



Ecological Assessment Report

in accordance with the *Environmental Planning & Assessment Act 1979* (EP&A Act) to support the Development Application for proposed works at Lot 122 DP 750924., Almond st, Denman NSW

REPORT TO MM HYNDES BAILEY & CO

STATEMENTS OF LIMITATION

All and any Services proposed by RestoreAG to the Client were subject to the Terms and Conditions listed on the RestoreAG website. Unless otherwise expressly agreed to in writing and signed by RestoreAG, RestoreAG does not agree to any alternative terms or variation of these terms if subsequently proposed by the Client. The Services were carried out in accordance with the current and relevant industry standards of testing, interpretation and analysis. The Services were carried out in accordance with Commonwealth, State, Territory or Government legislation, regulations and/or guidelines. The Client was deemed to have accepted these Terms when the Client signed the Proposal (where indicated) or when the Company commenced the Services at the request (written or otherwise) of the Client.

The services were carried out for the Specific Purpose, outlined in the body of the Proposal. To the fullest extent permitted by law, RestoreAG, its related bodies corporate, its officers, consultants, employees and agents assume no liability, and will not be liable to any person, or in relation to, any losses, damages, costs or expenses, and whether arising in contract, tort including negligence, under statute, in equity or otherwise, arising out of, or in connection with, any matter outside the Specific Purpose.

The Client acknowledged and agreed that proposed investigations were to rely on information provided to RestoreAG by the Client or other third parties. RestoreAG made no representation or warranty regarding the completeness or accuracy of any descriptions or conclusions based on information supplied to it by the Client, its employees or other third parties during provision of the Services. Under no circumstances shall RestoreAG have any liability for, or in relation to, any work, reports, information, plans, designs, or specifications supplied or prepared by any third party, including any third party recommended by RestoreAG. The Client releases and indemnifies RestoreAG from and against all Claims arising from errors, omissions or inaccuracies in documents or other information provided to RestoreAG by the Client, its employees or other third parties.

The Client was to ensure that RestoreAG had access to all information and sites as required by or necessary for RestoreAG to undertake the Services. Notwithstanding any other provision in these Terms, RestoreAG will have no liability to the Client or any third party to the extent that the performance of the Services was not able to be undertaken (in whole or in part) due to access to any relevant sites being prevented or delayed due to the Client or their respective employees or contractors expressing safety or health concerns associated with such access.


Unless otherwise expressly agreed to in writing and signed by RestoreAG, RestoreAG, its related bodies corporate, its officers, employees and agents assume no liability and will not be liable for lost profit, revenue, production, contract, opportunity, loss arising from business interruption or delay, indirect or consequential loss or loss to the extent caused or contributed to by the Client or third parties, suffered or incurred arising out of or in connection with our Proposals, Reports, the Project or the Agreement. In the event RestoreAG is found by a Court or Tribunal to be liable to the Client for any loss or damage arising in connection with the Services, the Client's entitlement to recover damages from RestoreAG shall be reduced by such amount as reflects the extent to which any act, default, omission or negligence of the Client, or any third party, caused or contributed to such loss or damage. Unless otherwise agreed in writing and signed by both parties, RestoreAG's total aggregate liability will not exceed the total consulting fees paid by the client in relation to this Proposal.

The Report is provided for the exclusive use of the Client and for this Project only, in accordance with the Scope and Specific Purpose as outlined in the Agreement, and only those third parties who have been authorized in writing by RestoreAG. It should not be used for other purposes, other projects or by a third party unless otherwise agreed and authorized in writing by RestoreAG. Any person relying upon this Report beyond its exclusive use and Specific Purpose, and without the express written consent of RestoreAG, does so entirely at their own risk and without recourse to RestoreAG Ecology for any loss, liability or damage. To the extent permitted by law, RestoreAG assumes no responsibility for any loss, liability, damage, costs or expenses arising from interpretations or conclusions made by others, or use of the Report by a third party. Except as specifically agreed by RestoreAG in writing, it does not authorize the use of this Report by any third party. It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

The conclusions, or data referred to in this Report, should not be used as part of a specification for a project without review and written agreement by RestoreAG. This Report has been written as advice and opinion, rather than with the purpose of specifying instructions for design or redevelopment. RestoreAG does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise in relation to the site it investigated.

