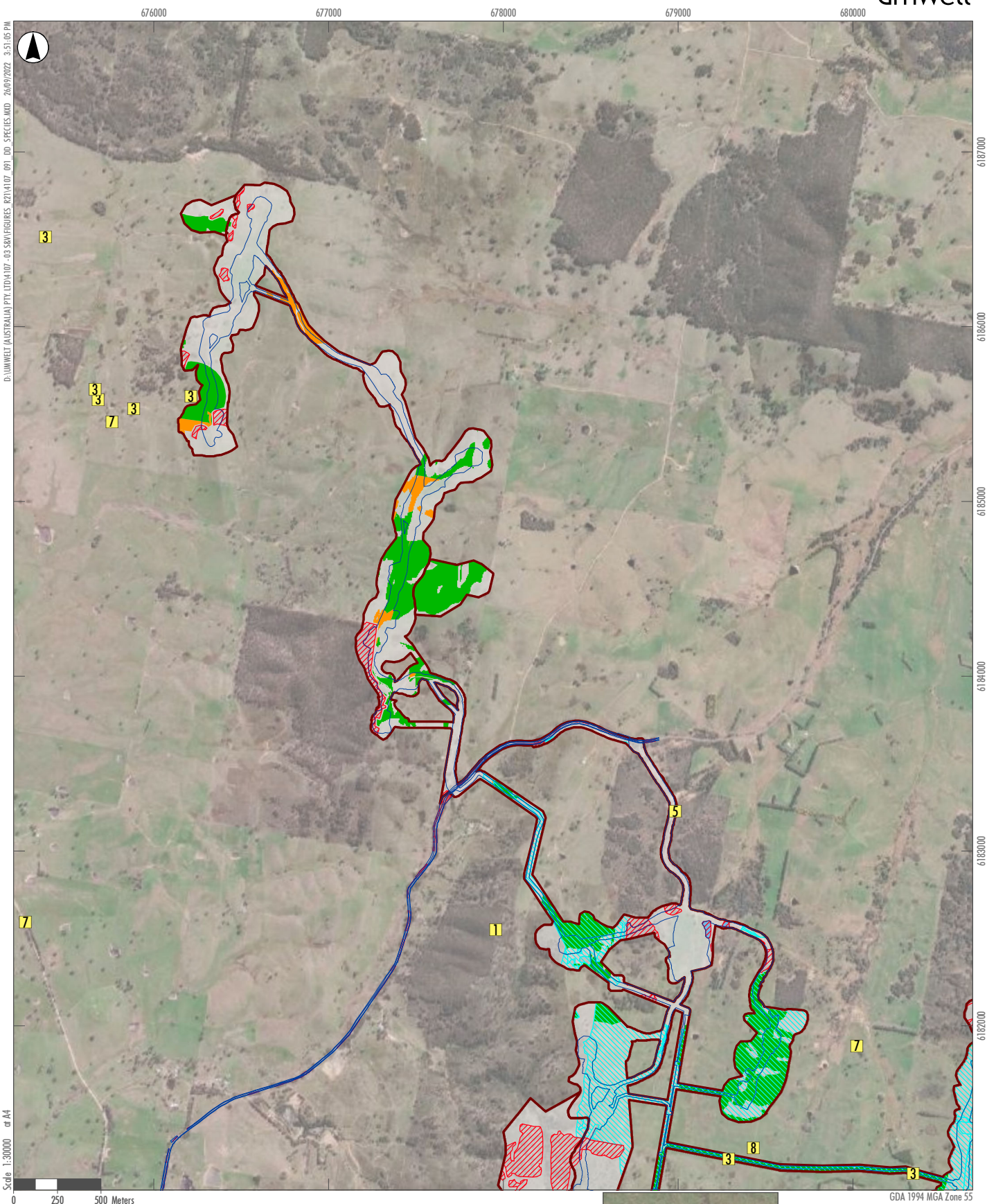
APPENDIX A.q

Plant Community Types and Vegetation Zones in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

APPENDIX B

Species Polygons



Legend

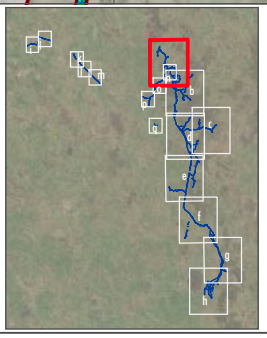
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth
- 5 Little Eagle
- 7 Superb Parrot
- 8 Striped Legless Lizard

Threatened Species Habitat

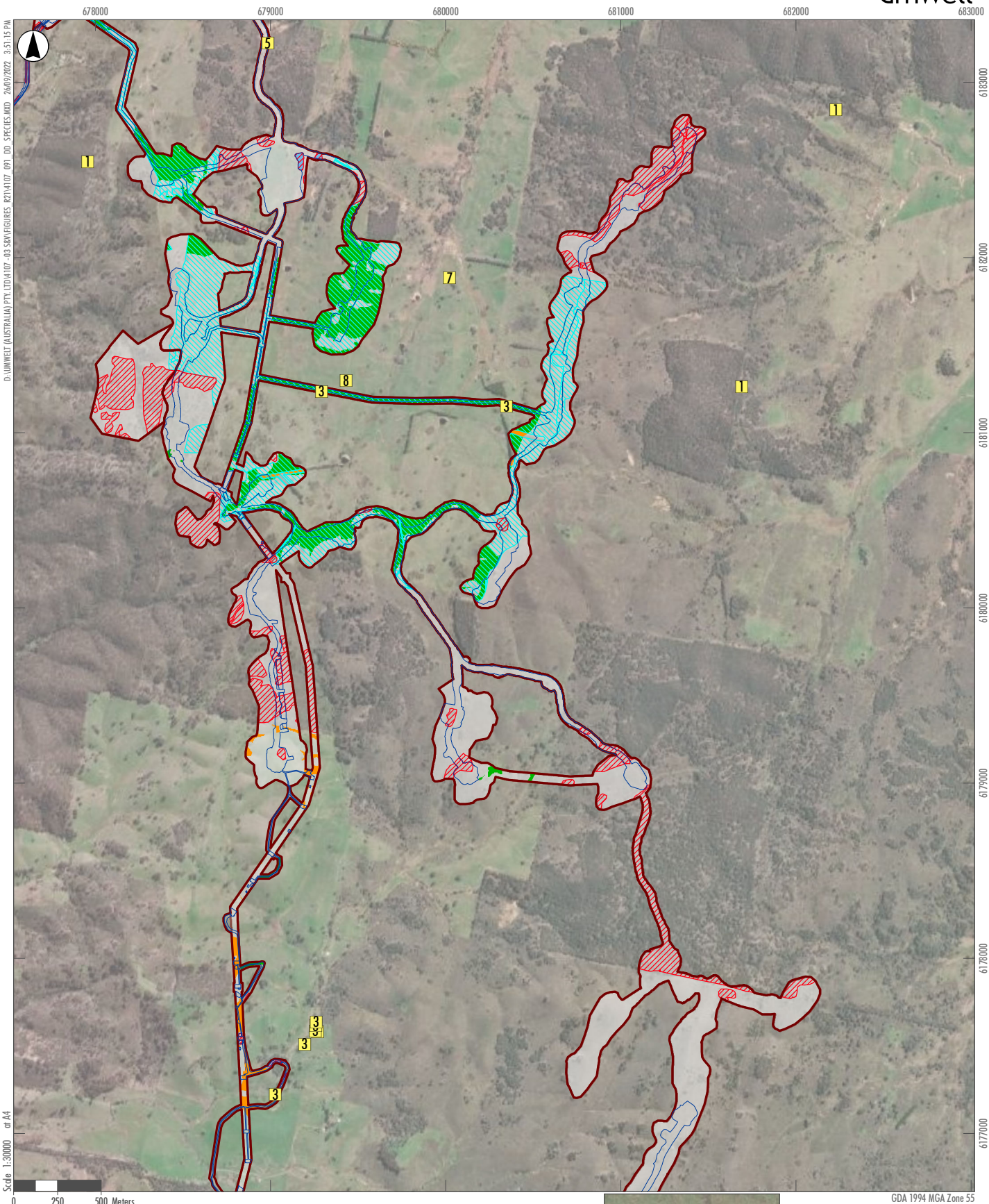
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.a

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

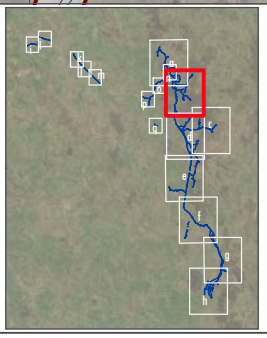
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth
- 5 Little Eagle
- 7 Superb Parrot
- 8 Striped Legless Lizard

Threatened Species Habitat

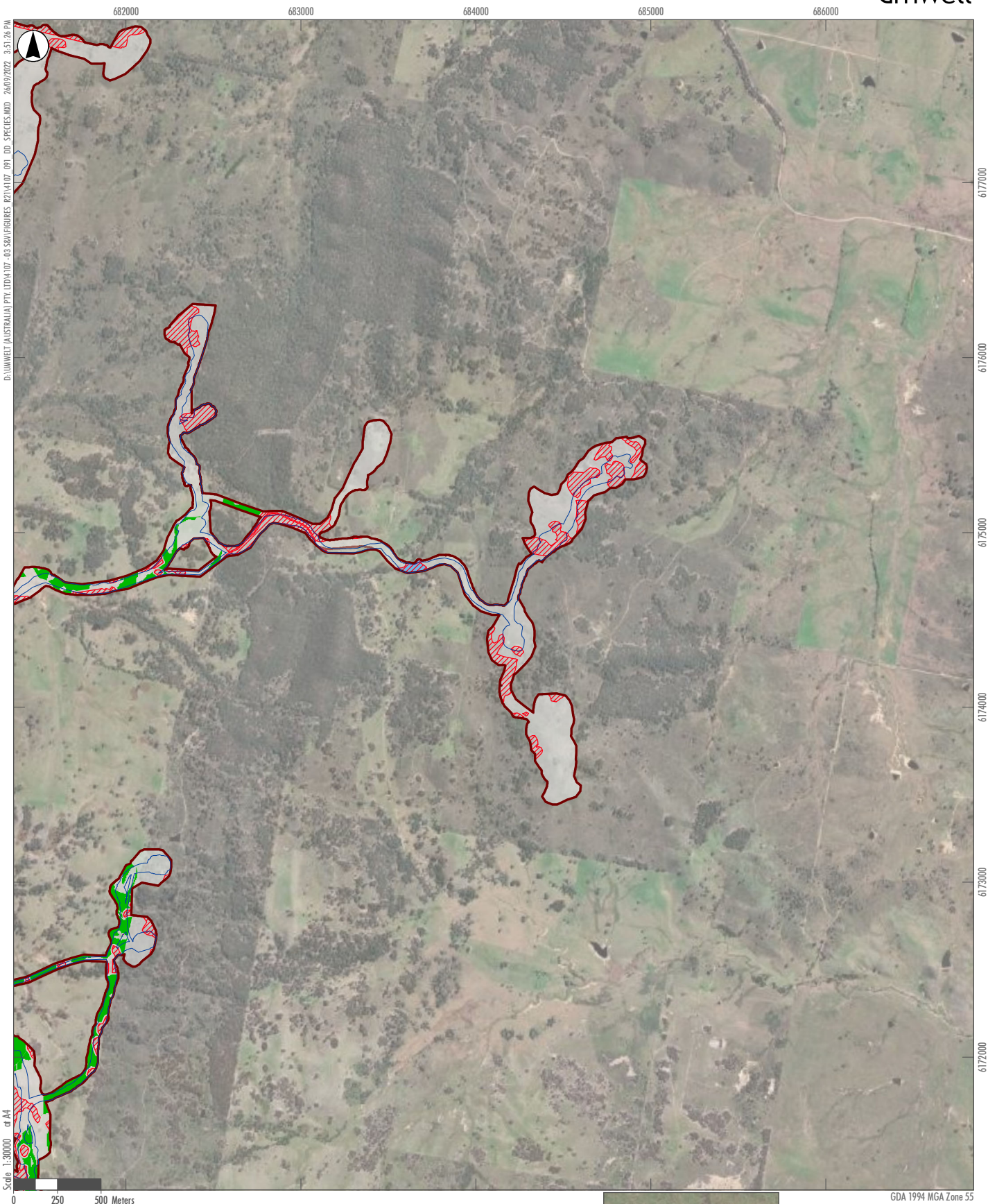
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.b

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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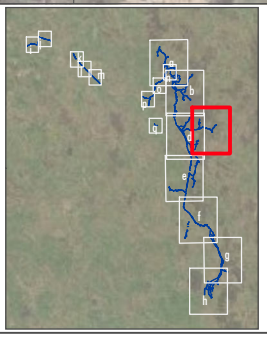
Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Habitat

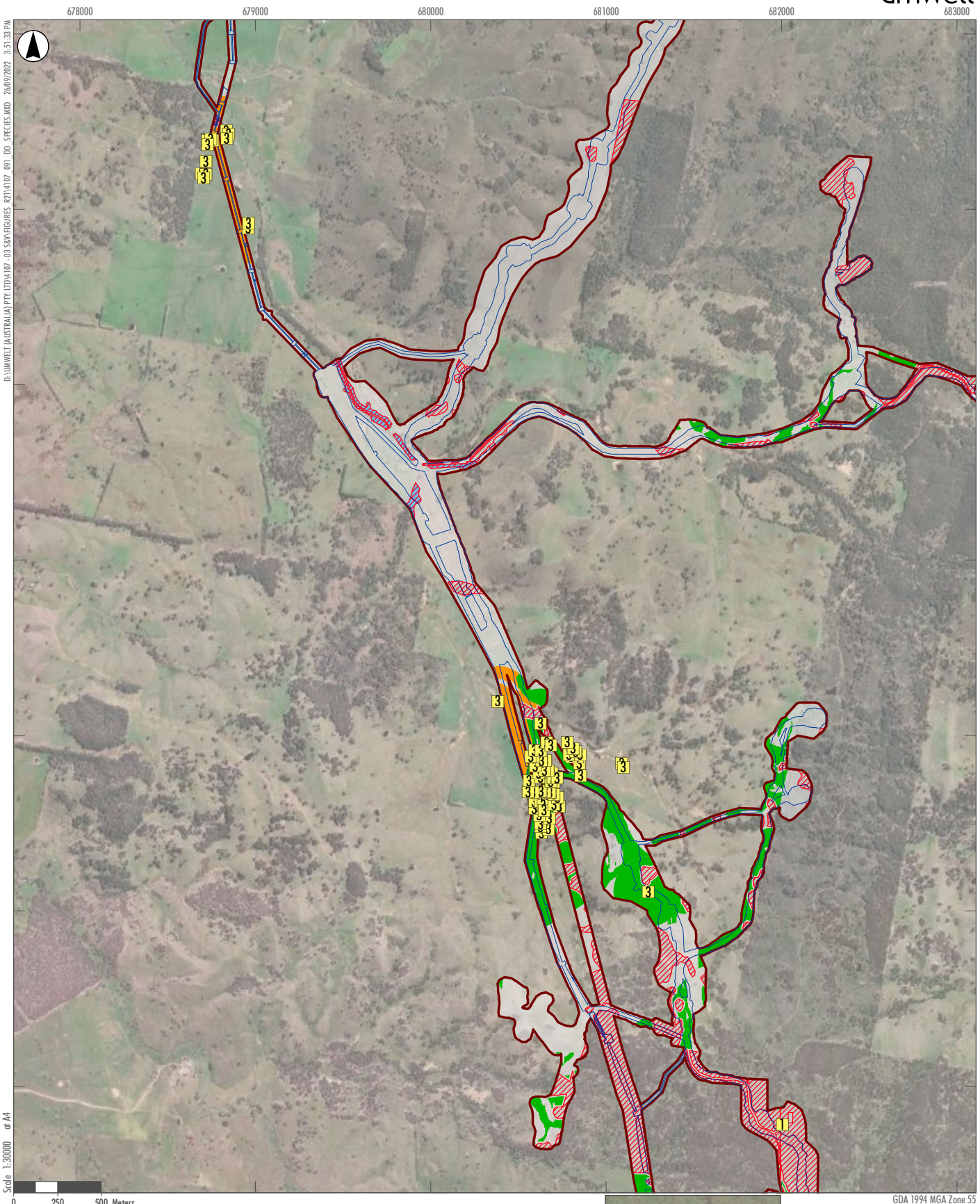
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.c

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

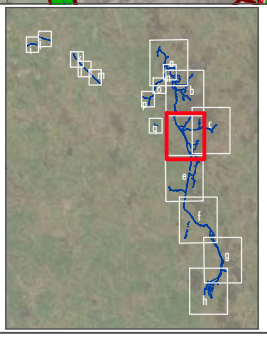
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 3 Golden Sun Moth

Threatened Species Habitat

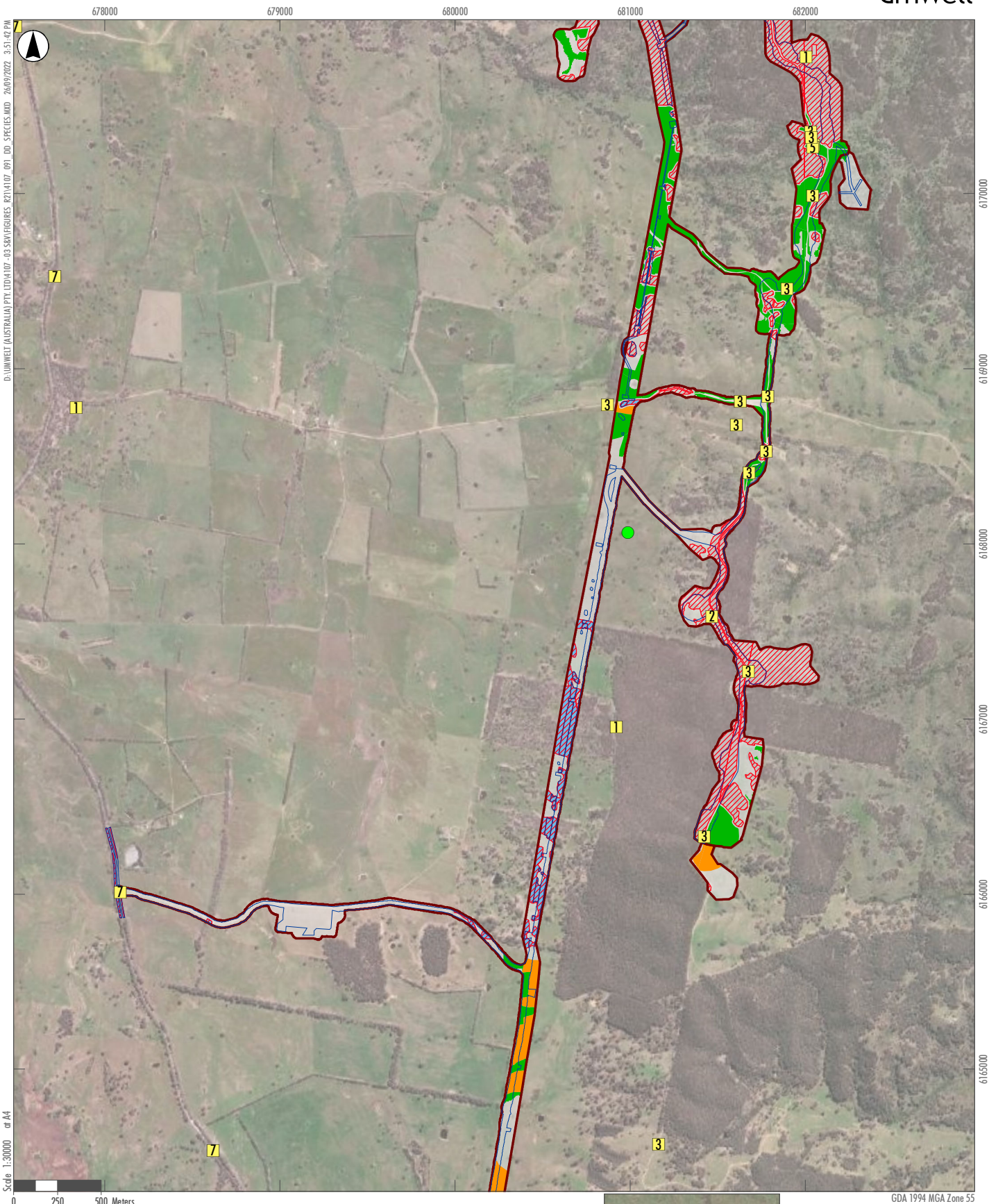
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.d

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

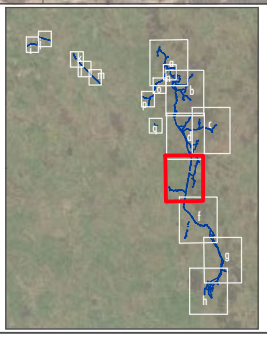
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 2 Squirrel Glider
- 3 Golden Sun Moth
- 5 Little Eagle
- 7 Superb Parrot
- Superb Parrot Nest Tree