This Report should be read in whole and should not be copied in part or altered. The Report as a whole set outs the findings of the investigations. No responsibility is accepted by RestoreAG for use of parts of the Report in the absence (or out of context) of the balance of the Report.

DOCUMENT AND PROJECT CONTROL

Project	Ecological Assessment Report for proposed works at Almond st, Denman
Client	MM Hyndes Bailey & Co Pty Ltd
Client number	C1002
Job	J8841-23
Author	Daniel Pogson – Senior Ecologist
Project team	Daniel Pogson
Signature	
Conflict of interest statement	RestoreAG warrants that as at the date of lodgement of the Ecological Assessment Report no actual, perceived or potential conflict of interest exists between it or between any one or more of RestoreAG's officers, employees, consultants or agents and United MM Hyndes Bailey & Co or is likely to arise in relation to the Report that is submitted for this project. If any conflict of interest arises or is likely to arise RestoreAG will immediately notify MM Hyndes Bailey & Co in writing of that actual, perceived or potential conflict of interest.

ISSUE STATUS

Date	Revision	Prepared by	Reviewed by	Authorised by
13/11/2023	1	Daniel Pogson	David Pogson	Daniel Pogson

DISTRIBUTION LIST

Date	Copy	Type	Issued to	Name
13/11/2023	1	Electronic	MM Hyndes Bailey & Co	Michael Cole
13/11/2023	2	Electronic	RestoreAG Pty Ltd	Daniel Pogson

CITATION

RestoreAG 2023, Ecological Assessment Report - proposed works at Lot 122 DP 750924, Almond st, Denman NSW, Report to MM Hyndes Bailey & Co.

ACRONYMS AND ABBREVIATIONS

Acronym or abbreviation	Definition
BAM	Biodiversity Assessment Methodology
BSSAR	Biodiversity Stewardship Site Assessment Report
BAMC	Biodiversity Assessment Method Calculator
BC Act	Biodiversity Conservation Act 2016 (NSW)
BCT	Biodiversity Conservation Trust
BOPC	Biodiversity Offsets Payment Calculator
BOS	NSW Biodiversity Offsets Scheme
BPC	Baseline Price for Credits from the Biodiversity Offsets Payment Calculator
BSA	Biodiversity Stewardship Agreement
CEEC	Critically Endangered Ecological Community
DPIE	Department of Planning, Industry and Environment (formerly OEH, DECCW, DECC, DEC)
EEC	Endangered Ecological Community
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
Ha	Hectare/s
IBRA	Interim Biogeographic Regionalisation for Australia
LGA	Local Government Area
PCT	Plant Community Type
TEC	Threatened Ecological Community
VIS	Vegetation Information System

Table of Contents

Statements of limitation	2
Document and Project Control	3
Issue Status	3
Distribution list	3
Citation	3
Acronyms and abbreviations	4
1 Introduction	7
1.1 Background	7
1.2 Land Use Zones	7
1.3 Site Context	7
2 Methodology	11
2.1 Database Searches	11
2.2 Literature Review	11
2.3 Flora Assessment	11
2.4 Fauna Assessments	11
3 Results	13
3.1 Local Land Services Act 2013	13
3.2 Flora Assessment	13
3.3 Fauna	19
4 Statutory Assessment	21
4.1 Biodiversity Conservation Act 2016	21
4.2 State Environmental Planning Policy (Koala Habitat Protection) 2021	38
5 Potential impacts	42
6 Conclusions	47
7 References	48
<i>Appendix A: Summary of Vegetation Survey Field Data</i>	<i>50</i>
<i>Appendix B: Site Survey Tree List</i>	<i>53</i>
<i>Appendix C: Assessment of Likelihood Table</i>	<i>57</i>

Table of Figures

Figure 1: Subject Site	8
Figure 2: Development Footprint/ Masterplan	9

Figure 3: Land use zones.....	10
Figure 4: Wildlife Corridors and Terrestrial Biodiversity.....	15
Figure 5: Soil Landscape (eSPADE).....	16
Figure 6: Plant Community Types.....	17
Figure 7: Biodiversity Values Map	23
Figure 8: BioNet Records of Koalas within 2.5km of the Site.....	40

Table of Tables

Table 1 Threatened Ecological Community (TEC).....	14
Table 2 Vegetation Formations, Classes, Plant Community Types and Threatened Ecological Communities .	18
Table 3 Threatened Ecological Community criteria	18
Table 4 Proportion of Koala Food Trees in each PCT	19
Table 5: Test of Significance - Parts a) and c).....	24
Table 6: Test of Significance - Part b)	36
Table 7: Part e) of the Test of Significance	38
Table 8: Potential biodiversity impacts and recommended mitigation measures	42
Table 9: Koala Assessment Report	44

1 Introduction

1.1 BACKGROUND

RestoreAG was engaged by MM Hyndes Bailey & Co Registered Surveyors to prepare an Ecological Assessment Report in accordance with the *Environmental Planning & Assessment Act 1979* (EP&A Act) to support Stages 2-5 of Development Consent No. 8/2017 Muswellbrook Council, for works associated with a subdivision at *Lot 122 DP 750924, Almond Street, Denman NSW* (Site).

Stages 2-5 of the Site covers approximately 16.19 hectares (ha). It is located in the Muswellbrook Shire (LGA) and is situated immediately next to the Denman township (Figure 1).

The consent includes the (Figure 2) construction of residential lots to support the expanding town. Stages 2-5 will remain unchanged from the plans previously provided for DA8/2017 as, Condition 6 of DA8/2017 required a master plan to be completed prior to issue of Construction Certificate for Stage 1.

1.2 LAND USE ZONES

The Site is zoned RU5 which reflects the planned use of the land primarily as residential land. (Figure 3).

1.3 SITE CONTEXT

From a bioregional perspective, the Site is in the Sydney Basin Interim Biogeographic Regionalisation for Australia (IBRA) Bioregion and Hunter Subregion.

The site adjoins the lower eastern slopes of the Narrabeen escarpment, with underlying geology predominately of Permian soils. The aspect slopes gently west to east


Rural properties are to the north & west of the site with residential properties to the south. The eastern boundary is Almond Street. The site is on the north-western residential fringe of the township.


The assessment area defined by the development footprint has a long history of disturbance through agricultural usage. Little native vegetation remains due to clearing for intensive agriculture, being mainly beef production on improved pasture.

Scattered paddock trees of mainly Grey Box (*E. moluccana*) & Narrow-leaved Ironbark (*E. crebra*) remain, mostly likely remnant vegetation from the *Central Hunter Grey Box-Ironbark Woodland* community. There is no mid-storey cover and a mix of exotic species & weeds, with native grasses making up less than 15% of ground cover.

A homestead with associated rural sheds was present in the north-west of the site. An unsealed driveway connected the utility areas & residence to Almond Street.