Threatened Species Habitat

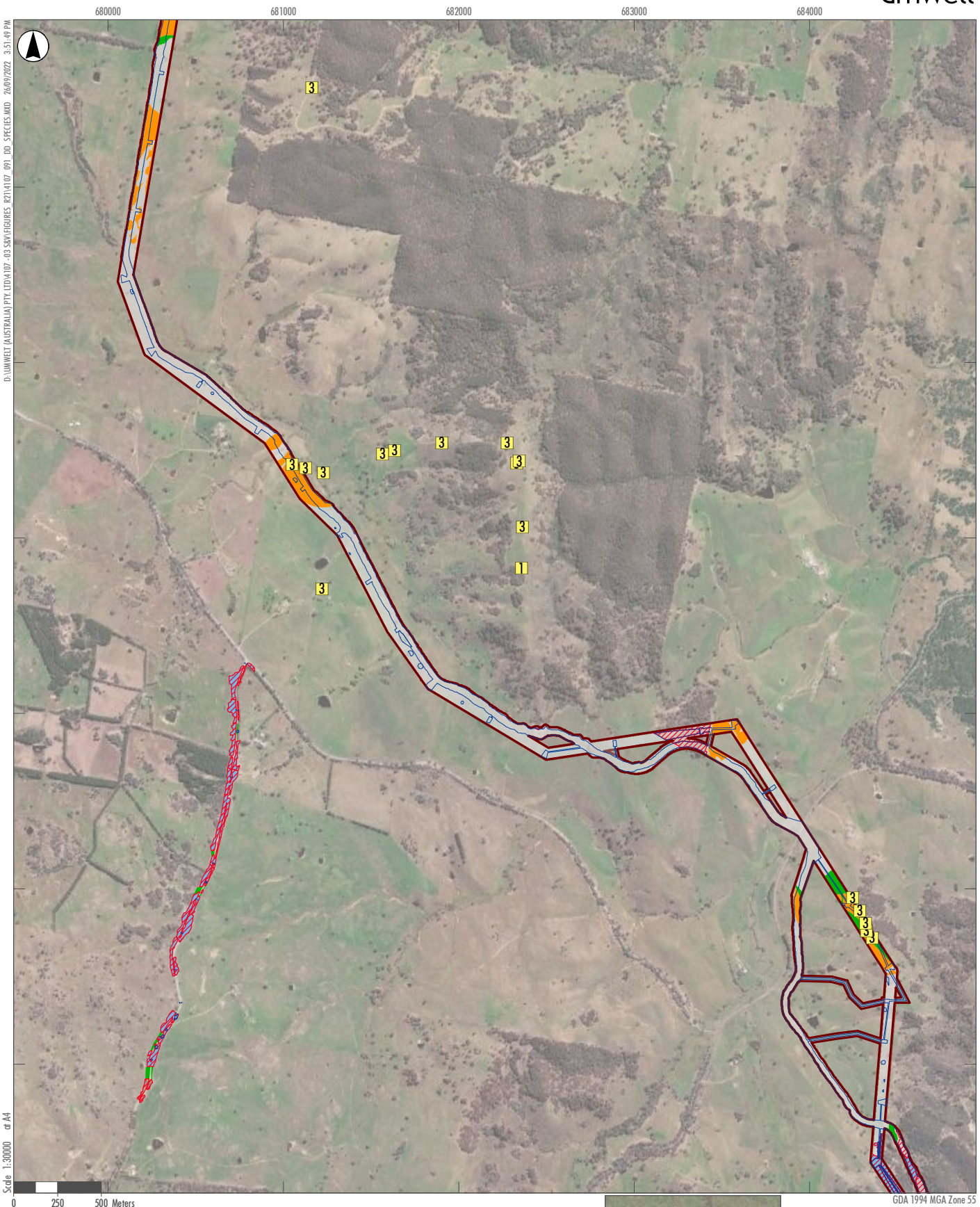
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.e

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

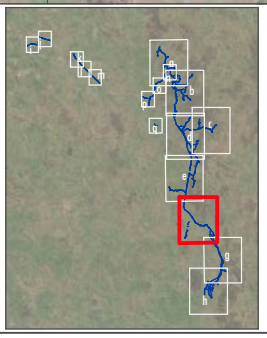
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- Glider Sp.
- Golden Sun Moth

Threatened Species Habitat

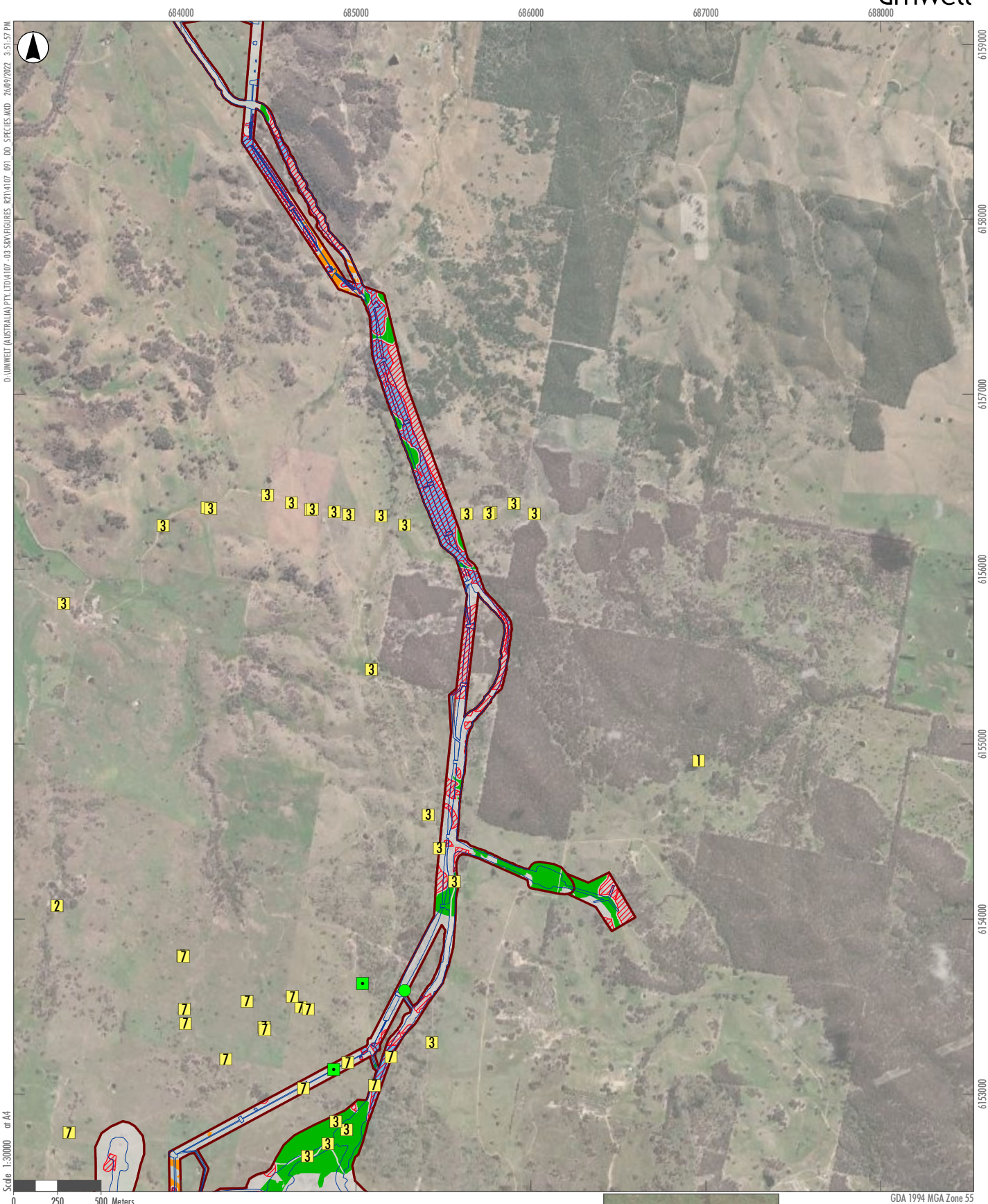
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.f

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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Legend

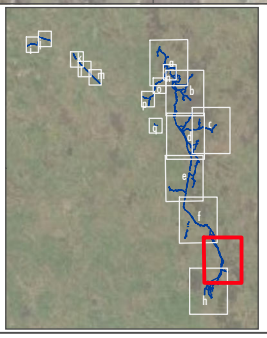
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 2 Squirrel Glider
- 3 Golden Sun Moth
- 7 Superb Parrot
- Potential Superb Parrot Nest Tree
- Superb Parrot Nest Tree

Threatened Species Habitat

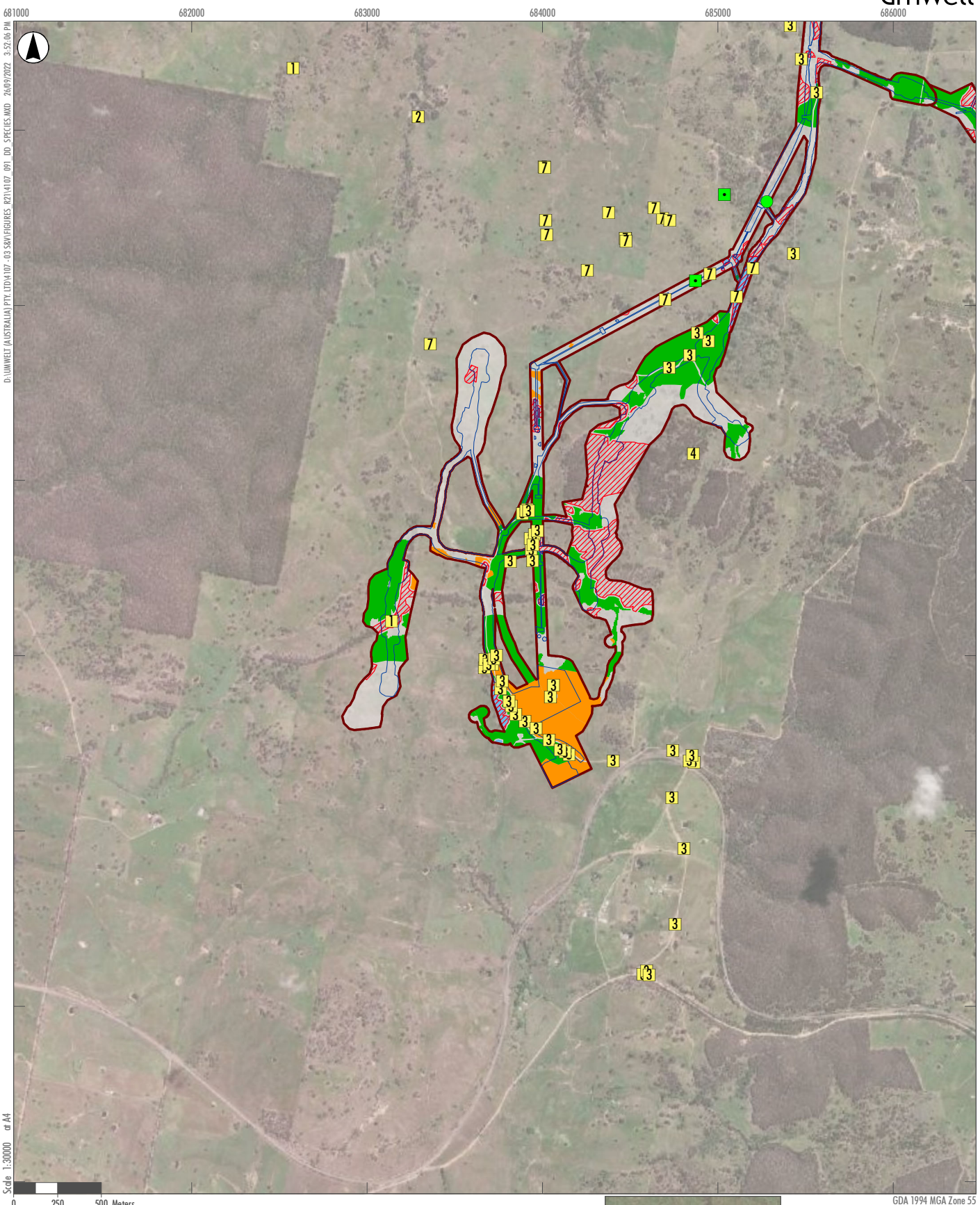
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.g

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

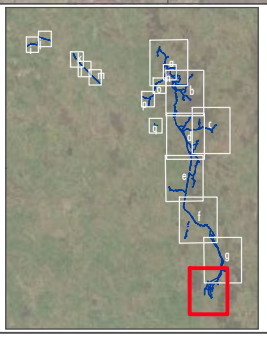
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Species Records

- 1 Glider Sp.
- 2 Squirrel Glider
- 3 Golden Sun Moth
- 4 Large bent-winged bat
- 7 Superb Parrot
- Potential Superb Parrot Nest Tree
- Superb Parrot Nest Tree

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.h

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

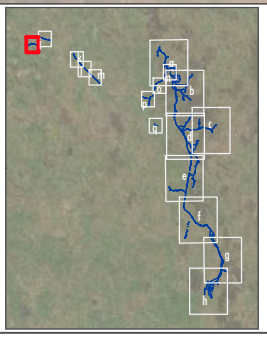
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.i

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

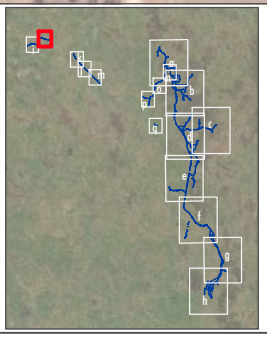
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.j

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

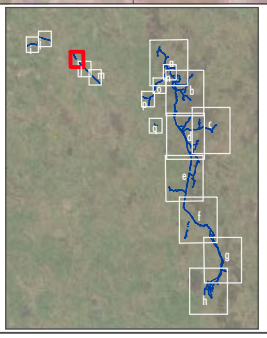
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.k

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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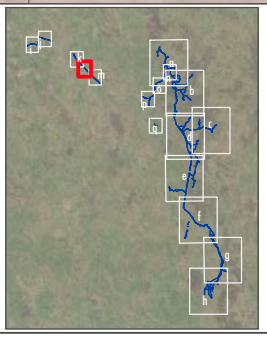
Scale 1:10000 at A4

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)



APPENDIX B.I

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

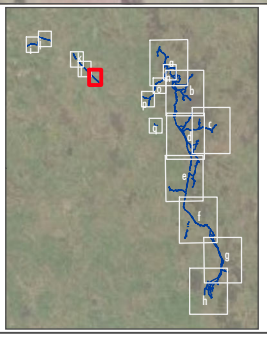
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

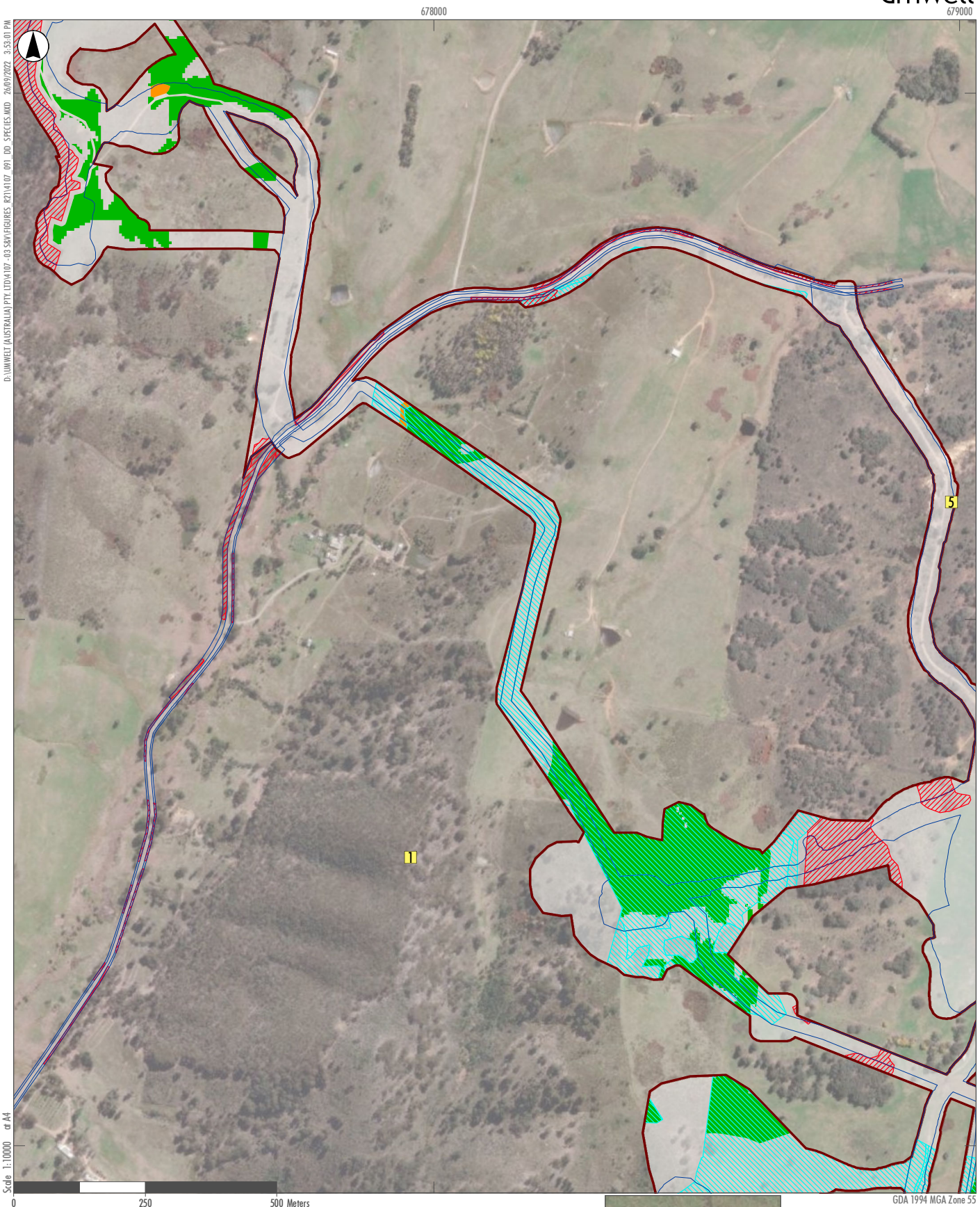
- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.m

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

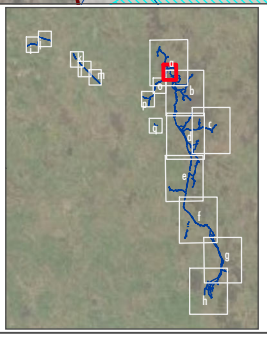
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor
- GSM Habitat - Native (VZ 4 and VZ 6)
- GSM Habitat - Non-native Vegetation (VZ 10)

Threatened Species Records

- 1 Glider Sp.
- 5 Little Eagle

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat



APPENDIX B.n

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

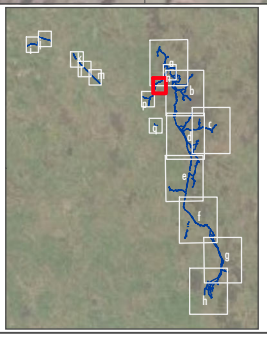
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat



APPENDIX B.o

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

Threatened Species Records

6 Southern Myotis

Threatened Species Habitat

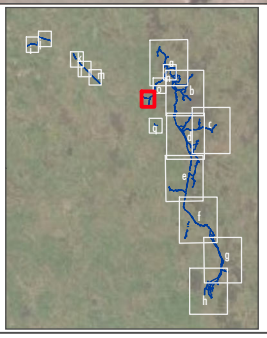
Southern Myotis Habitat

Squirrel Glider Habitat

Striped Legless Lizard Habitat

GSM Habitat - Non-native Vegetation (VZ 10)

Superb Parrot - Breeding Habitat



APPENDIX B.p

Threatened Species Habitat & Records in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

- Revised Pre-Construction Development Footprint

Threatened Species Records

- 7 Superb Parrot

Threatened Species Habitat

- Southern Myotis Habitat
- Squirrel Glider Habitat
- Striped Legless Lizard Habitat
- GSM Habitat - Non-native Vegetation (VZ 10)
- Superb Parrot - Breeding Habitat