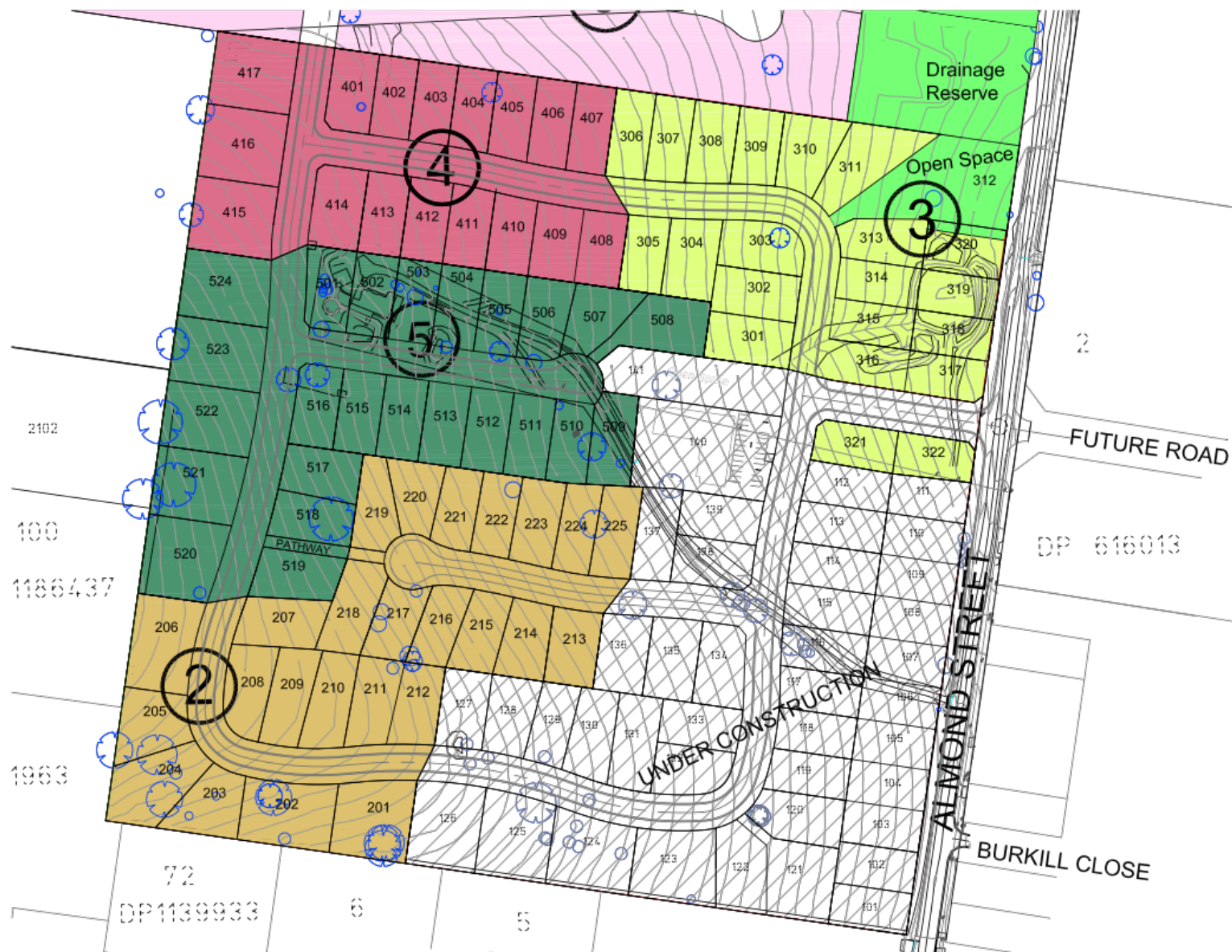


 Site Boundary

Client: MM Hyndes Bailey & Co Pty Ltd	<div>0150300 m</div> <div><div></div></div> <div></div>	<div>Imagery ©</div> <div>All locations indicative and subject to survey</div>	<div>Location Map</div>	
Job #:				
Author: David Pogson			<div>Scale:1:4,451</div>	<div>Ecological Assessment Report</div> <div>Lot 122 DP 750924., Almond st, Denman NSW</div>
Review:	<div>Coordinate System:EPSG:3857 - WGS 84 / Pseudo-Mercator</div>			
Date: 06/11/23	<div>No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.</div>		<div>RestoreAG</div> <div>PTY LTD</div>	

STAGE	LOTS
1	41
2	25
3	22
4	17
5	24
TOTAL	129

INCLUDING OPEN SPACE LOTS
MINIMUM LOT SIZE 750 SQM



MM HYNDES BAILEY & Co.
REGISTERED SURVEYORS - TOWN PLANNING - CIVIL DESIGN
Surveying the Hunter since 1820