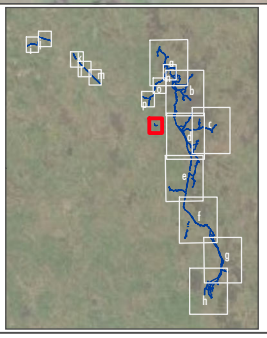
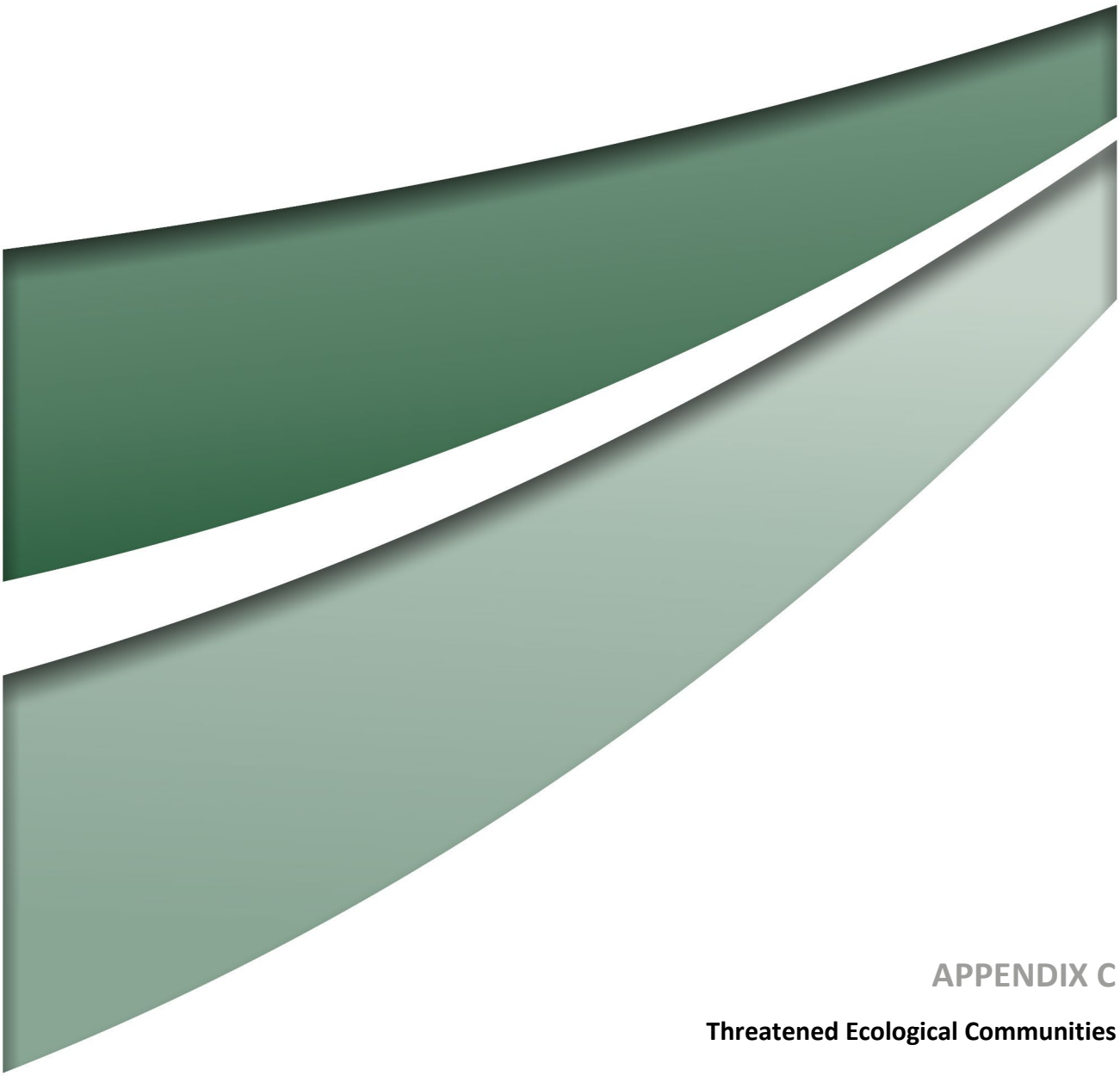


Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

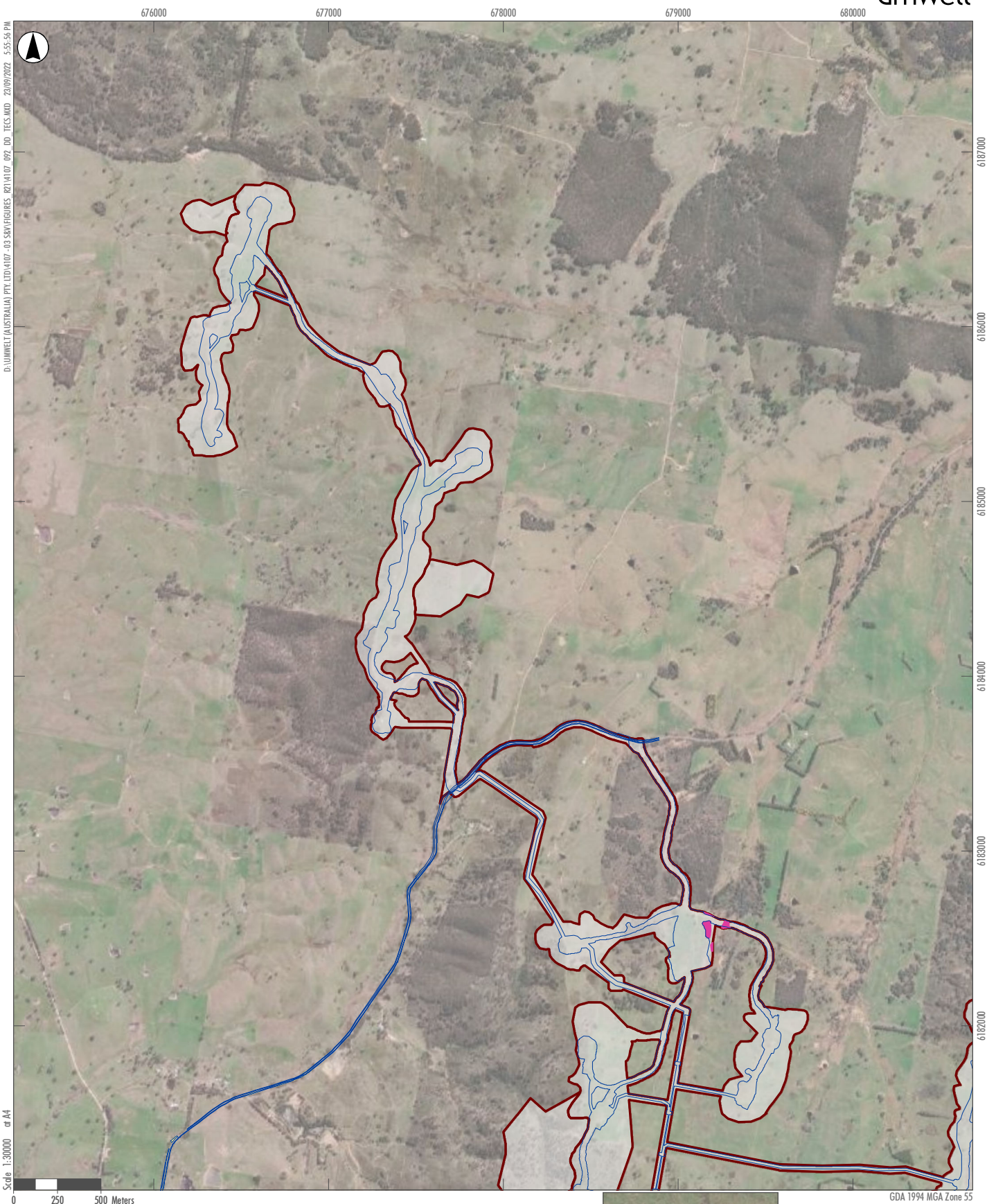
APPENDIX B.q

Threatened Species Habitat & Records in the Pre-Construction Development Footprint



APPENDIX C

Threatened Ecological Communities



Legend

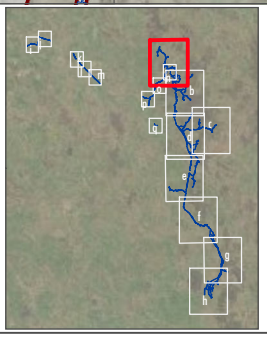
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

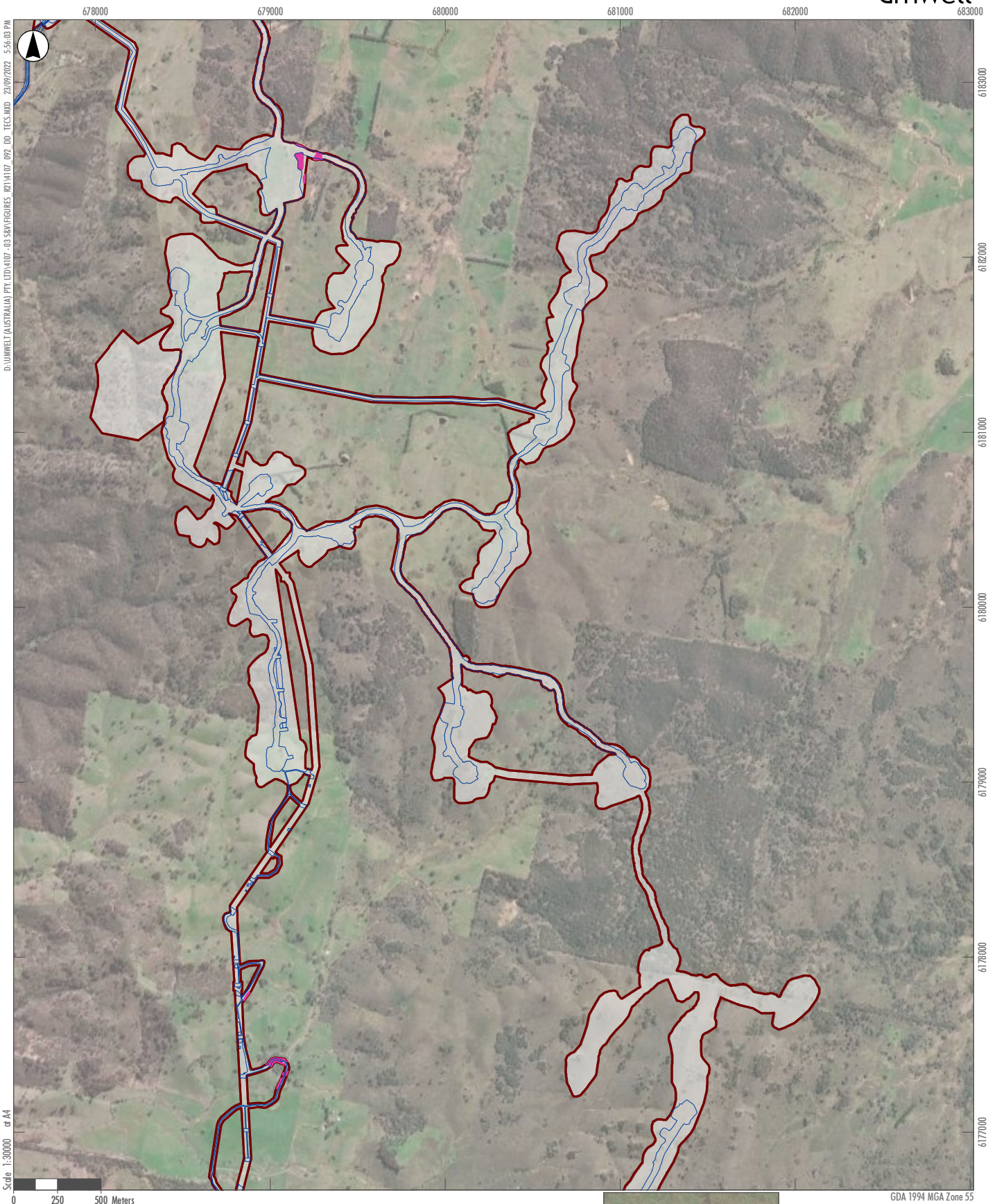
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.a

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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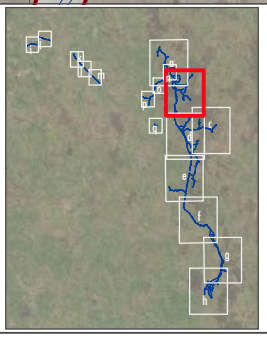
Scale 1:30000 at A4

Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act & EPBC Act)

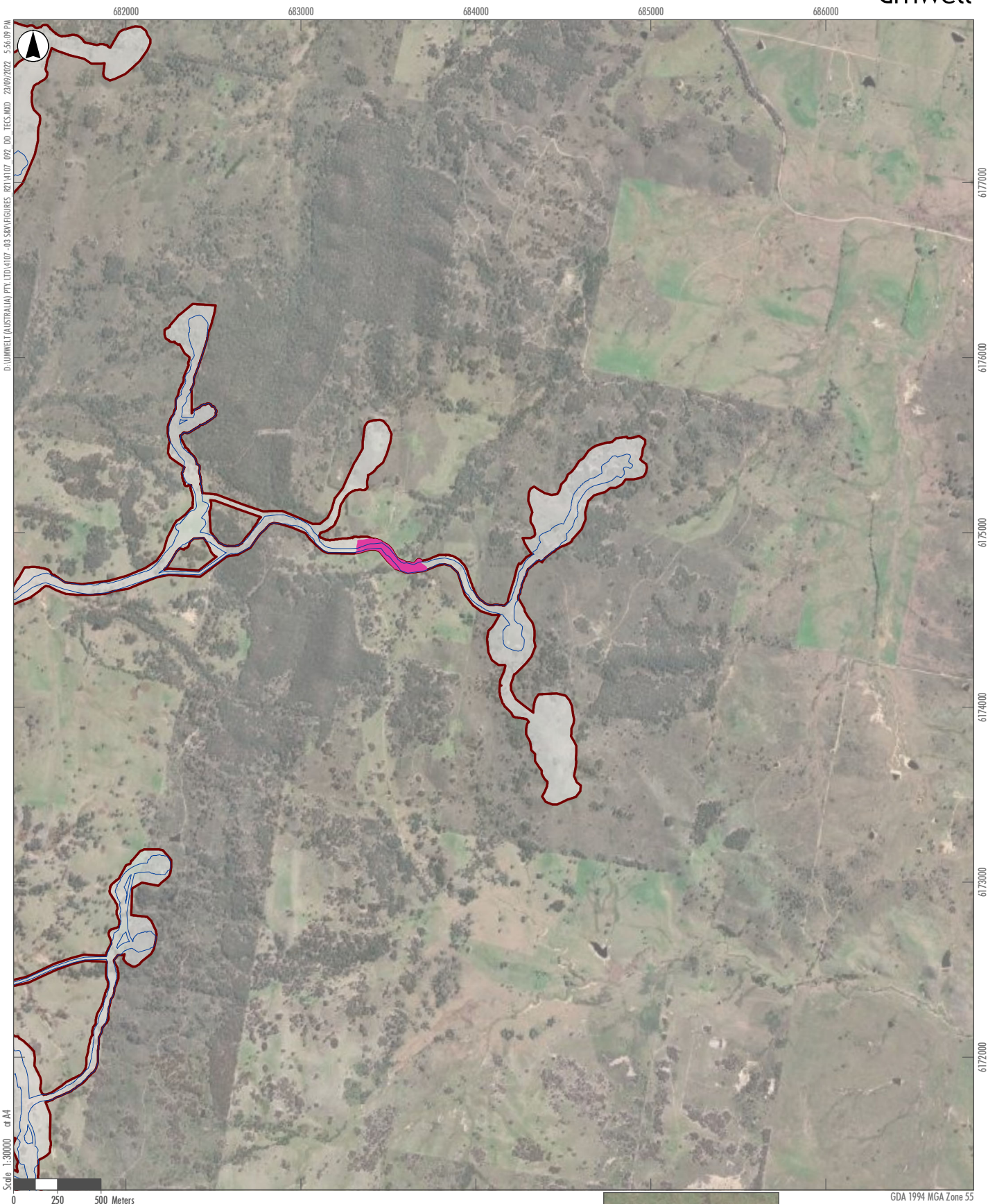
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.b

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

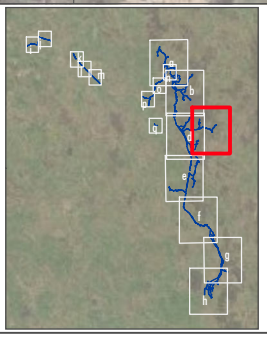


Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act & EPBC Act)

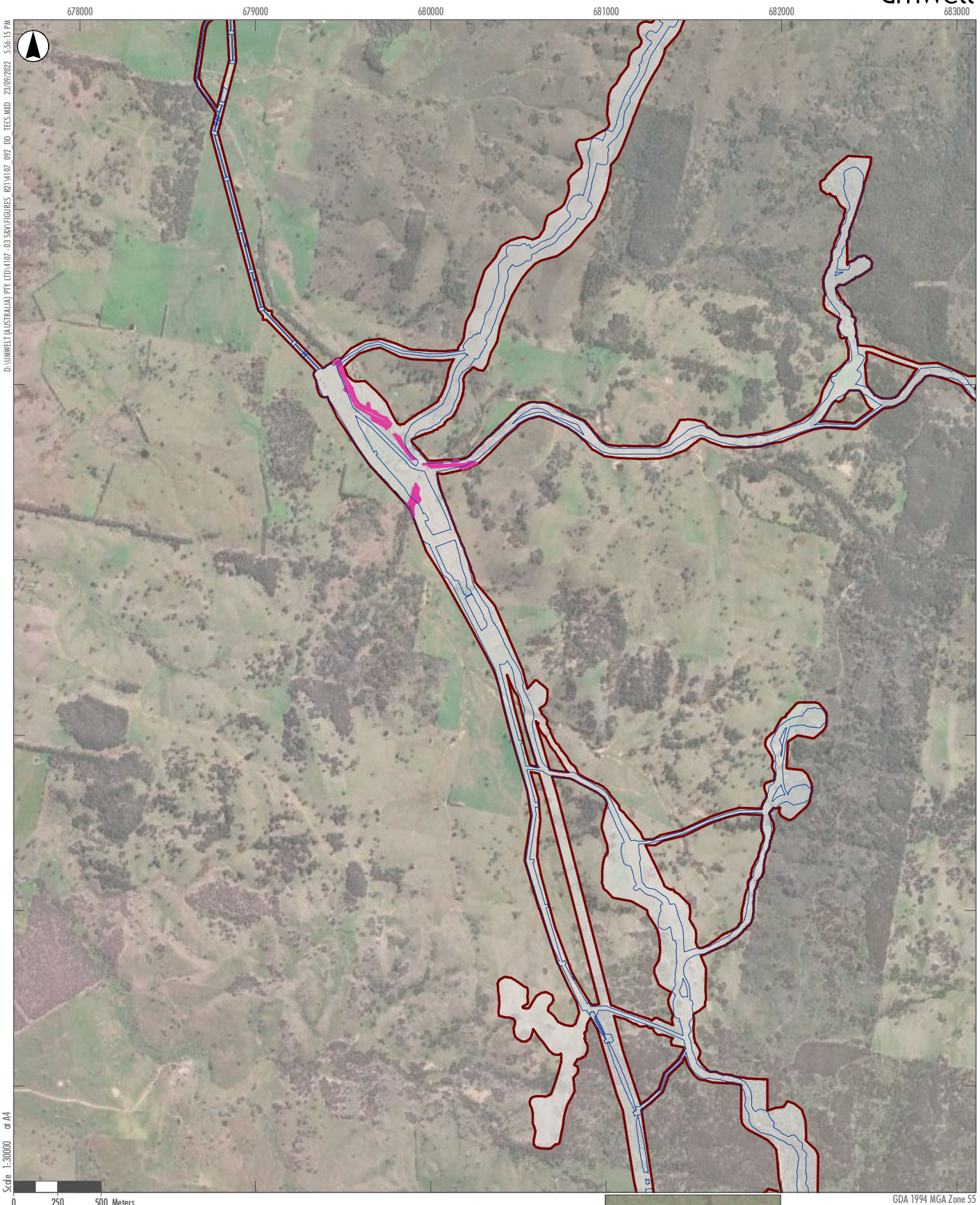
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.c

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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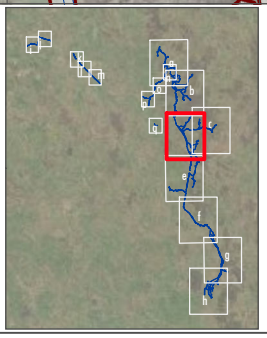
Legend

- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act & EPBC Act)

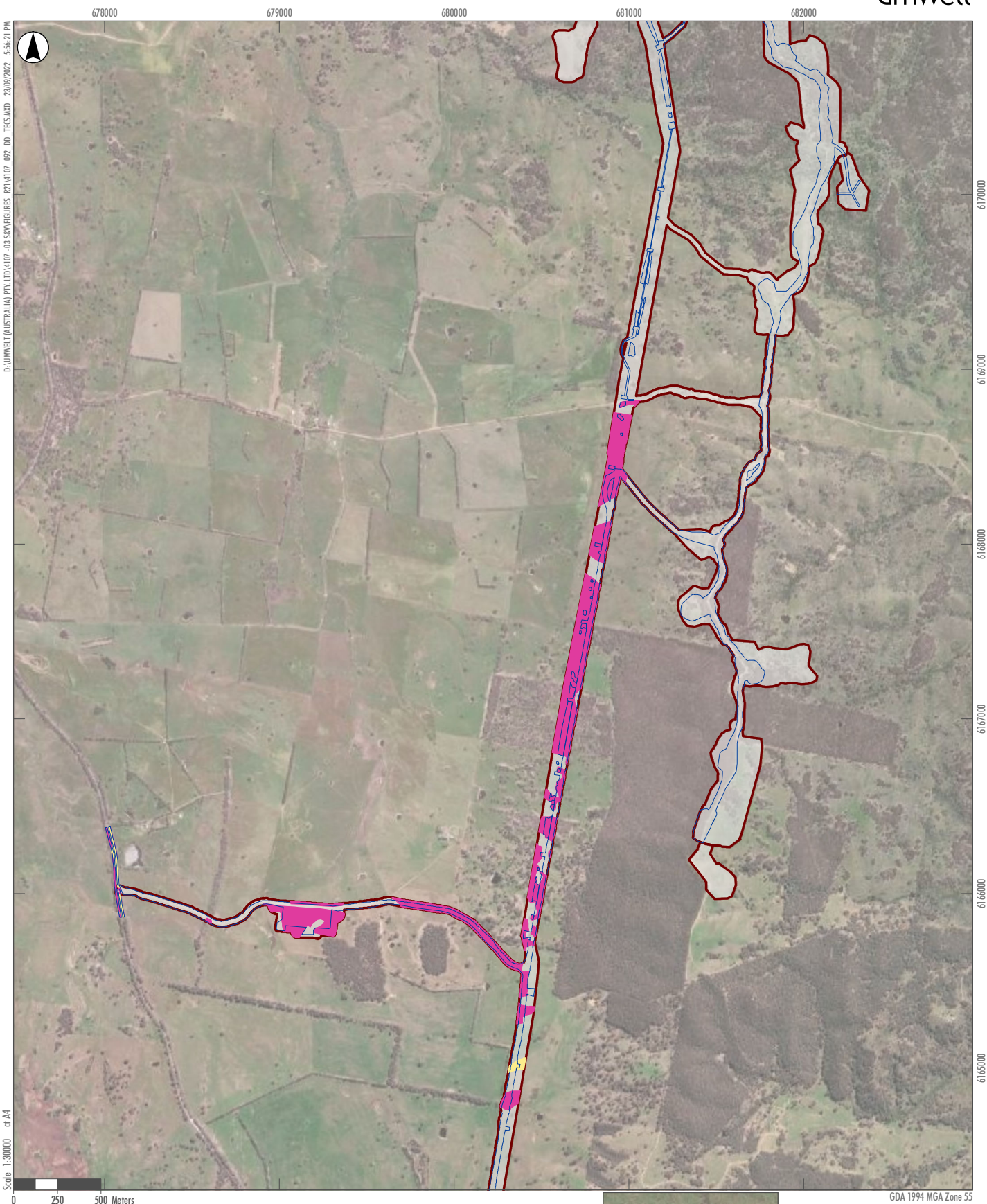
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.d

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

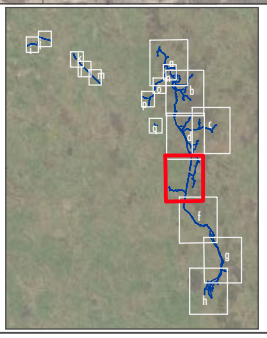
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

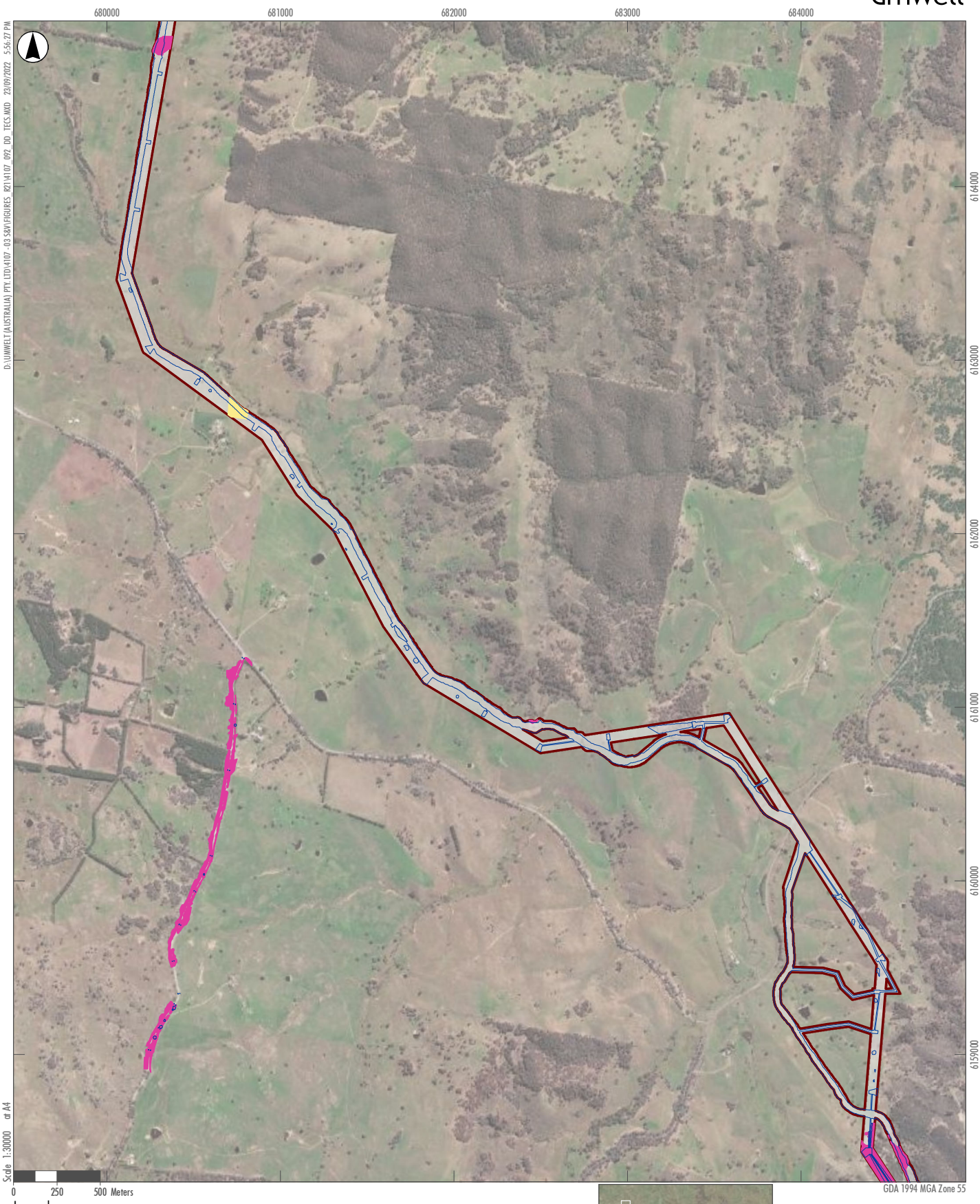
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.e

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



Legend

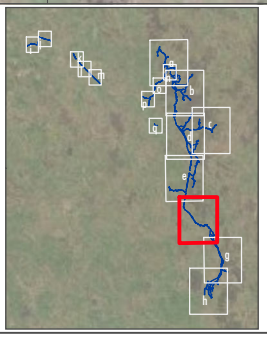
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.f

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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Legend

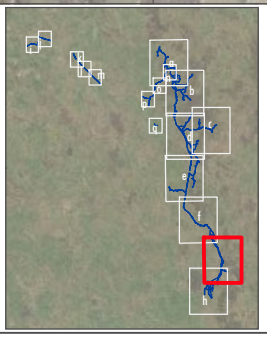
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

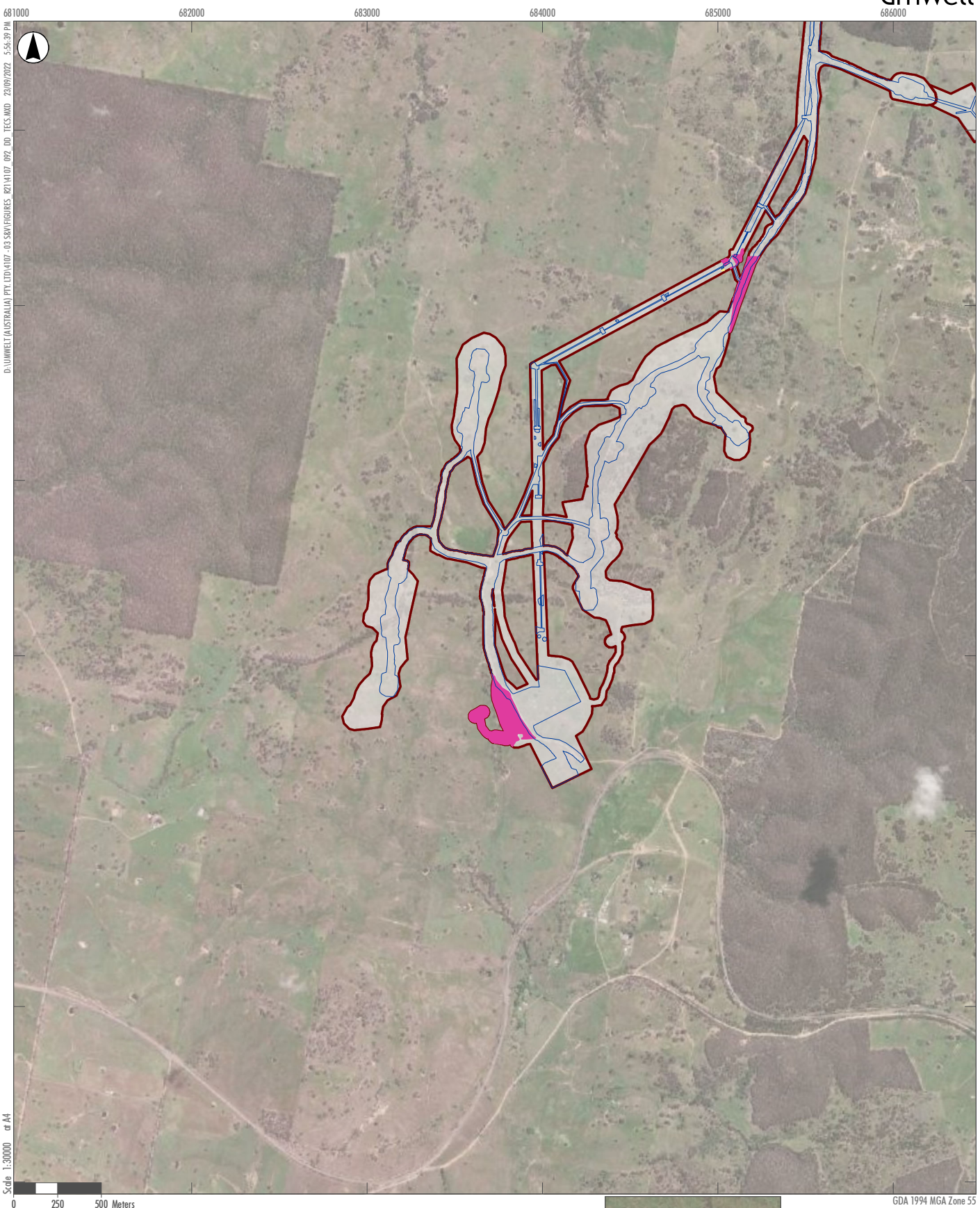
- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.g

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)



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Scale 1:30000 at A4

Legend

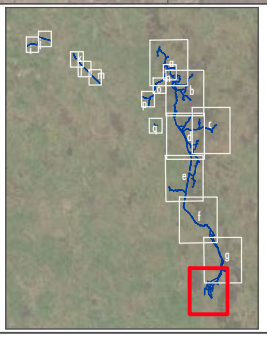
- Revised Pre-Construction Development Footprint
- Rye Park Wind Farm Development Corridor

Threatened Ecological Communities (BC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

- White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.h

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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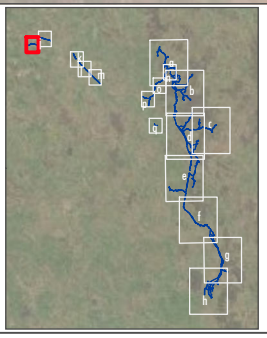
Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.i

Threatened Vegetation Communities in the Pre-Construction Development Footprint

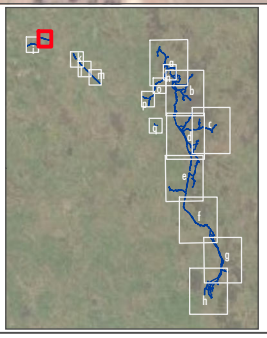
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.j

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

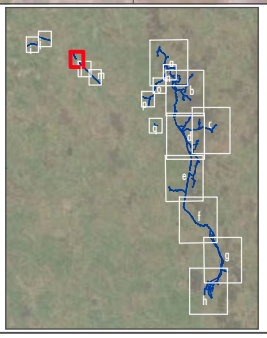
Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.k

Threatened Vegetation Communities in the Pre-Construction Development Footprint

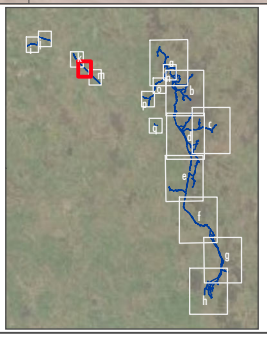
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act & EPBC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.I

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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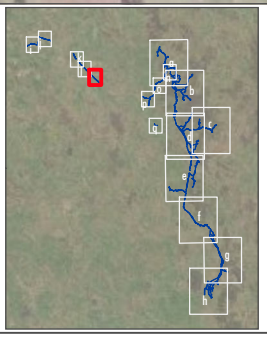
Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.m

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

APPENDIX C.n

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

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Legend

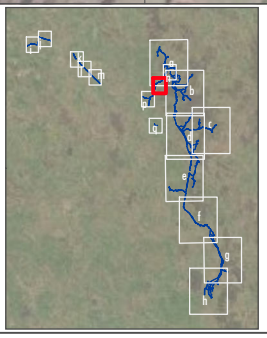
Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.o

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

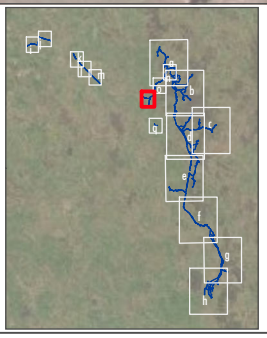
Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)

Threatened Ecological Communities (BC Act & EPBC Act)

White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act) / White Box - Yellow Box - Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC (EPBC Act)



APPENDIX C.p

Threatened Vegetation Communities in the Pre-Construction Development Footprint

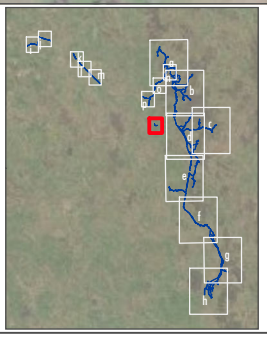
Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

Legend

Revised Pre-Construction Development Footprint

Threatened Ecological Communities (BC Act)

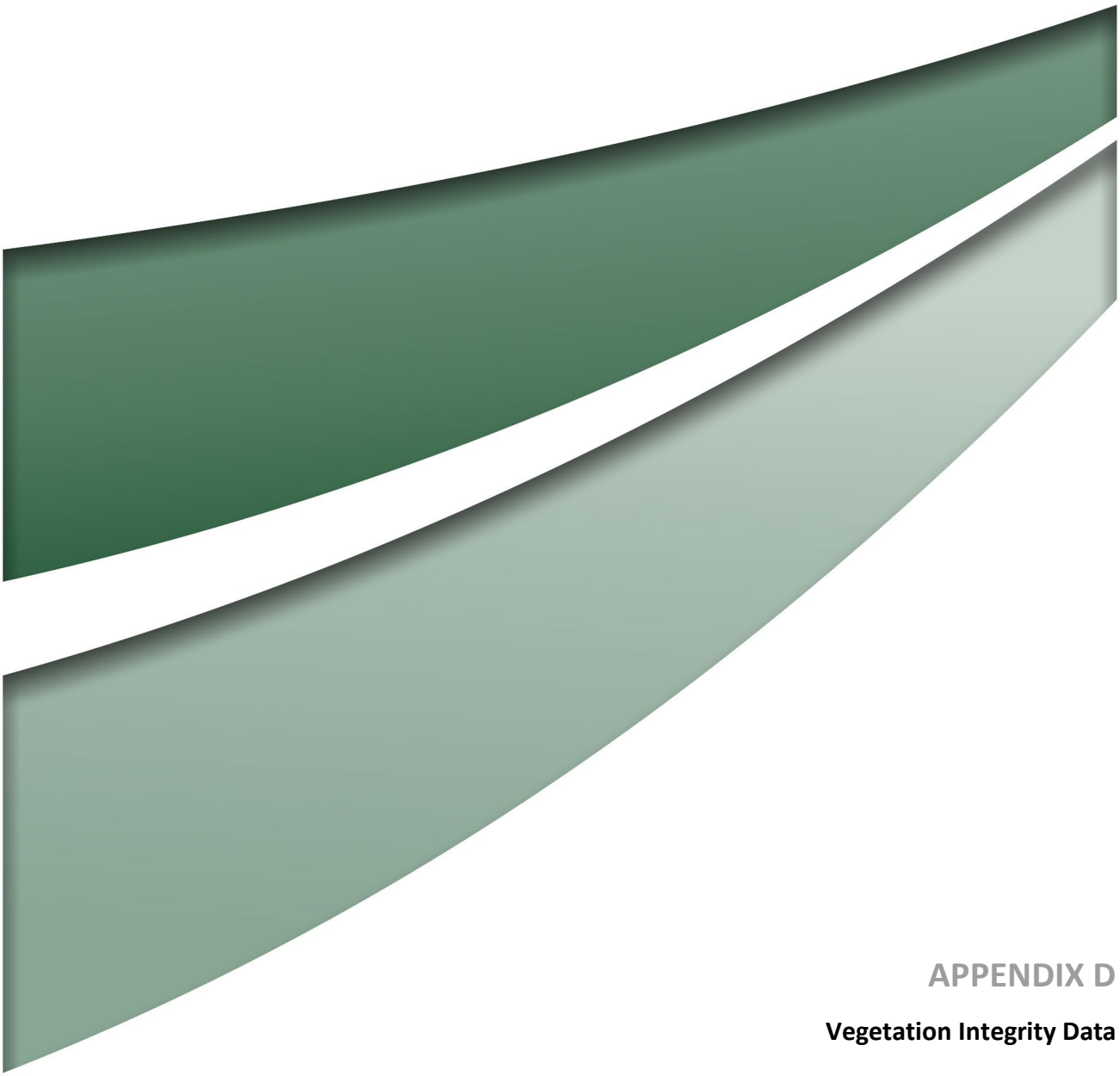
White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (BC Act)



APPENDIX C.q

Threatened Vegetation Communities in the Pre-Construction Development Footprint

Image Source: ESRI Basemap (2020) Data source: Geoscience Australia; Umwelt (2020); Rye Park Renewable Energy Pty Ltd (2020)