Ph: 02 45432475 Email: office@hbsurveys.com.au
GROUND FLOOR 108 Bridge Street (PO Box 26), MUSWELLBROOK NSW 2533

MASTER PLAN - EXISTING DETAIL CONTOURS AND TREES
PROPOSED SUBDIVISION
LOT 122 IN DP750924, ALMOND STREET DENMAN

H.SCALE: 1:2000

A3 CONT. INT: 0.5m

CLIENT: HIGHFIELDS PTY LIMITED

LGA: MUSWELLBROOK

JOB REF:
216218

V.SCALE

DATUM:

PARISH: DENMAN

DATE 28.07.2023

FILE: 216218_MASTER

COUNTY: BRISBANE



Client: MM Hyndes Bailey & Co Pty Ltd

Job #:

Author: David Pogson

Review:

Date: 07/11/23

0 150 300 m



Scale: 1:4,451

Coordinate System: EPSG:3857 - WGS 84 / Pseudo-Mercator



Imagery ©
All locations indicative and subject to survey

Land Use Zone Map

Ecological Assessment Report
Lot 122 DP 750924., Almond st, Denman NSW

Fig 3

No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.

2 Methodology

2.1 DATABASE SEARCHES

The following database searches were undertaken to identify potential biodiversity constraints associated with the Site:

- A 5 km radius search of the BioNet Atlas of NSW Wildlife (Department of Planning Industry and Environment [DPIE]) to identify threatened flora/fauna species and EECs known to occur within the study area on the 6th November 2023;
- Rural Boundary clearing code for New South Wales (26 August 2021)
- Threatened Biodiversity Data Collection (TBDC) (DPE, 2023);
- DPIE key habitats and corridors mapping (OEH, 2010);
- Directory of Important Wetlands in NSW (DIWA) Spatial Database;
- eSPADE NSW Soil and Land Information;
- State Vegetation Type Map: Current Release C1.1.M1.1 (December 2022)

2.2 LITERATURE REVIEW

A comprehensive literature review of information pertaining to the study area was undertaken. Key sources of information reviewed include:

Site Masterplan;

Transitional Native Vegetation Regulatory Map

Muswellbrook Development Control Plan 2009 Section 5

State Environmental Planning Policy (Koala Habitat Protection) 2021

2.3 FLORA ASSESSMENT

A flora survey within the assessment area defined by proposed development footprint including clearing allowances and Asset Protection Zones was undertaken on 6th November 2023. The flora assessment included:

- Formulation of a plant species list;
- Confirmation of Plant Community Type (PCT) and fine-tuning of vegetation mapping.

Identification of trees that are located within the assessment area.

2.4 FAUNA ASSESSMENTS

2.4.1 Fauna Habitat

A fauna habitat assessment of the Site was undertaken on 7th April 2023. Fauna habitat features were surveyed within the assessment area. The fauna habitat assessment surveys targeted the following fauna habitat features and resources:

- Vegetation structure;
- Vegetation connectivity;

- Dominant plant species and plant diversity;
- Availability of water;
- Length of fallen logs;
- Litter cover;
- Trees with hollows;
- Rock outcrops and ledges;
- Fauna scats, tracks, diggings and burrows;
- Signs of fauna feeding; and
- Tree scratch/claw marks.

2.4.2 Targeted Survey for Koala

A targeted Spot Assessment Technique (SAT) survey for Koala *Phascolarctos cinereus* was undertaken on 7th April 2023 within the assessment area. The ground within 1m of the base of every tree was searched for Koala scat in broad accordance with Phillips & Callaghan (2011). The canopy of each tree was inspected for the presence of Koala and the trunk of smoothed barked trees were inspected for claw marks at the time of the SAT survey.

Any Koala activity within the assessment area was then calculated in accordance with Phillips & Callaghan (2011). The activity level is expressed as the percentage equivalent proportion of surveyed trees within the polygon under which at least one Koala *Phascolarctos cinereus* faecal pellet is recorded. Resulting koala activity levels at the SAT site are then interpreted as either 'Low use' (less than 22.52%), 'Medium (normal) use' (greater than or equal to 22.52% but less than or equal to 32.84%) or 'High use' (greater than 32.84%) in line with the 'East Coast (med-high)' activity thresholds as specified in Table 2 of Phillips & Callaghan (2011).

During the flora survey, two tree species that are on the Koala Tree Species List for the Central Coast koala management area (as per Schedule 2 of the Koala Habitat Protection SEPP 2021) were recorded.

3 Results

3.1 LOCAL LAND SERVICES ACT 2013

3.1.1 Database Results

Transitional Native Vegetation Regulatory Map

The above map does not apply to RU5 zoned land.

Prescribed impacts however are listed in Clause 6.1 of the Biodiversity Conservation Regulation 2017 and requirements for the assessment of these impacts are set out in the BAM. These include threatened species habitat impacts such as possible karst, caves, crevices, cliffs and other geological features of significance, rocks, human-made structures & non-native vegetation. Further the impacts of development on any habitat connectivity, species movement, water quality or by wind turbine and vehicle strikes may trigger the BAM.

It is considered that there are no impacts in the current proposal that would fall under the prescribed impacts list.

3.2 FLORA ASSESSMENT

3.2.1 Database Results

BioNet Atlas of NSW Wildlife

The DPIE BioNet Atlas of NSW Wildlife identified 19 threatened species listed under the BC Act and/or EPBC Act as having habitat within the study area of a 5 km radius around the Site. These species are considered in the likelihood of occurrence assessment discussed in Section 4.1.3 and Appendix C:.

Wildlife Corridors

Regional wildlife corridors and terrestrial biodiversity do not fall within the site as shown in Figure 4

Directory of Important Wetlands in NSW

There are no RAMSAR wetlands located on site.

eSPADE NSW Soil and Land Information

The Site's soil landscape has been identified as Dartbrook (SI5601db) with a smaller portion of the site identified as Growee (SI5601ge) landscape.

3.2.2 Confirmation of Plant Community Types

A combination of the data recorded in the flora survey within the assessment area and NSW State Vegetation mapping data was employed to identify two Plant Community Types (PCT) on the Site as detailed in Table 2 and summarised below:

- PCT 0 Non-Native
- PCT 3431 Central Hunter Ironbark Grassy Woodland

However, during inspection of the property, it was noted that the areas mapped as PCT 3431 lacked any mid-storey species & the ground layers were predominantly exotic grass species and weeds with minimal retention of any native grasses. Thus the vegetation condition is considered to be exotics in association with scattered paddock trees and not the associated BC listed *Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC* or the EPBC Act *Central Hunter Valley eucalypt forest & woodland*. Continuous use for livestock grazing and fodder cropping over many decades has permanently altered the natural conditions. The PCT 0 State Veg. mapping for what is the major portion of the holding and the development footprint itself is therefore confirmed as applicable.

3.2.3 Confirmation of Threatened Ecological Communities

There is currently no TEC associated with the development footprint of this site

Table 1 Threatened Ecological Community (TEC)

Act	List Status	Threat Status	Fit Status	TEC Name	Degree of TEC Fit
-					

3.2.4 Threatened Flora

There was no threatened flora observed during field inspections.



Client: MM Hyndes Bailey & Co Pty Ltd

Job #:

Author: David Pogson

Review:

Date: 07/11/23

0

1,300

2,600 m

Scale:

1:38,481

Coordinate System:

EPSG:3857 - WGS 84 / Pseudo-Mercator

No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.