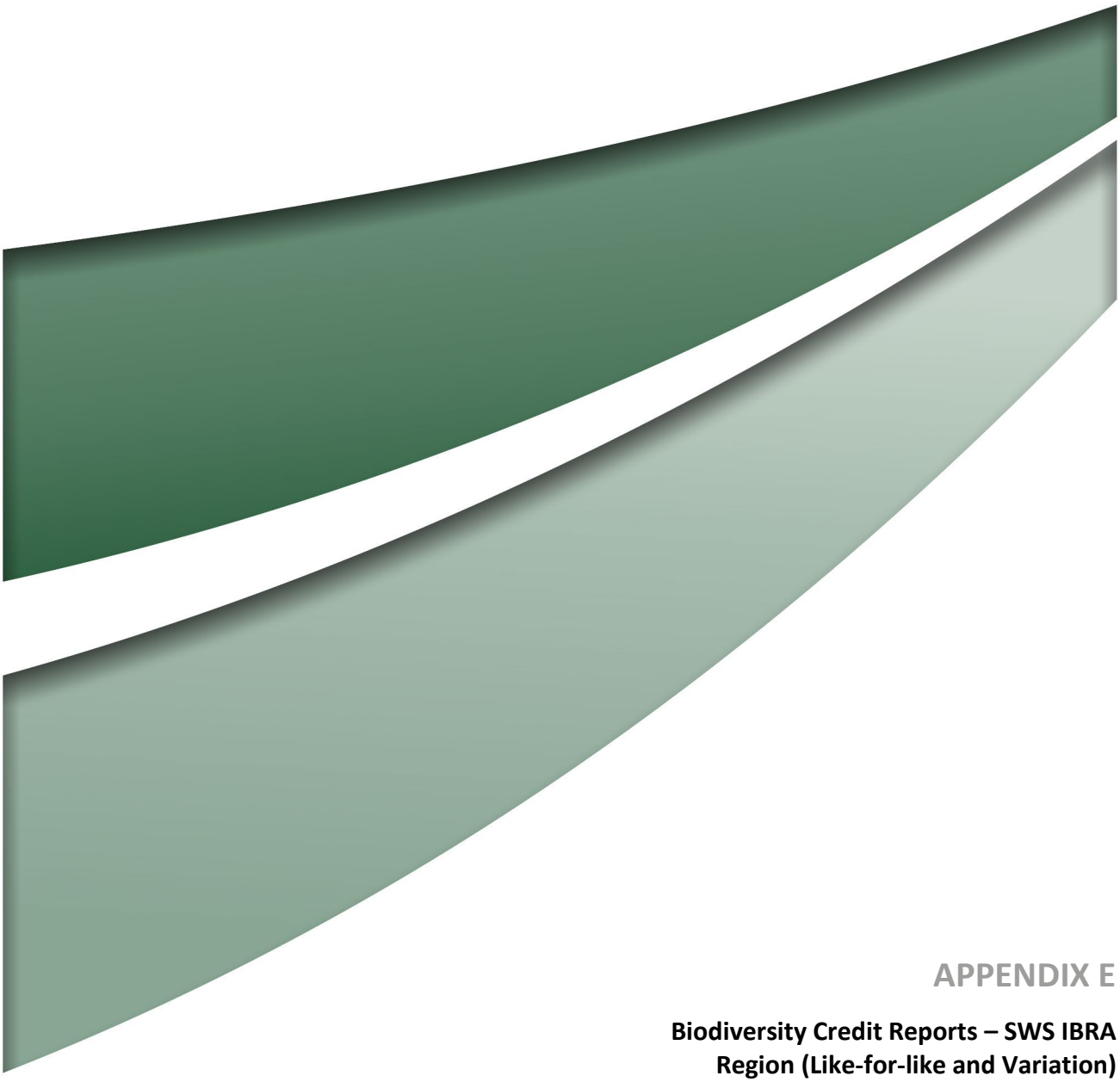


APPENDIX D

Vegetation Integrity Data

SWS IBRA																														
plot	pct	area	patchsize	conditionclass	zone	easting	northing	bearing	compTree	compShru	compGras	compForb	compFern	compOthe	strucTree	strucShrub	strucGrass	strucForbs	strucFerns	strucOther	funLargeTr	funHollow	funLitterC	funLenFall	funTreeSte	funTreeSte	funTreeSte	funTreeSte	funTreeSte	funTreeRe	funHighThreatExotic
4107Jan03	289	0.73	101	ModerateGood	55	677337	6182259	20	4	5	5	1	0	2	45.5	21	33	0	0	1.5	6	1	80.6	59	1	1	1	1	1	1	0
33	335	4.19	101	ModerateGood	55	676511	6185146	180	0	0	8	2	0	0	0	0	48.6	1	0	0	0	0	78	8	0	0	0	0	0	0	5.7
35	335	4.19	101	ModerateGood	55	680413	6173303	300	0	0	4	0	0	0	0	0	90.4	0	0	0	0	0	40	0	0	0	0	0	0	0	1.4
4107Feb02	335	4.19	101	ModerateGood	55	680381	6162996	280	0	0	8	0	0	0	0	0	16.5	0	0	0	0	0	97	1	0	0	0	0	0	0	1.7
Mod2_P2	335	4.19	101	ModerateGood	55	678950	6178149	157	0	0	5	2	0	0	0	0	83.7	0.9	0	0	0	0	5	38	0	0	0	0	0	0	7
1	350	8.13	101	Moderate	55	685138	6153110	190	2	5	8	12	0	0	15	35	79	13	0	0	1	1	9	26	1	1	0	1	1	1	2
15	350	8.13	101	Moderate	55	685682	6157941	180	2	1	5	3	0	1	30	1	9	1.2	0	5	1	1	82	144	1	1	1	1	1	1	0
6	350	8.13	101	Moderate	55	680523	6166010	195	3	0	4	1	0	0	30.1	0	10.7	0.2	0	0	1	0	48	10	0	1	1	1	1	1	5
31	350	8.13	101	Moderate	55	681050	6168809	250	3	0	13	0	0	0	32	0	88.2	0	0	0	3	4	42	48	0	0	0	1	1	1	0.4
43	350	8.13	101	Moderate	55	680670	6166008	45	3	0	7	3	0	1	45	0	12.5	0.3	0	1	2	3	74	70	1	1	1	0	1	1	1
DMRP1	350	8.13	101	Moderate	55	685426	6156413	160	1	1	9	9	0	0	65	0.8	5.7	1.8	0	0	4	4	88	33	1	1	1	1	1	1	0.3
P03	350	8.13	101	Moderate	55	675609	6175903	130	3	0	2	0	0	1	30	0	2	0	0	1	2	0	70.8	6	1	1	1	1	1	1	3
Mod2_P3	350	8.13	101	Moderate	55	679030	6177443	120	3	3	6	3	1	1	30.1	2.1	22	3.6	0.6	5	6	1	17	57	1	1	1	1	1	1	1.5
11	350	10.42	101	DNG	55	683860	6150622	180	0	0	10	4	0	0	0	0	49	5.2	0	0	0	0	23	0	0	0	0	0	0	1	4.4
32	350	10.42	101	DNG	55	679998	6168665	260	0	0	7	1	0	0	0	0	71	1	0	0	0	0	93.8	0	0	0	0	0	0	1	10.4
DMRP3	350	10.42	101	DNG	55	680787	6163358	180	1	2	8	9	0	2	0.1	0.4	72.4	1	0	0.2	0	0	2.6	0	0	0	0	0	0	1	0.2
4107Jan02	350	10.42	101	DNG	55	665473	6183884	300	1	0	7	3	1	3	1	0	44.9	3.3	1	0.03	0	0	3.4	1	0	0	1	0	0	1	5.01
4107Feb03	350	10.42	101	DNG	55	679126	6165854	109	0	0	5	0	0	0	0	0	5.5	0	0	0	0	0	73.6	0	0	0	0	0	0	1	0.1
16	351	35.67	101	ModerateGood_Remnant	55	684963	6158479	180	5	7	7	3	0	1	34.5	11.2	31.2	5.6	0	2	0	0	58	119	1	1	1	1	0	1	0
20	351	35.67	101	ModerateGood_Remnant	55	682300	6162751	180	4	5	5	7	0	2	55.4	35.8	10.4	5	0	3	0	3	25	246	1	1	1	1	0	1	0
23	351	35.67	101	ModerateGood_Remnant	55	681953	6170713	225	5	3	3	2	0	1	50.4	6	45	3.4	0	0.4	0	10	80.4	207	1	1	1	1	0	1	0
26	351	35.67	101	ModerateGood_Remnant	55	381032	6178037	190	2	8	5	5	0	0	60	11.3	27.6	3.2	0	0	0	3	78	29.5	1	1	1	1	0	1	0
8	351	35.67	101	ModerateGood_Remnant	55	676372	6185514	190	4	0	6	1	0	0	30	0	26.3	0.1	0	0	4	8	41	154	0	0	1	1	1	1	0.5
13	351	35.67	101	ModerateGood_Remnant	55	684405	6151972	180	4	5	7	8	0	1	42	12.4	33.4	10.3	0	5	8	2	24	49	1	1	1	1	1	1	0
42	351	35.67	101	ModerateGood_Remnant	55	680742	6167093	130	2	2	5	2	0	0	40	0.7	5.1	0.2	0	0	2	2	87	54	1	1	1	1	0	1	0
J3	351	35.67	101	ModerateGood_Remnant	55	678106	6181384	13	1	7	12	8	1	1	35	38.5	23.5	1.2	0.5	0.1	1	1	39	147	0	1	0	1	1	0	0
Mod2_P9	351	35.67	101	ModerateGood_Remnant	55	685555	6155291	48	4	3	7	6	0	1	38	1.3	38.1	3.7	0	0.3	6	5	48	134	1	1	1	1	1	0	0.5
21	351	112.4	101	DNG	55	681742	6166819	180	1	0	4	1	0	0	0.5	0	31.4	1	0	0	0	0	84	92	0	0	0	0	0	1	10
30	351	112.4	101	DNG	55	682001	6169793	320	0	1	6	2	0	0	0	1	36.8	0.8	0	0	0	0	2	0	0	0	0	0	0	1	0
12	351	112.4	101	DNG	55	684413	6151319	180	0	1	9	4	0	0	0	0.8	54.8	10.1	0	0	0	0	14.6	0	0	0	0	0	0	1	1
14	351	112.4	101	DNG	55	683582	6152388	180	0	0	6	4	0	0	0	0	50	1.6	0	0	0	1	29	73	0	0	0	0	0	1	25.4
DMRP2	351	112.4	101	DNG	55	683270	6160479	180	0	1	10	1	0	0	0	0.6	61	0.3	0	0	0	0	6	0	0	0	0	0	0	1	0.2
4107Feb04	351	112.4	101	DNG	55	681419	6174987	333	0	0	11	2	0	0	0	0	48.5	0.2	0	0	0	0	85	2	0	0	0	0	0	1	0
J1	351	112.4	101	DNG	55	676329	6186659	340	0	0	8	1	1	1	0	0	77.6	0.5	0.1	0.1	0	0	1	0	0	0	0	0	0	0	0.2
J2	351	112.4	101	DNG	55	677818	6184525	202	0	1	8	2	1	0	0	0.3	62.4	0.2	1	0	0	0	0	0	0	0	0	0	0	0	1
J7	351	112.4	101	DNG	55	684124	6159902	136	0	1	9	1	0	0	0	0.2	90.1	0.1	0	0	0	0	0	2.4	0	0	0	0	0	0	0.6
J8	351	112.4	101	DNG	55	686441	6154120	270	0	2	8	4	0	0	0	0	56.3	0.7	0	0	0	0	2	0	0	0	0	0	0	0	0.2
Mod2_P1	351	112.4	101	DNG	55	679007	6178474	17	0	4	5	3	1	0	0	1.4	41.5	1.9	0.5	0	0	0	8	0	0	0	0	0	0	0	15.2
Mod2_P5	351	112.4	101	DNG	55	681723	6168408	117	0	0	3	1	0	0	0	0	60	0.4	0	0	0	0	3	0	0	0	0	1	0	0	7
10	351	4.15	101	ModerateGood_Acacia	55	682222	6173120	225	1	6	7	8	1	1	20	16.1	80.8	1.3	0.3	0.1	0	0	14.4	21	0	0	0	0	0	1	0
24	351	4.15	101	ModerateGood_Acacia	55	681468	6171179	180	1	6	8	4	1	1	25	18.3	40.4	2.2	0.4	0.5	1	3	35	45	1	1	1	1	1	1	0
36	351	4.15	101	ModerateGood_Acacia	55	685218	6153457	180	1	2	4	0	1	0	45	10.4	35	0	0.4	0	0	0	48.2	8	1	1	1	0	0	1	0
J4	351	4.15	101	ModerateGood_Acacia	55	682252	6170078	330	1	4	7	4	1	1	6	7.5	76.8	0.6	0.2	0.3	0	0	25	0	1	1	1	0	0	1	0.2
Mod2_P7	351	4.15	101	ModerateGood_Acacia	55	681323	6170998	205	3	4	6	7	1	1	14.1	1.1	70.4	16.5	0.1	0.5	0	0	18.6	175	1	1	1	1	0	0	0
18	351	49.37	101	Sifton	55	686146	6156121	355	1	1	4	0	0	0	1	30	21.4	0	0	0	0	0	15.8	37	0	0	0	0	0	0	2.4
28	351	49.37	101	Sifton	55	678940	6180213	175	2	4	6	3	0	0	11	69	4.3	0.3	0	0	0	0	41	0.5	0	0	0	0	0	0	0
29	351	49.37	101	Sifton	55	680685	6181271	100	0	5	7	1	0	1	0	65.8	18.6	0.1	0	0.1	0	0	41	9	0	0	0	0	0	0	0
34	351	49.37	101	Sifton	55	683963	6173916	230	0	7	6	3	1	0	0	72.8	38.8	1.4	3	0	0	0	60	10	0	0	0	0	0	0	0
4107Feb01	351	49.37	101	Sifton	55	680538	6175721	21	0	1	8	1	0	0	0	80	1.2	0.1	0	0	0	0	82.4	32	0	0	0	0	0	0	0.2
9	351	1.29	101	Argyle	55	682337	6175435	195	3	4	4	3	1	1	25.1	1.3	41.5	0.4	0.1	0.5	2	0	41	25	1	1	1	0	1	1	0
4107Jan01	351	1.29	101	Argyle	55	682927	6159688	137	6	4	8	2	0	1	37	5.02	14.3	0.02	0	0.8	11	6	69	131	0	1	1	1	1	1	0
7	351	73.01	101	Exotic	55	680526	6166316	195	0	0	1	1	0	0	0	0	0.3	0.2	0	0	0	0	0.6	0	0	0	0	0	0	1	5.2
5	351	73.01	101	Exotic	55	681771.7	6161720	355	0	0	1	2	0	0	0	0	0.2	0.3	0	0	0	0	2.4	0	0	0	0	0	0	1	0
P01	351	73.01	101	Exotic	55	663308	6186806	296	1	0	4	2	0	0	3	0	11	2	0	0	0	0	12	0	0	1	1	1	0	1	5
P02	351	73.01	101	Exotic	55	660150	6187820	90	0	0	3	5	0	0	0	0	3	5	0	0	0	0	10	0	0	0	0	0	0	1	12
P04	351	73.01	101	Exotic	55	674992	6177103	151	1	1	3	0	0	0	25	3	4	0	0	0	7	0	60	7	1	1	0	1	1	1	14
J5	351	73.01	101	Exotic	55	681498	6166059	290	0	0	7	0	0	0	0	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J6	351	73.01	101	Exotic	55	684463	6159222	265	0	1	6	0	0	0	0	0.1	28.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
Mod2_P4	351	73.01	101	Exotic	55	678716	6177039	177	0	0	4	1	0	0	0	0	6.5	0.1	0	0	0	0	1.8	0	0	0	0	0	0	0	4
Mod2_P6	351	73.01	101	Exotic	55	684221	6159164	254	0	0	1	0	0	0	0	0	4	0	0	0	0	0	1.6	0	0	0	0	0	0	0	1
Mod2_P8	351	73.01	101	Exotic	55	684090	6152672	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0
SEH IBRA																														
33	335	1.56	101	ModerateGood	55	676511	6185146	180	0	0	8	2	0	0	0	0	48.6	1	0	0	0	0	78	8	0	0	0	0	0	0	5.7
35	335	1.56	101	ModerateGood	55	680413	6173303	300	0	0	4	0	0	0	0	0	90.4	0	0	0	0	0	40	0	0	0	0	0	0	0	1.4
4107Feb02	335	1.56	101	ModerateGood	55	680381	6162996	280	0	0	8	0	0	0	0	0	16.5	0	0	0	0	0	97	1	0	0	0	0	0	0	1.7
Mod2_P2	335	1.56	101	ModerateGood	55	678950	6178149	157	0	0	5	2	0	0	0	0	83.7	0.9	0	0	0	0	5	38	0	0	0	0	0	0	7
1	350	11.12	101	Moderate	55	685138	6153110	190	2	5	8	12	0	0	15	35	79	13	0	0	1	1	9	26	1	1	0	1	1	1	2
15	350	11.12	101	Moderate	55	685682	6157941	180	2	1	5	3	0	1	30	1	9	1.2	0	5	1	1	82	144	1	1	1	1	1	1	0
6	350	11.12	101	Moderate	55	680523	6166010	195	3	0	4	1	0	0	30.1	0	10.7	0.2	0	0	1	0	48	10	0	1	1	1	1	1	5
31	350	11.12	101	Moderate	55	681050	6168809	250	3	0	13	0	0	0	32	0	88.2	0	0	0	3	4	42	48	0	0	0	1	1	1	0.4
43	350	11.12	101	Moderate	55	680670	6166008	45	3	0	7	3	0	1	45	0	12.5	0.3	0	1	2	3	74	70	1	1	1	0	1	1	1
DMRP1	350	11.12	101	Moderate	55	685426	6156413	160	1	1	9	9	0	0	65	0.8	5.7	1.8	0	0	4	4	88	33	1	1	1	1	1	1	0.3
P03	350	11.12	101	Moderate	55	675609	6175903	130	3	0	2	0	0	1	30	0	2	0	0	1	2	0	70.8	6	1	1	1	1	1	1	3
Mod2_P3	350	11.12	101	Moderate	55	679030	6177443	120	3	3	6	3	1	1	30.1	2.1	22	3.6	0.6	5	6	1	17	57	1	1	1	1	1	1	1.5
11	350	3.33	101	DNG	55	683860	6150622	180	0	0	10	4	0	0	0	0	49	5.2	0	0	0	0	23	0	0	0	0	0	0	1	4.4
32	350	3.33	101	DNG	55	679998	6168665	260	0	0	7	1	0	0	0	0	71	1	0	0	0	0	93.8	0	0	0	0	0	0	1	10.4
DMRP3	350	3.33	101	DNG	55	680787	6163358	180	1	2	8	9	0	2	0.1	0.4	72.4	1	0	0.2	0	0	2.6	0	0	0	0	0	0	1	0.2
4107Jan02	350	3.33	101	DNG	55	665473	6183884	300	1	0	7	3	1	3	1	0	44.9	3.3	1	0.03	0	0	3.4	1	0	0	1	0	0	1	5.01

4107Feb03	350	3.33	101	DNG	55	679126	6165854	109	0	0	5	0	0	0	0	0	5.5	0	0	0	0	0	73.6	0	0	0	0	0	0	1	0.1
16	351	29.18	101	ModerateGood_Remnant	55	684963	6158479	180	5	7	7	3	0	1	34.5	11.2	31.2	5.6	0	2	0	0	58	119	1	1	1	1	0	1	0
20	351	29.18	101	ModerateGood_Remnant	55	682300	6162751	180	4	5	5	7	0	2	55.4	35.8	10.4	5	0	3	0	3	25	246	1	1	1	1	0	1	0
23	351	29.18	101	ModerateGood_Remnant	55	681953	6170713	225	5	3	3	2	0	1	50.4	6	45	3.4	0	0.4	0	10	80.4	207	1	1	1	1	0	1	0
26	351	29.18	101	ModerateGood_Remnant	55	381032	6178037	190	2	8	5	5	0	0	60	11.3	27.6	3.2	0	0	0	3	78	29.5	1	1	1	1	0	1	0
8	351	29.18	101	ModerateGood_Remnant	55	676372	6185514	190	4	0	6	1	0	0	30	0	26.3	0.1	0	0	4	8	41	154	0	0	1	1	1	1	0.5
13	351	29.18	101	ModerateGood_Remnant	55	684405	6151972	180	4	5	7	8	0	1	42	12.4	33.4	10.3	0	5	8	2	24	49	1	1	1	1	1	1	0
42	351	29.18	101	ModerateGood_Remnant	55	680742	6167093	130	2	2	5	2	0	0	40	0.7	5.1	0.2	0	0	2	2	87	54	1	1	1	1	0	1	0
J3	351	29.18	101	ModerateGood_Remnant	55	678106	6181384	13	1	7	12	8	1	1	35	38.5	23.5	1.2	0.5	0.1	1	1	39	147	0	1	0	1	1	0	0
Mod2_P9	351	29.18	101	ModerateGood_Remnant	55	685555	6155291	48	4	3	7	6	0	1	38	1.3	38.1	3.7	0	0.3	6	5	48	134	1	1	1	1	1	0	0.5
21	351	45.73	101	DNG	55	681742	6166819	180	1	0	4	1	0	0	0.5	0	31.4	1	0	0	0	0	84	92	0	0	0	0	0	1	10
30	351	45.73	101	DNG	55	682001	6169793	320	0	1	6	2	0	0	0	1	36.8	0.8	0	0	0	0	2	0	0	0	0	0	0	1	0
12	351	45.73	101	DNG	55	684413	6151319	180	0	1	9	4	0	0	0	0.8	54.8	10.1	0	0	0	0	14.6	0	0	0	0	0	0	1	1
14	351	45.73	101	DNG	55	683582	6152388	180	0	0	6	4	0	0	0	0	50	1.6	0	0	0	1	29	73	0	0	0	0	0	1	25.4
DMRP2	351	45.73	101	DNG	55	683270	6160479	180	0	1	10	1	0	0	0	0.6	61	0.3	0	0	0	0	6	0	0	0	0	0	0	1	0.2
4107Feb04	351	45.73	101	DNG	55	681419	6174987	333	0	0	11	2	0	0	0	0	48.5	0.2	0	0	0	0	85	2	0	0	0	0	0	1	0
J1	351	45.73	101	DNG	55	676329	6186659	340	0	0	8	1	1	1	0	0	77.6	0.5	0.1	0.1	0	0	1	0	0	0	0	0	0	0	0.2
J2	351	45.73	101	DNG	55	677818	6184525	202	0	1	8	2	1	0	0	0.3	62.4	0.2	1	0	0	0	0	0	0	0	0	0	0	0	1
J7	351	45.73	101	DNG	55	684124	6159902	136	0	1	9	1	0	0	0	0.2	90.1	0.1	0	0	0	0	0	2.4	0	0	0	0	0	0	0.6
J8	351	45.73	101	DNG	55	686441	6154120	270	0	2	8	4	0	0	0	0	56.3	0.7	0	0	0	0	2	0	0	0	0	0	0	0	0.2
Mod2_P1	351	45.73	101	DNG	55	679007	6178474	17	0	4	5	3	1	0	0	1.4	41.5	1.9	0.5	0	0	0	8	0	0	0	0	0	0	0	15.2
Mod2_P5	351	45.73	101	DNG	55	681723	6168408	117	0	0	3	1	0	0	0	0	60	0.4	0	0	0	0	3	0	0	0	1	0	0	0	7
10	351	5.56	101	ModerateGood_Acacia	55	682222	6173120	225	1	6	7	8	1	1	20	16.1	80.8	1.3	0.3	0.1	0	0	14.4	21	0	0	0	0	1	0	0
24	351	5.56	101	ModerateGood_Acacia	55	681468	6171179	180	1	6	8	4	1	1	25	18.3	40.4	2.2	0.4	0.5	1	3	35	45	1	1	1	1	1	1	0
36	351	5.56	101	ModerateGood_Acacia	55	685218	6153457	180	1	2	4	0	1	0	45	10.4	35	0	0.4	0	0	0	48.2	8	1	1	1	0	0	1	0
J4	351	5.56	101	ModerateGood_Acacia	55	682252	6170078	330	1	4	7	4	1	1	6	7.5	76.8	0.6	0.2	0.3	0	0	25	0	1	1	1	0	0	1	0.2
Mod2_P7	351	5.56	101	ModerateGood_Acacia	55	681323	6170998	205	3	4	6	7	1	1	14.1	1.1	70.4	16.5	0.1	0.5	0	0	18.6	175	1	1	1	1	0	0	0
18	351	14.72	101	Sifton	55	686146	6156121	355	1	1	4	0	0	0	1	30	21.4	0	0	0	0	0	15.8	37	0	0	0	0	0	0	2.4
28	351	14.72	101	Sifton	55	678940	6180213	175	2	4	6	3	0	0	11	69	4.3	0.3	0	0	0	0	41	0.5	0	0	0	0	0	0	0
29	351	14.72	101	Sifton	55	680685	6181271	100	0	5	7	1	0	1	0	65.8	18.6	0.1	0	0.1	0	0	41	9	0	0	0	0	0	0	0
34	351	14.72	101	Sifton	55	683963	6173916	230	0	7	6	3	1	0	0	72.8	38.8	1.4	3	0	0	0	60	10	0	0	0	0	0	0	0
4107Feb01	351	14.72	101	Sifton	55	680538	6175721	21	0	1	8	1	0	0	0	80	1.2	0.1	0	0	0	0	82.4	32	0	0	0	0	0	0	0.2
7	351	40.81	101	Exotic	55	680526	6166316	195	0	0	1	1	0	0	0	0	0.3	0.2	0	0	0	0	0.6	0	0	0	0	0	0	1	5.2
5	351	40.81	101	Exotic	55	681771.7	6161720	355	0	0	1	2	0	0	0	0	0.2	0.3	0	0	0	0	2.4	0	0	0	0	0	0	1	0
P01	351	40.81	101	Exotic	55	663308	6186806	296	1	0	4	2	0	0	3	0	11	2	0	0	0	0	12	0	0	1	1	1	0	1	5
P02	351	40.81	101	Exotic	55	660150	6187820	90	0	0	3	5	0	0	0	0	3	5	0	0	0	0	10	0	0	0	0	0	0	1	12
P04	351	40.81	101	Exotic	55	674992	6177103	151	1	1	3	0	0	0	25	3	4	0	0	0	7	0	60	7	1	1	0	1	1	1	14
J5	351	40.81	101	Exotic	55	681498	6166059	290	0	0	7	0	0	0	0	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
J6	351	40.81	101	Exotic	55	684463	6159222	265	0	1	6	0	0	0	0	0.1	28.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
Mod1_P8	351	40.81	101	Exotic	55	684090	6152672	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0
Mod2_P4	351	40.81	101	Exotic	55	678716	6177039	177	0	0	4	1	0	0	0	0	6.5	0.1	0	0	0	0	1.8	0	0	0	0	0	0	0	4
Mod2_P6	351	40.81	101	Exotic	55	684221	6159164	254	0	0	1	0	0	0	0	0	4	0	0	0	0	0	1.6	0	0	0	0	0	0	0	1



APPENDIX E

Biodiversity Credit Reports – SWS IBRA Region (Like-for-like and Variation)

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id 00010359/BAAS17068/18/00012902	Proposal Name Rye Park SWS IBRA - Mod 2 Sept 2022 - Cooks Hill Road Inclusion	BAM data last updated * 16/06/2022
Assessor Name Bill Wallach	Assessor Number BAAS17068	BAM Data version * 54
Proponent Names Tilt Renewables	Report Created 26/09/2022	BAM Case Status Finalised
Assessment Revision 16	Assessment Type Major Projects	Date Finalised 26/09/2022

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
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 Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Species
Synemon plana / Golden Sun Moth

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	0.7	24	0	24
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	4.2	0	110	110
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.6	341	223	564
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	275.9	2274	506	2780

289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region

	Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	289_Moderate Good	Yes	24	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	**Like-for-like credit retirement options**					
	Class	Trading group	Zone	HBT	Credits	IBRA region
	Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_Moderate Good	No	110	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	**Like-for-like credit retirement options**

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
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 Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	350_DNG	No	223	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698					
	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 Highla	-	350_Moderate	Yes	341	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698					

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	908	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Acacia	Yes	97	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	506	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Argyle	Yes	39	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Remnant	Yes	1230	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

BAM Biodiversity Credit Report (Like for like)

Species	Vegetation Zone/s	Area / Count	Credits
Delma impar / Striped Legless Lizard	**351_DNG**	41.0	284.00
Myotis macropus / Southern Myotis	**350_Moderate**	0.0	1.00
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 289_ModerateGood, 350_Moderate**	44.4	1702.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	8.1	273.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	49.4	702.00

Credit Retirement Options

Like-for-like credit retirement options

Delma impar / Striped Legless Lizard	Spp	IBRA subregion
	Delma impar / Striped Legless Lizard	Any in NSW
Myotis macropus / Southern Myotis	Spp	IBRA subregion
	Myotis macropus / Southern Myotis	Any in NSW
Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion

	Polytelis swainsonii / Superb Parrot	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012902

Proposal Name
Rye Park SWS IBRA - Mod 2 Sept 2022 - Cooks Hill Road Inclusion

BAM data last updated *
16/06/2022

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
54

Proponent Name(s)
Tilt Renewables

Report Created
26/09/2022

BAM Case Status
Finalised

Assessment Revision
16

Assessment Type
Major Projects

Date Finalised
26/09/2022

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
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 Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Species
Synemon plana / Golden Sun Moth

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	0.7	24	0	24.00
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	4.2	0	110	110.00
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	18.6	341	223	564.00
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	275.9	2274	506	2780.00

289-Mugga Ironbark - Inland Scribbly Gum - Red Box shrub/grass open forest on hills in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Upper Riverina Dry Sclerophyll Forests This includes PCT's: 269, 285, 289, 290, 298, 302, 304, 314, 338, 340, 342, 353, 1088, 1094, 1095	Upper Riverina Dry Sclerophyll Forests >=50% and <70%	289_ModerateGood	Yes	24	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrub/grass sub-formation)	Tier 3 or higher threat status	289_ModerateGood	Yes (including artificial)	24	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_ModerateGood	No	110	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Freshwater Wetlands	Tier 2 or higher threat status	335_ModerateGood	No	110	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region

	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 Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698	-	350_DNG	No	223	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	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 Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698	-	350_Moderate	Yes	341	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	908	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Acacia	Yes	97	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	506	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Argyle	Yes	39	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Remnant	Yes	1230	Inland Slopes,Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_DNG	Yes (including artificial)	908	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Acacia	Yes (including artificial)	97	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Sifton	No	506	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Argyle	Yes (including artificial)	39	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Exotic	No	0	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Remnant	Yes (including artificial)	1230	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Delma impar / Striped Legless Lizard	**351_DNG**	41.0	284.00
Myotis macropus / Southern Myotis	**350_Moderate**	0.0	1.00

Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 289_ModerateGood, 350_Moderate**	44.4	1702.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	8.1	273.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	49.4	702.00

Credit Retirement Options

Like-for-like options

Delma impar/ Striped Legless Lizard	Spp		IBRA region
	Delma impar/Striped Legless Lizard		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Myotis macropus/ Southern Myotis	Spp		IBRA region

	Myotis macropus/Southern Myotis		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Petaurus norfolcensis/ Squirrel Glider	Spp		IBRA region
	Petaurus norfolcensis/Squirrel Glider		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region

	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Polytelis swainsonii/ Superb Parrot	Spp	IBRA region	
	Polytelis swainsonii/Superb Parrot	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Synemon plana/ Golden Sun Moth	Spp		IBRA region
	Synemon plana/Golden Sun Moth		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Inland Slopes, Bogan-Macquarie, Bondo, Capertee Uplands, Capertee Valley, Crookwell, Hill End, Kerrabee, Lower Slopes, Murray Fans, Murrumbateman, Orange, Pilliga, Talbragar Valley and Wollemi. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

APPENDIX F

Biodiversity Credit Reports – SEH IBRA Region (Like-for-like and Variation)

BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id 00010359/BAAS17068/18/00012903	Proposal Name Rye Park Development SEH IBRA - Mod 2 Sept 2022 Cooks Hills Road Inclusion	BAM data last updated * 16/06/2022
Assessor Name Bill Wallach	Assessor Number BAAS17068	BAM Data version * 54
Proponent Names Tilt Renewables	Report Created 26/09/2022	BAM Case Status Finalised
Assessment Revision 15	Assessment Type Major Projects	Date Finalised 26/09/2022

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
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 Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Species
Synemon plana / Golden Sun Moth

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

BAM Biodiversity Credit Report (Like for like)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	1.6	0	27	27
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	14.6	398	74	472
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	136.0	1485	163	1648

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_Moderate Good	No	27	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	**Like-for-like credit retirement options**

Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
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 Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347,	-	350_DNG	No	74	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698					
	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 Highla	-	350_Moderate	Yes	398	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698					

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	403	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	163	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Remnant	Yes	976	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Moderate Good_Acacia	Yes	106	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant , 350_Moderate**	40.3	1429.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.2	319.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	26.9	423.00

Credit Retirement Options

Like-for-like credit retirement options

Petaurus norfolcensis / Squirrel Glider	Spp	IBRA subregion
	Petaurus norfolcensis / Squirrel Glider	Any in NSW
Polytelis swainsonii / Superb Parrot	Spp	IBRA subregion
	Polytelis swainsonii / Superb Parrot	Any in NSW
Synemon plana / Golden Sun Moth	Spp	IBRA subregion
	Synemon plana / Golden Sun Moth	Any in NSW

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00010359/BAAS17068/18/00012903

Proposal Name
Rye Park Development SEH IBRA - Mod 2 Sept 2022 Cooks Hills Road Inclusion

BAM data last updated *
16/06/2022

Assessor Name
Bill Wallach

Assessor Number
BAAS17068

BAM Data version *
54

Proponent Name(s)
Tilt Renewables

Report Created
26/09/2022

BAM Case Status
Finalised

Assessment Revision
15

Assessment Type
Major Projects

Date Finalised
26/09/2022

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
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 Highla	Critically Endangered Ecological Community	350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Species
Synemon plana / Golden Sun Moth

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT
No Changes

Predicted Threatened Species Not On Site

Name
No Changes

Ecosystem Credit Summary (Number and class of biodiversity credits to be retired)

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion	Not a TEC	1.6	0	27	27.00
350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion	White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highla	14.6	398	74	472.00
351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion	Not a TEC	136.0	1485	163	1648.00

335-Tussock grass - sedgeland fen - rushland - reedland wetland in impeded creeks in valleys in the upper slopes sub-region of the NSW South Western Slopes Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Inland Floodplain Swamps This includes PCT's: 66, 204, 205, 335, 360, 447, 465, 1291	Inland Floodplain Swamps >=70% and <90%	335_ModerateGood	No	27	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Freshwater Wetlands	Tier 2 or higher threat status	335_ModerateGood	No	27	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

350-Candlebark - Blakely's Red Gum - Long-leaved Box grassy woodland in the Rye Park to Yass region of the NSW South Western Slopes Bioregion and South Eastern Highland Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region

	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 Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698	-	350_DNG	No	74	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	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 Highla This includes PCT's: 74, 75, 83, 250, 266, 267, 268, 270, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 298, 302, 312, 341, 342, 347, 350, 352, 356, 367, 381, 382, 395, 401, 403, 421, 433, 434, 435, 436, 437, 451, 483, 484, 488, 492, 496, 508, 509, 510, 511, 528, 538, 544, 563, 567, 571, 589, 590, 597, 599, 618, 619, 622, 633, 654, 702, 703, 704, 705, 710, 711, 796, 797, 799, 840, 847, 851, 921, 1099, 1103, 1303, 1304, 1307, 1324, 1329, 1330, 1331, 1332, 1333, 1334, 1383, 1401, 1512, 1606, 1608, 1611, 1691, 1693, 1695, 1698	-	350_Moderate	Yes	398	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

351-Brittle Gum - Broad-leaved Peppermint - Red Stringybark open forest in the north-western part (Yass to Orange) of the South Eastern Highlands Bioregion

Like-for-like credit retirement options

Class	Trading group	Zone	HBT	Credits	IBRA region
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_DNG	Yes	403	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Sifton	No	163	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_Exotic	No	0	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Remnant	Yes	976	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Southern Tableland Dry Sclerophyll Forests This includes PCT's: 299, 344, 349, 351, 352, 653, 701, 727, 728, 730, 888, 957, 1093, 1177	Southern Tableland Dry Sclerophyll Forests >=50% and <70%	351_ModerateGood_Acacia	Yes	106	Murrumbateman,Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	Zone	HBT	Credits	IBRA region
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_DNG	Yes (including artificial)	403	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Sifton	No	163	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_Exotic	No	0	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Remnant	Yes (including artificial)	976	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
	Dry Sclerophyll Forests (Shrubby sub-formation)	Tier 3 or higher threat status	351_ModerateGood_Acacia	Yes (including artificial)	106	IBRA Region: South Eastern Highlands, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Petaurus norfolcensis / Squirrel Glider	**351_ModerateGood_Remnant, 350_Moderate**	40.3	1429.00
Polytelis swainsonii / Superb Parrot	**350_Moderate**	11.2	319.00
Synemon plana / Golden Sun Moth	**350_DNG, 351_DNG**	26.9	423.00

Credit Retirement Options

Like-for-like options

	Spp	IBRA region
Petaurus norfolcensis/ Squirrel Glider	**Petaurus norfolcensis**/Squirrel Glider	Any in NSW
	Variation options	

	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Polytelis swainsonii/ Superb Parrot	Spp	IBRA region	
	Polytelis swainsonii/Superb Parrot	Any in NSW	
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Vulnerable	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
Synemon plana/ Golden Sun Moth	Spp	IBRA region	

	Synemon plana/Golden Sun Moth		Any in NSW
	Variation options		
	Kingdom	Any species with same or higher category of listing under Part 4 of the BC Act shown below	IBRA region
	Fauna	Endangered	Murrumbateman, Bondo, Crookwell, Inland Slopes, Monaro, Murrumbateman and Snowy Mountains. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

umwelt
Environmental & Social Consultants

Newcastle | Perth | Canberra | Brisbane | Sydney | Orange

T| 1300 793 267 E| info@umwelt.com.au www.umwelt.com.au

Appendix C: Revised Pre-construction ‘Final Layout’ Plans

Revised Pre-Construction Final Layout – Wind Turbine GPS Coordinates

September 2022

Indicative Wind Turbine ID	Final Project Wind Turbine ID	Indicative Wind Turbine Coordinates		Pre-Construction Final Wind Turbine Coordinates [1]		Change (m)[2]
		Easting	Northing	Easting	Northing	
43	A01	679027	6179114	679040	6179105	16
25	A02	679389	6181591	679379	6181571	22
22	A03	679549	6181989	679540	6181894	95
18	A04	678502	6182471	678360	6182447	144
12	A05	677322	6183750	677289	6183722	43
11	A06	677266	6184203	677265	6184235	32
9	A07	677384	6184591	677385	6184600	9
7	A08	677490	6184967	677470	6184960	21
5	A09	677805	6185279	677801	6185260	19
151	A10	677325	6185689	677290	6185685	35
2	A11	676471	6186291	676495	6186315	34
1	A12	676629	6186672	676611	6186698	32
3	A13	676320	6185897	676370	6185980	97
4	A14	676320	6185509	676330	6185440	70
135	B01	679301	6180383	679445	6180420	149
30	B02	679009	6180754	678960	6180720	60
26	B03	678511	6181575	678555	6181465	118
28	B04	678484	6181184	678470	6180980	204
21	B05	678588	6181965	678475	6181895	133
39	B06	680098	6179394	680065	6179394	33
41	B07	680008	6179119	680142	6179044	154
42	B08	680994	6179015	681082	6179015	88
31	B09	680367	6180463	680380	6180365	99
36	B10	680242	6180109	680225	6180063	49
138	B11	680607	6181022	680585	6181020	22
137	B12	680652	6181414	680638	6181420	15
136	B13	680809	6181821	680765	6181800	49
20	B14	681054	6182312	681090	6182370	68

[1] Note that the layout will continue to be refined through construction stages, including micro-siting of the wind turbines from the 'indicative coordinates', as permitted under the conditions of the Development Consent and EPBC Approval. Prior to the commencement of operations, the Approval Holder will submit to the Minister completed layout plans (including updated GPS coordinates) prepared in accordance with Condition 15 of the EPBC Approval and Schedule 5 Condition 6 of the Development Consent.

[2] Changes to the wind turbine locations have been rounded to the nearest metre.

Indicative Wind Turbine ID	Final Project Wind Turbine ID	Indicative Wind Turbine Coordinates		Pre-Construction Final Wind Turbine Coordinates [1]		Change (m) [2]
		Easting	Northing	Easting	Northing	
17	B15	681368	6182678	681380	6182700	25
67	C01	680267	6175231	680261	6175250	20
141	C02	680488	6175710	680527	6175765	67
62	C03	680830	6175999	680844	6176040	43
61	C04	680965	6176347	680955	6176355	13
51	C05	681355	6177078	681375	6177130	56
69	C06	682302	6174979	682375	6175020	84
66	C07	682384	6175319	682365	6175350	36
63	C08	682309	6175645	682460	6175698	160
58	C09	682400	6176161	682400	6176185	24
73	D01	681120	6172346	681120	6172346	0
74	D02	681358	6172003	681345	6171994	16
75	D03	681388	6171634	681448	6171468	177
72	D04	682099	6172655	682120	6172680	33
71	D05	682195	6173075	682205	6173110	36
150	D06	682052	6170803	681860	6170800	192
80	D07	682014	6170267	682120	6170260	106
82	D08	682004	6169806	681992	6169788	22
83	D09	681810	6169398	681780	6169460	69
146	E01	684178	6174388	684201	6174386	23
68	E02	684506	6175044	684460	6174990	71
65	E03	684812	6175374	684795	6175380	18
84	E04	681373	6167591	681360	6167605	19
85	E05	681917	6167300	681730	6167265	190
86	E06	681730	6166773	681575	6166735	160
87	E07	681536	6166404	681417	6166408	119
128	F01	683138	6151393	683180	6151470	88
130	F02	683127	6151016	683140	6151140	125
131	F03	683001	6150684	683135	6150810	184
122	F04	683572	6152343	683575	6152362	19
119	F05	683654	6152722	683634	6152708	24
127	F06	684307	6151723	684325	6151700	29
129	F07	684402	6151298	684270	6151305	132
125	G01	684396	6152175	684380	6152150	30
142	G02	684592	6152523	684565	6152465	64
120	G03	684987	6152789	684925	6152745	76
124	G04	685103	6152217	685135	6152262	55
145	G05	686104	6154215	686105	6154240	25

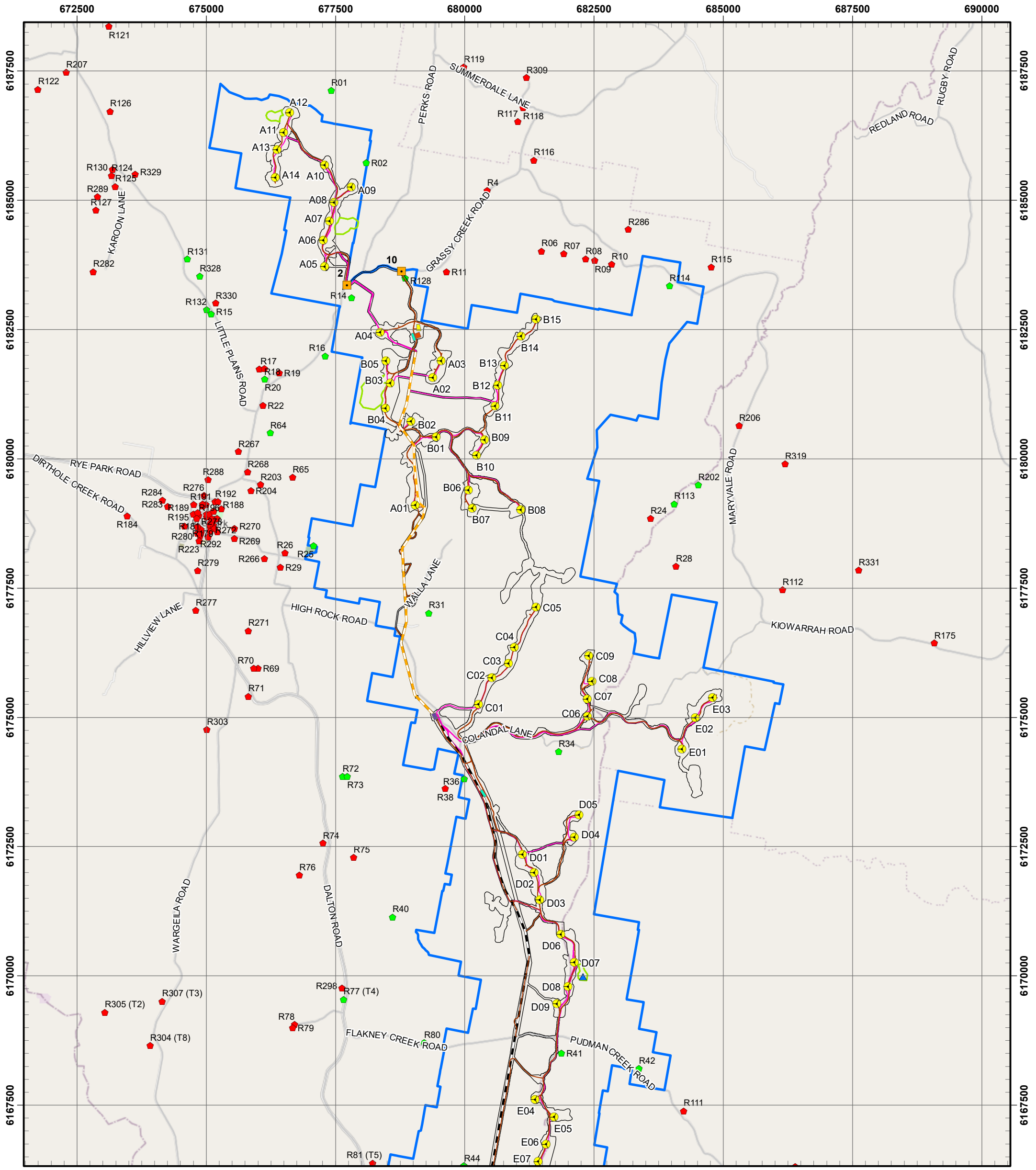
Revised Pre-Construction Final Layout Protected Matter Impacts

September 2022

Protected Matter	Condition 3 of EPBC2020/8837	Pre-construction final layout
	Area	**Area**
Box Gum Woodland	35.73 ha	31.21 ha
Superb Parrot	20.8 ha	19.34 ha
Hollow Bearing Trees (HBT)[3]	233	169
Golden Sun Moth Habitat	85.28 ha	76.32 ha
Striped Legless Lizard habitat	43.29 ha	41.00 ha
Confirmed Superb Parrot Trees[4]	0	0

[3] Hollow-bearing trees, means hollow-bearing trees located within the areas marked orange and labelled as 'Vegetation Type - PCT 350' as shown in Appendix B of the EPBC Approval.

[4] Confirmed Superb Parrot Nest Trees' means the nest trees labelled as 'Confirmed Superb Parrot Nest Trees' as shown in Appendix B of the EPBC Approval



Legend

- Wind Turbine Layout
- Site Access Points
- Permanent Met Masts
- Access Tracks
- Underground Cable (33kV)
- Transmission Line (33kV)
- Transmission Line (330kV)
- TransGrid Transmission Line (330kV)
- Connection Substation
- Collector Substation
- Temporary Batch Plants
- O&M Facility
- Temporary Construction Compounds
- Temporary Laydown Areas
- Development Corridor – Wind Farm
- Development Corridor – Permanent Met Masts
- Project Boundary

Residences

- Associated
- Non-Associated

N

Date: 29/09/2022
Version: E

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Meters

GDA 1994 MGA Zone 55
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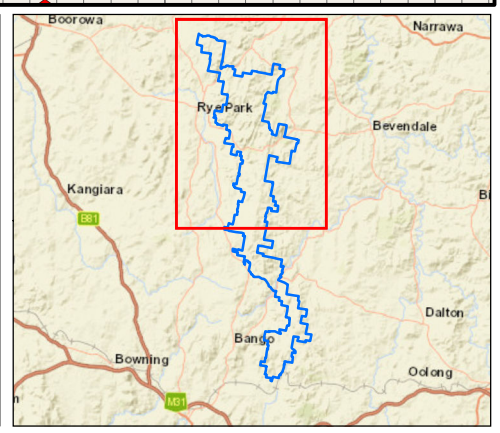

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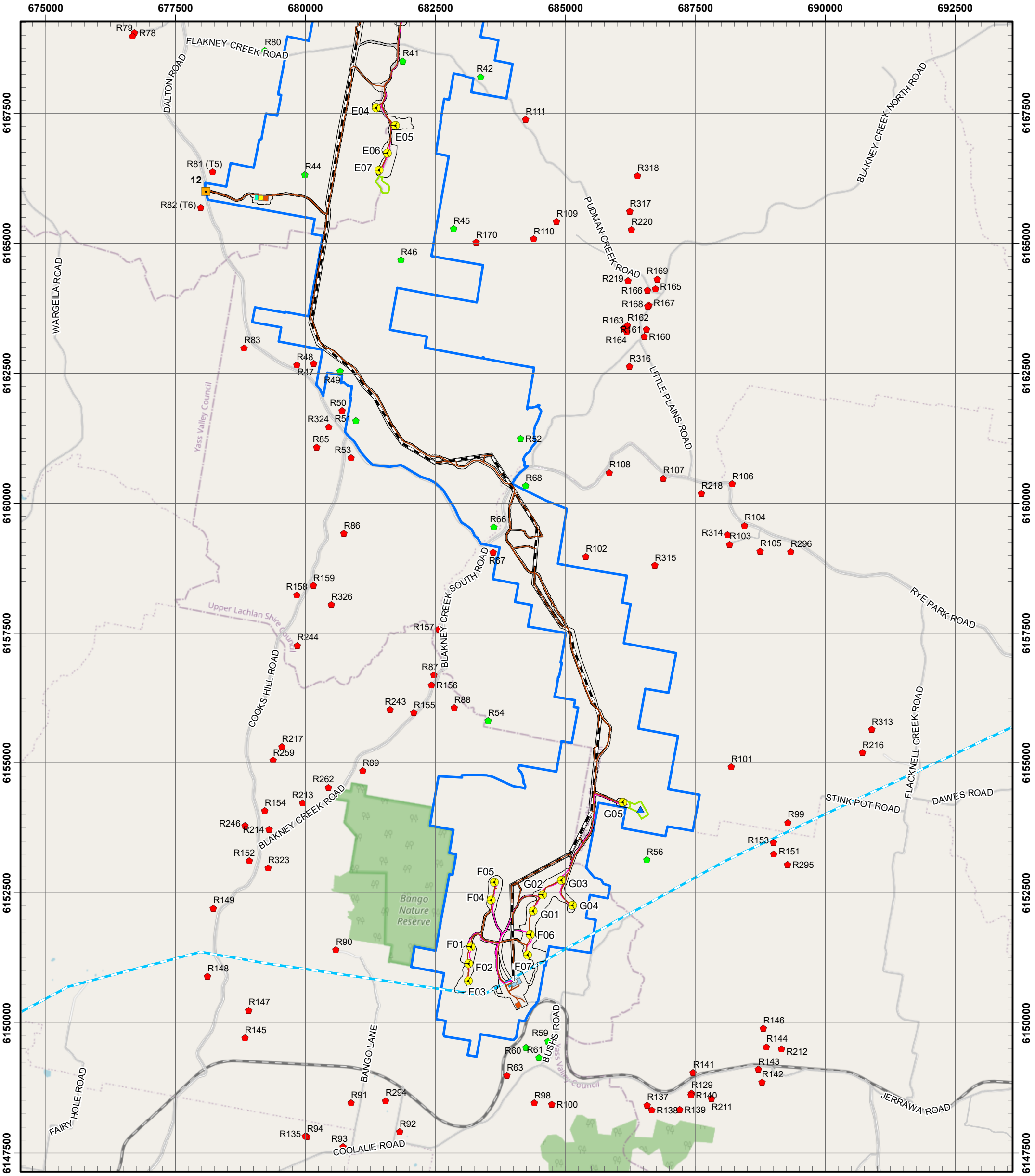
Rye Park Wind Farm

Revised Final Pre-Construction Layout Plan

renewables



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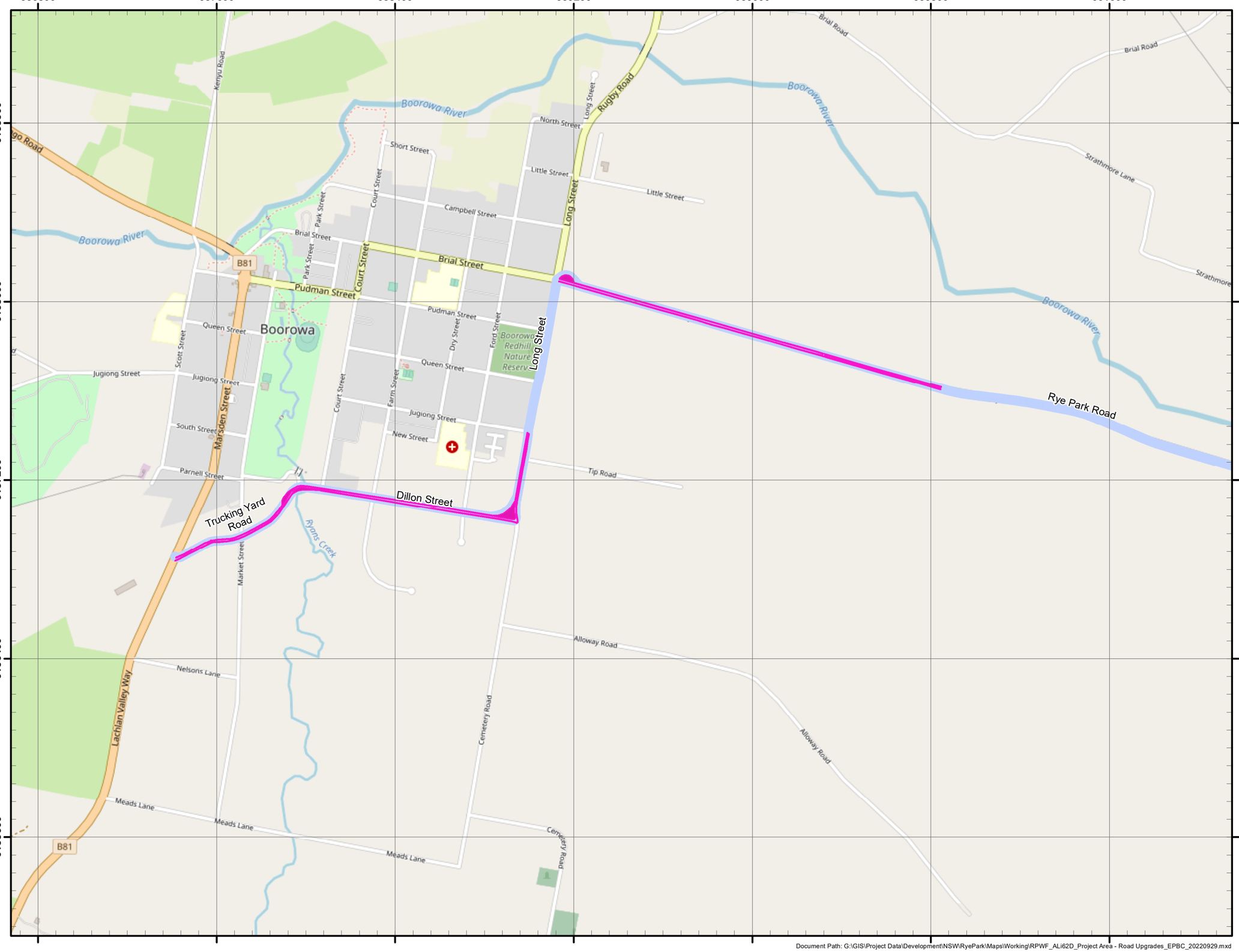
Rye Park Wind Farm

Revised Final Pre-Construction Layout Plan

renewables



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

Note 1. The Project Boundary is based on publicly available cadastre and during detailed design will be updated for the actual property boundaries and road reserves.

Date: 29/09/2022
Version: D

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Rye Park Wind Farm

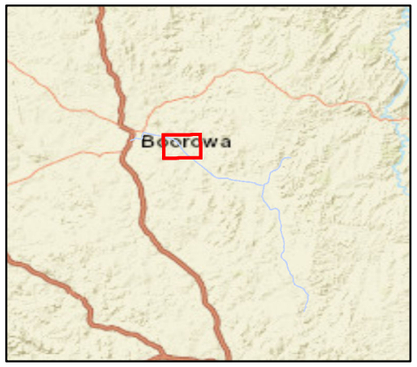
Project Area - Road Upgrades

renewables

661600 662400 663200 664000 664800 665600 666400

6187200 6186400 6185600 6184800 6184000

Boorowa River
Kennys Creek Road
Rye Park Road
Pudman
Pudman Creek
Gorham Creek
Hopefield Lane



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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Version: D

Scale: 1:16,500
GDA 1994 MGA Zone 55

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Rye Park Wind Farm

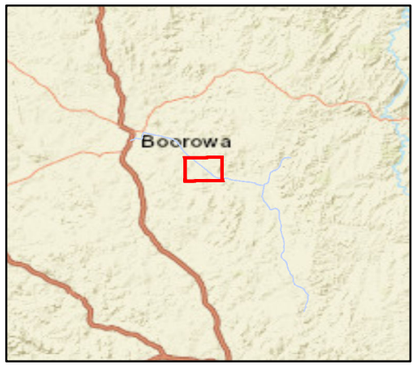
Project Area - Road Upgrades

renewables

664800 665600 666400 667200 668000 668800 669600

6184000 6183200 6182400 6181600 6180800 6180000

Boorowa
Murdering Creek
Pudmoan Creek
Rye Park Road
Harrys Creek Road



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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Version: D

Scale: 1:16,500
GDA 1994 MGA Zone 55

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Meters

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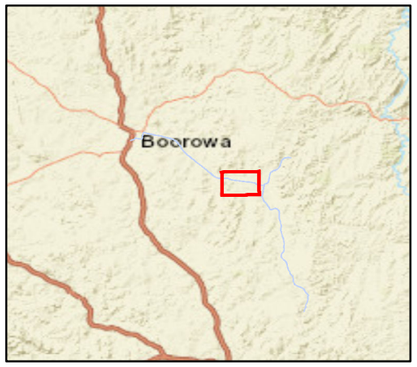
Rye Park Wind Farm

Project Area - Road Upgrades

renewables

669600 670400 671200 672000 672800 673600 674400

6181600 6180800 6180000 6179200 6178400 6177600



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

Ashford Lane
Pudman Creek
Rocky Lane
Rye Park Road
Dirthole Creek Road
Tangmangaroo Road
Dirt Hole Creek
Cook Street
Queens Hill

Note 1. The Project Boundary is based on publicly available cadastre and during detailed design will be updated for the actual property boundaries and road reserves.

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Version: D

Scale: 1:16,500
GDA 1994 MGA Zone 55

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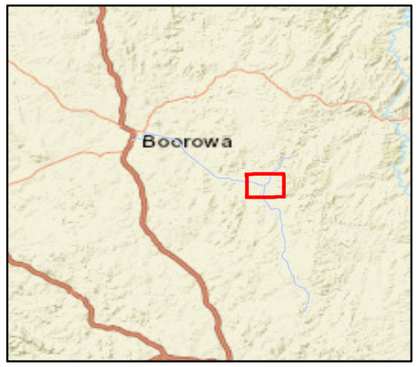
Rye Park Wind Farm

Project Area - Road Upgrades

672800 673600 674400 675200 676000 676800 677600

6180800 6180000 6179200 6178400 6177600

Little Plains Road
Pudmans Creek
Rocky Lane
Rye Park Road
Grassy Creek Road
Dirthole Creek Road
Slattery Street
Cook Street
Kershaw Street
Rye Park
Lagoon Creek Road
Banks Street
Sowpit Creek
Hume Street
Cemetery Drive
Yass Street/ Gunning Road
Rye Park Dalton Road
Hillview Lane
Lagoon Creek Road



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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Rye Park Wind Farm

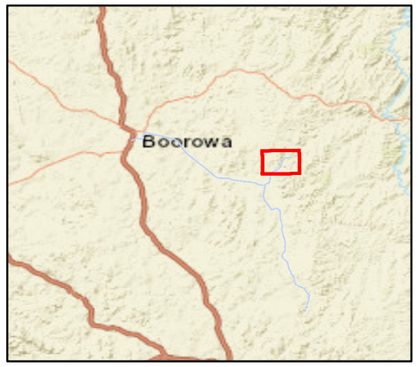
Project Area - Road Upgrades

renewables

675200 676000 676800 677600 678400 679200 680000

6184800 6184000 6183200 6182400 6181600

High Hill Creek
Little Plains Road
Little Plains Road
White Rock Creek
Little Plains Road
Perks Road
Grassy Creek Road
Grassy Creek Road
Grassy Creek Road
Grassy Creek



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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GDA 1994 MGA Zone 55

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Rye Park Wind Farm

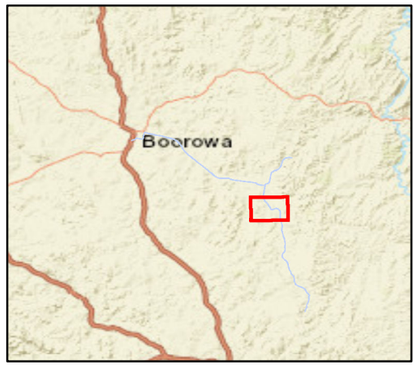
Project Area - Road Upgrades

renewables

673600 674400 675200 676000 676800 677600 678400

6176800 6176000 6175200 6174400 6173600

Hillview Lane
Hillview Lane
Lagoon Creek
High Rock Road
Pudmans Creek
Lagoon Creek Road
Grogans Creek
Wargeila Road
Rye Park Dalton Road
Pudmans Creek
Wargeila Road



Project Area - Road Upgrades

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GDA 1994 MGA Zone 55

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Meters

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Rye Park Wind Farm

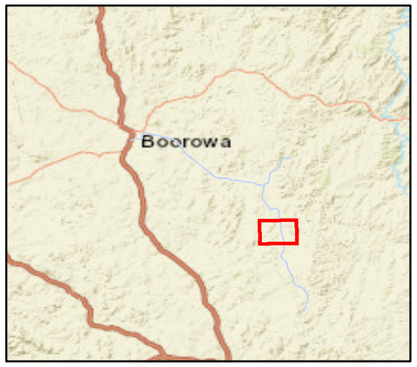
Project Area - Road Upgrades

renewables

674400 675200 676000 676800 677600 678400 679200

6173600 6172800 6172000 6171200 6170400 6169600

Wargeila Road
Grogans Creek
Pudman Creek
Rye Park Dalton Road
Flokeney Creek
Bobbys Creek
Pudman Creek
Flokeney Creek



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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Scale: 1:16,500
GDA 1994 MGA Zone 55

N

0 800
Meters

Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_ALi62D_Project Area - Road Upgrades_EPBC_20220929.mxd

Rye Park Wind Farm

Project Area - Road Upgrades

renewables

675200 676000 676800 677600 678400 679200 680000

6169600 6168800 6168000 6167200 6166400

Pudman Creek

Whealgrace Road

Rye Park Dalton Road

Flakney Creek Road

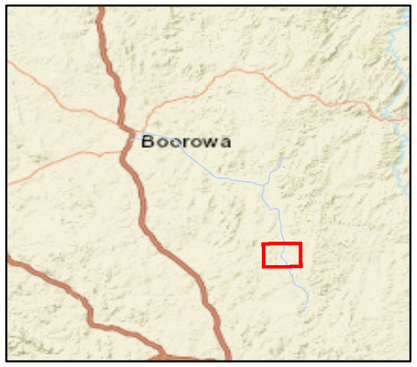
Flakney Creek Road

Flokeney

Savages Creek

Pudman Creek

Flokeney Creek



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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Date: 29/09/2022
Version: D

Scale: 1:16,500
GDA 1994 MGA Zone 55

N

0 800

Meters

Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_ALi62D_Project Area - Road Upgrades_EPBC_20220929.mxd

Rye Park Wind Farm

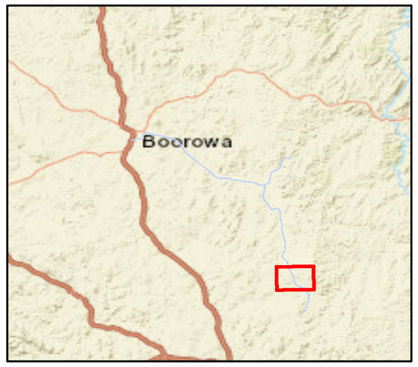
Project Area - Road Upgrades

renewables

676800 677600 678400 679200 680000 680800 681600

6165600
6164800
6164000
6163200
6162400

Pudman Creek
Yass Valley Council
Laverstock
Hilltops Council
Rye Park
Blakney Creek
Hilltops Council
Rye Park
Reedy Gully
Upper Lachlan Shire Council
Yass Valley Council
Laverstock
Ryans Creek
Rye Park Dalton Road
Ryans Creek
Urumwalla Creek
Reedy Gully
Spring Creek



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

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Note 1. The Project Boundary is based on publicly available cadastre and during detailed design will be updated for the actual property boundaries and road reserves.

Date: 29/09/2022
Version: D

Scale: 1:16,500
GDA 1994 MGA Zone 55

N

0 800
Meters

Rye Park Wind Farm

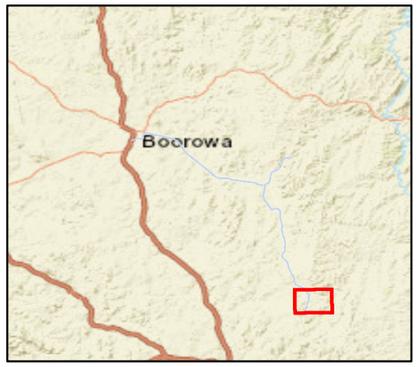
Project Area - Road Upgrades

renewables

679200 680000 680800 681600 682400 683200 684000

6161600
6160800
6160000
6159200
6158400

Spring Creek
Urumwalla Creek
Rye Park Road
Rye Park Dalton Road
Barlows Creek
Blakney Creek
Cooks Hill Road



Project Area - Road Upgrades

Indicative Development Footprint – Road Upgrades

Note 1. The Project Boundary is based on publicly available cadastre and during detailed design will be updated for the actual property boundaries and road reserves.

Date: 29/09/2022
Version: D

Scale: 1:16,500
GDA 1994 MGA Zone 55

N

0 800
Meters

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Rye Park Wind Farm

Project Area - Road Upgrades

renewables

674000 675000 676000 677000 678000 679000 680000

6189000 6188000 6187000 6186000 6185000 6184000 6183000 6182000

R120
R119
SUMMERDALE LANE
R01
A12 1
A11 2
A13 3
A14 4
A10 151
R02
A09 5
A08 7
A07 9
A06 11
A05 12
HILLTOPS COUNCIL
PERKS ROAD
R11
R128
R14
A04 18
B05 21
A03 22
B03 26
A02 25
R16
R329
LITTLE PLAINS ROAD
R131
R328
R330
R132
R15
R18
R17
R19
R20
GRASSY CREEK ROAD

Revised Final Pre-Construction Layout

- Wind Turbine Layout
- Permanent Met Masts
- Transmission Line (33kV)
- Transmission Line (330kV)
- Underground Cable (33kV)
- Access Tracks
- Connection Substation
- Collector Substation
- O&M Facility
- Temporary Construction Compounds
- Temporary Batch Plants
- Temporary Laydown Areas
- Development Corridor

Approved Project

- Wind Turbine Layout
- Micro-siting Areas
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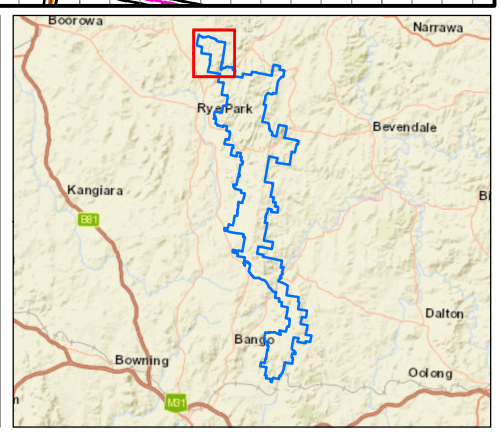
- Temporary Batch Plants
- Temporary Laydown Areas
- Development Corridor
- Development Corridor – Permanent Met Masts
- Local Government Area
- Transgrid Transmission Line (330kV)
- Project Boundary

N

Date: 29/09/2022
Version: D

0 1,000
Meters

GDA 1994 MGA Zone 55
1:25,000



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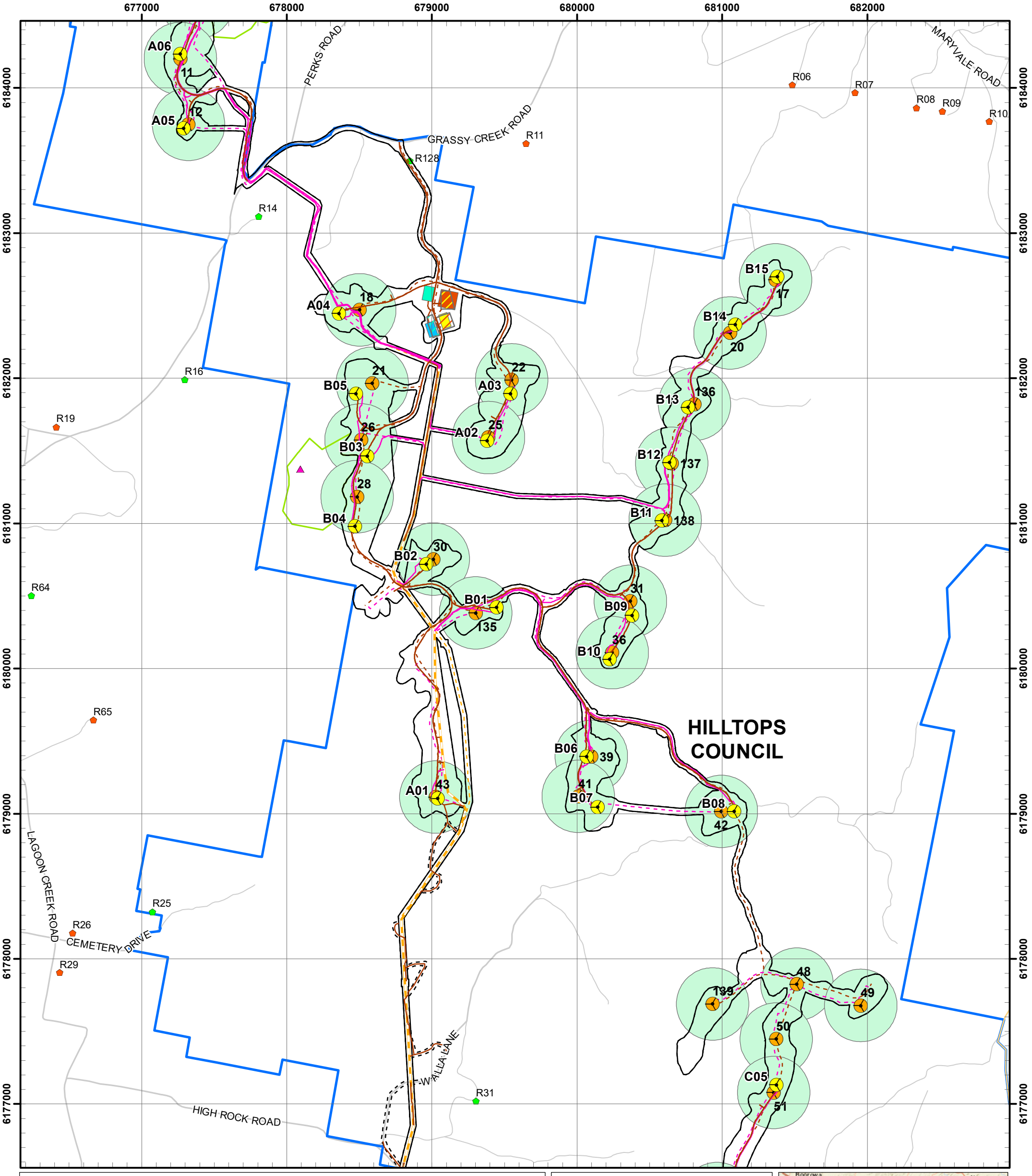
Rye Park Wind Farm

Infrastructure Changes

renewables



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Date: 29/09/2022
Version: D

0 1,000
Meters

GDA 1994 MGA Zone 55
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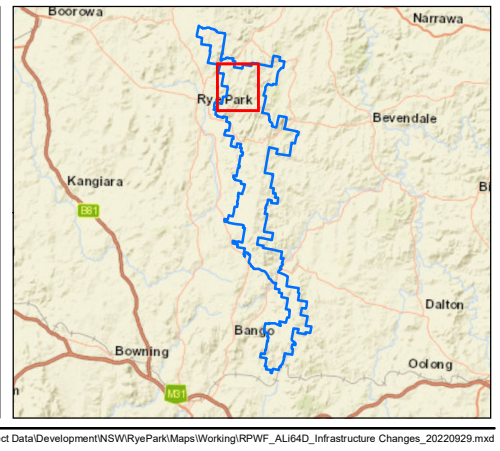

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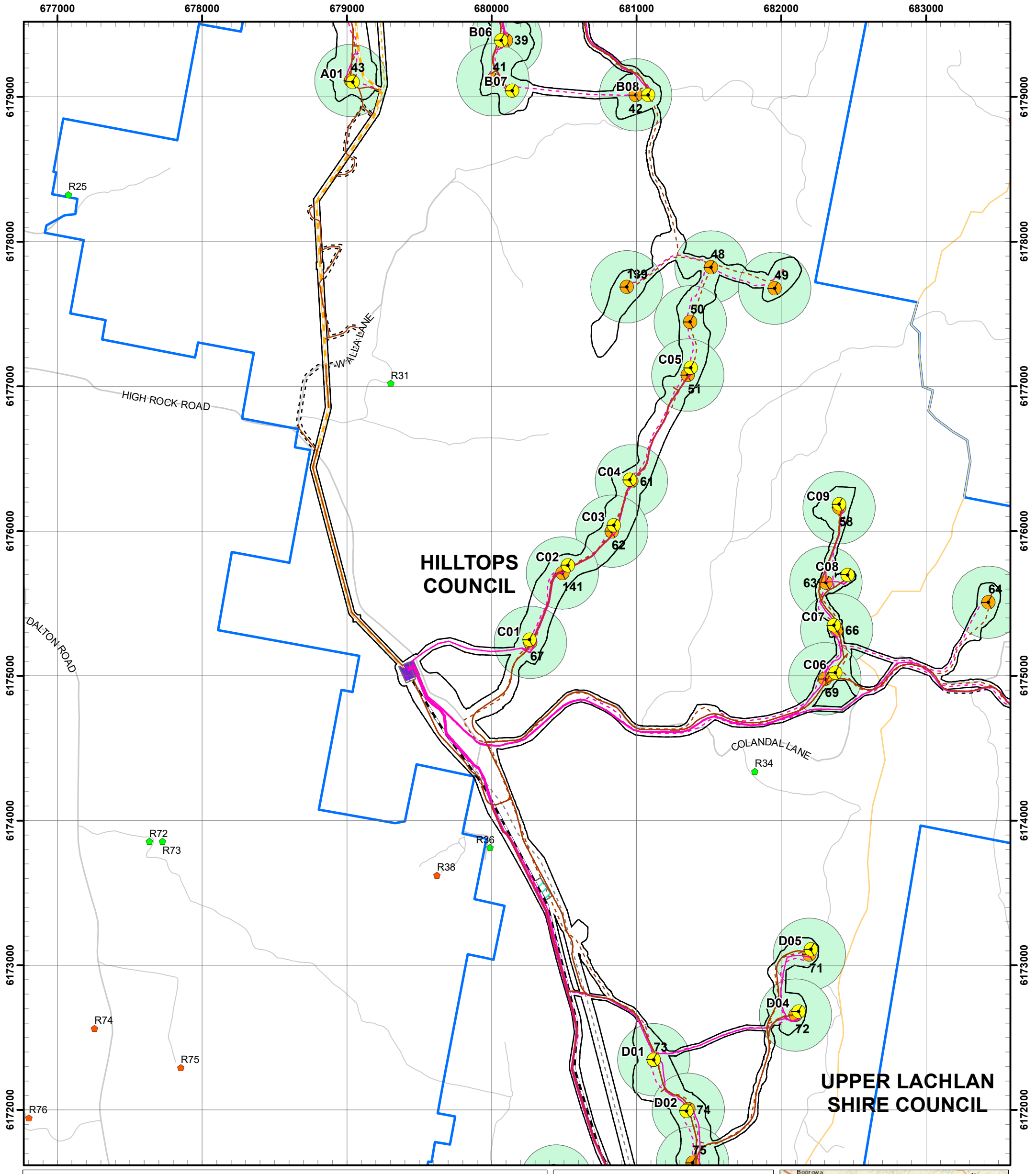
Rye Park Wind Farm

Infrastructure Changes

renewables



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Date: 29/09/2022
Version: D

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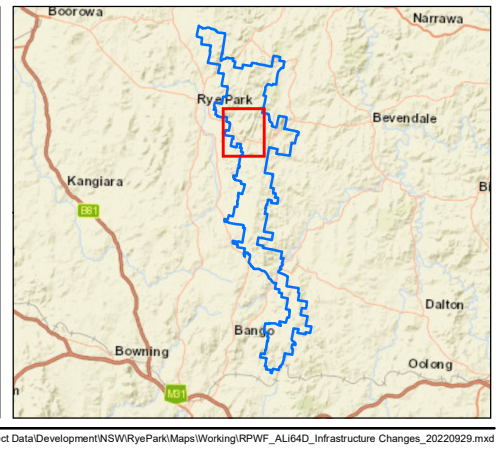
Meters

GDA 1994 MGA Zone 55
1:25,000



Document Path: G:\GIS\Project Data\Development\NSW\RyePark\Maps\Working\RPWF_ALi64D_Infrastructure Changes_20220929.mxd

Rye Park Wind Farm

Infrastructure Changes

renewables

682000 683000 684000 685000 686000

6178000 6177000 6176000 6175000 6174000 6173000 6172000

HILLTOPS COUNCIL

UPPER LACHLAN SHIRE COUNCIL

MARYVALE ROAD

KIOWARRAH ROAD

COLANDAL LANE

R28 R112 R34

48 49 50 51 C09 58 C08 63 64 C07 66 C06 69 E03 65 E02 68 E01 146 147 148 D05 71 D04 72 74

Revised Final Pre-Construction Layout

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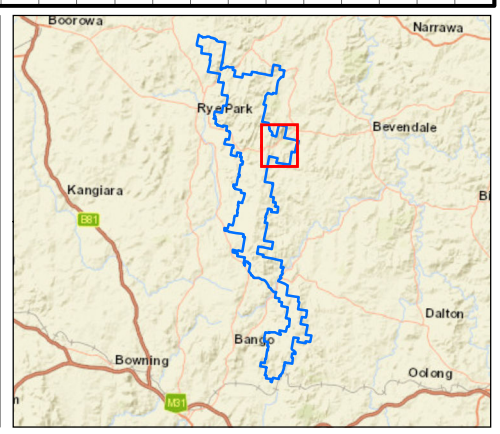
N

Date: 29/09/2022
Version: D

0 830
Meters

GDA 1994 MGA Zone 55
1:20,000



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Rye Park Wind Farm

Infrastructure Changes

renewables

679000 680000 681000 682000 683000 684000

6173000 6172000 6171000 6170000 6169000 6168000

R36 R38

D05 71 D04 72 D01 73 D02 74 75 D03 76 78 79 D06 150 D07 80 D08 82 D09 83 143

HILLTOPS COUNCIL

UPPER LACHLAN SHIRE COUNCIL

R80 FLAKNEY CREEK ROAD PUDMAN CREEK ROAD R41 R42

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Date: 29/09/2022
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0 830
Meters

GDA 1994 MGA Zone 55
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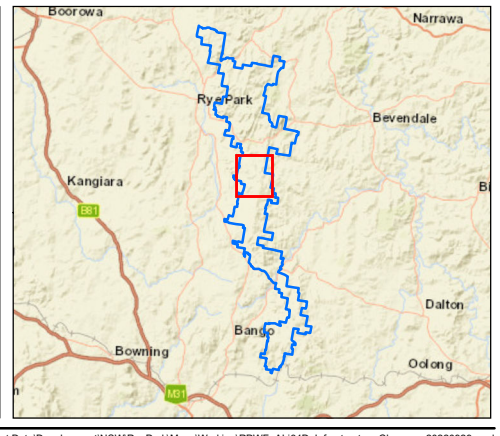

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Rye Park Wind Farm

Infrastructure Changes

renewables

679000 680000 681000 682000 683000 684000

6169000 6168000 6167000 6166000 6165000 6164000

FLAKNEY CREEK ROAD

PUDMAN CREEK ROAD

RYE PARK ROAD

R80 R41 R42 R44 R45 R46 R170

83 143 E04 84 E05 85 E06 86 E07 87

HILLTOPS COUNCIL

UPPER LACHLAN SHIRE COUNCIL

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Meters

GDA 1994 MGA Zone 55
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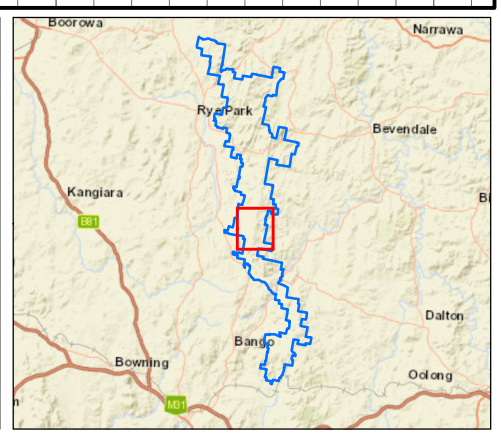

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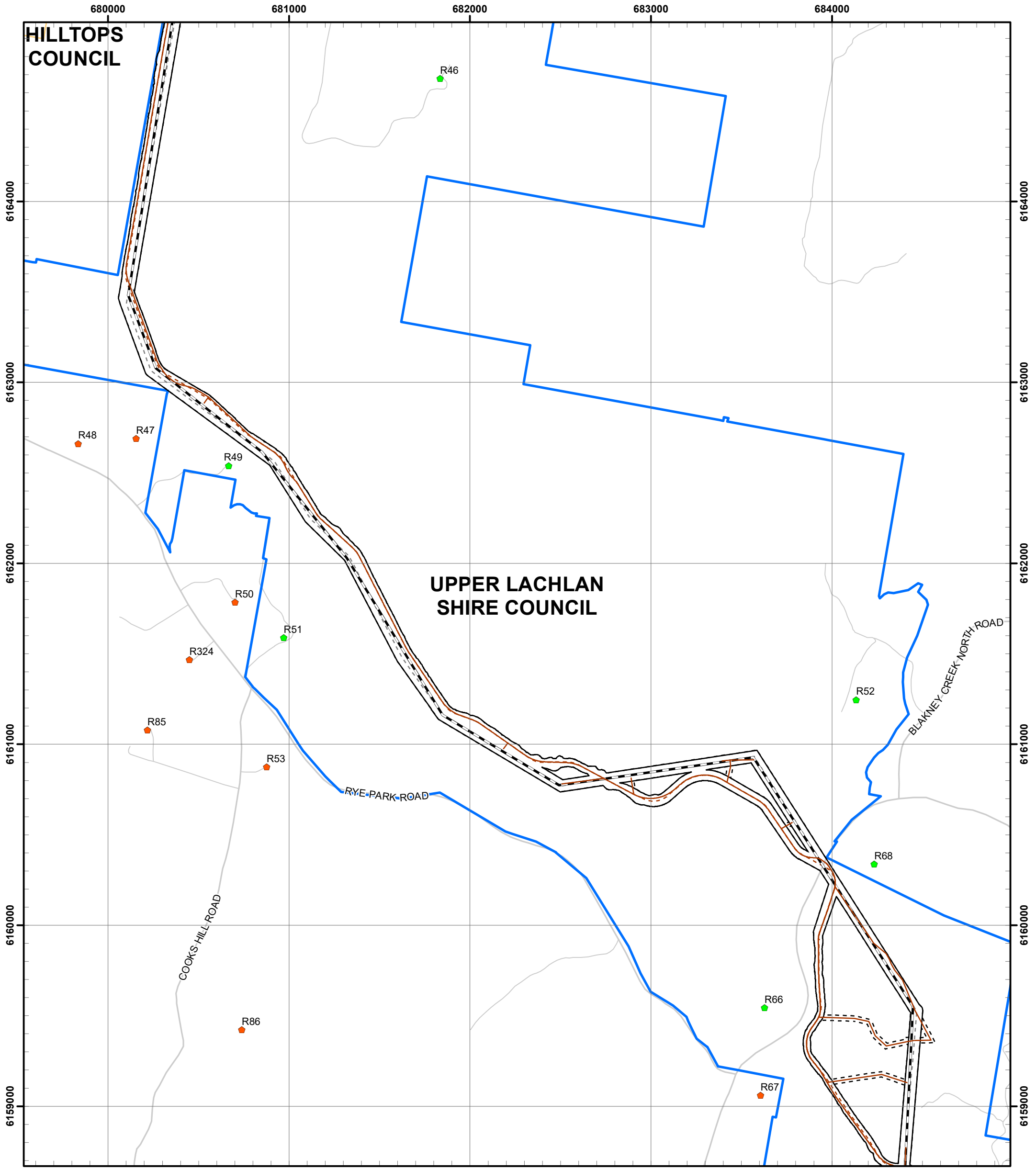
Rye Park Wind Farm

Infrastructure Changes

renewables



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Meters

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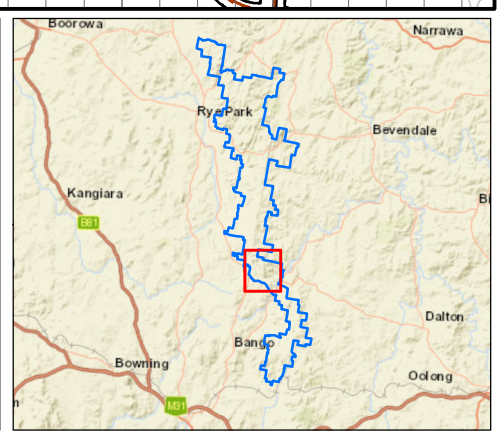

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Rye Park Wind Farm

Infrastructure Changes

renewables

683000 684000 685000 686000 687000 688000

6158000 6157000 6156000 6155000 6154000 6153000

R315

UPPER LACHLAN SHIRE COUNCIL

YASS VALLEY COUNCIL

R54

MIDGEE FIRETRAIL

BROADWAY FIRETRAIL

R101

G05

145

STINK POT ROAD

R56

F05

119

G03

120

Revised Final Pre-Construction Layout

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0 830
Meters

GDA 1994 MGA Zone 55
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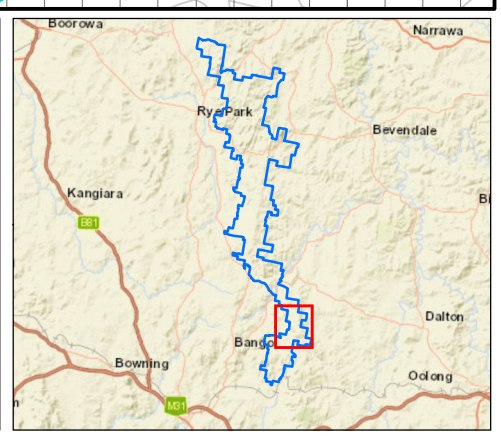

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Rye Park Wind Farm

Infrastructure Changes

renewables

682000 683000 684000 685000 686000

6155000 6154000 6153000 6152000 6151000 6150000 6149000

YASS VALLEY COUNCIL

UPPER LACHLAN SHIRE COUNCIL

MIDGEE FIRETRAIL

BUSHS ROAD

COOLALIE ROAD

G05 145

G03 120

G02 142

G04 124

G01 125

F06 127

F07 129

F05 119

F04 122

F01 128

F02 130

F03 131

R56 R59 R60 R61 R63

Revised Final Pre-Construction Layout

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Version: D

0 830
Meters

GDA 1994 MGA Zone 55
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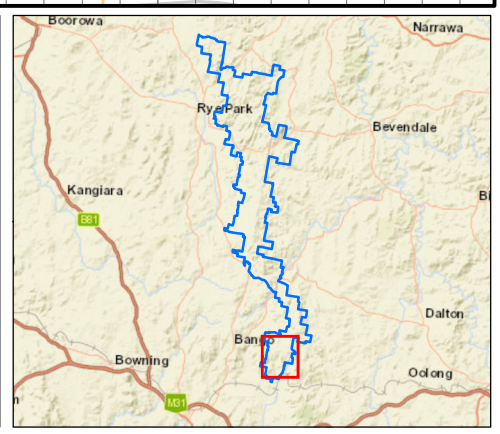

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Rye Park Wind Farm

Infrastructure Changes

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