Imagery ©
All locations indicative and subject to survey

Terrestrial Biodiversity Map

Ecological Assessment Report

Lot 122 DP 750924., Almond st, Denman NSW

Fig 4

RestoreAG

PTY LTD



Site Boundary

Soil Landscapes

SI5601db - Dartbrook

SI5601ge - Growee

Client: MM Hyndes Bailey & Co Pty Ltd	<div>0150300 m</div> <div></div> <div></div> <div>Imagery © All locations indicative and subject to survey</div>	<div>Soil Landscape Map</div>	
Job #:			
Author: David Pogson	Scale: 1:4,451	Ecological Assessment Report Lot 122 DP 750924., Almond st, Denman NSW	
Review:	Coordinate System: EPSG:3857 - WGS 84 / Pseudo-Mercator	Fig 5	
Date: 07/11/23	No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.		RestoreAG PTY LTD



Site Boundary

PCTs (2022)

3431: Central Hunter Ironbark
Grassy Woodland

Client: MM Hyndes Bailey &
Co Pty Ltd

Job #:

Author: David Pogson

Review:

Date: 06/11/23

0 150 300 m



Imagery ©
All locations indicative and subject to survey

Scale: 1:4,451

Coordinate System: EPSG:3857 - WGS 84 / Pseudo-Mercator

No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.

PCT Map

Ecological Assessment Report
Lot 122 DP 750924., Almond st, Denman NSW

Fig 6

Table 2 Vegetation Formations, Classes, Plant Community Types and Threatened Ecological Communities

Vegetation Formation	Vegetation Class	PCT	PCT Common Name	Threatened Ecological Community
Non-Native	Non-Native	0	Non-Native	Not a TEC.
Dry Sclerophyll Forests	Hunter-Macleay Dry Sclerophyll Forests	3431	Central Hunter Ironbark Grassy Woodland	Not a TEC.

Table 3 Threatened Ecological Community criteria

Criteria
Locational
Topographical
Edaphic
Hydrological
Site-specific Criteria Assessment

3.3 FAUNA

3.3.1 Database Search Results

The DPIE BioNet Atlas of NSW Wildlife identified 19 records of threatened fauna species listed under the BC Act and/or EPBC Act previously recorded or having habitat within the study area of 5 km radius around the site. An assessment of the likely occurrence of these species within the study area is provided in Table 4 and Appendix C:.

3.3.2 Fauna Habitat Assessment

Observations of fauna habitat features and resources within the Site are summarised as follows, particularly in relation to the habitat requirements of threatened species recorded in the locality:

- Substantial areas of cleared land cover the greater proportion of the site;
- Limited hollow bearing trees, or fallen logs >10cm dia. were observed.
- Limited leaf litter was recorded as the ground layer was dominated by common weed species including *Galenia pubescens* (Galenia), *Senecio madagascariensis* (Fireweed) and *Gomphocarpus fruticosus* (Narrow-leaf Cotton Bush). Some native grass species such as *Aristida ramosa* (Three-awn Speargrass), *Austrostipa ramosissima* (Stout Bamboo Grass) and *Austrostipa scabra* (Spear Grass) were present.
- No Koala *Phascolarctos cinereus* or other fauna scats were detected;
- No rock outcrops were recorded;
- Permanent water sources were recorded.

Limited fauna tracks, diggings or burrows were detected and there were no obvious signs of fauna feeding.

Based on a fauna habitat assessment of the Site it is considered unlikely that the study area represents a significant area of habitat for threatened fauna species that have been recorded in the locality.

3.3.3 Targeted Survey for Koala

No Koala *Phascolarctos cinereus* faecal pellets were detected under any tree. This yielded a Koala *Phascolarctos cinereus* activity of 0% which is interpreted as 'Low use'.

- Two Koala Food Tree species were identified among trees on the site. Koala Food Trees account for more than 15% of total trees considered suitable koala habitat. We list the PCTs here in (Table 4, Appendix B:).

Table 4 Proportion of Koala Food Trees in each PCT

PCT	PCT Name	No. of Koala Food Trees	No. of Total Trees	Proportion of Koala Food Trees
PCT 0	Non-Native	4	12	33%

PCT 3431	Central Hunter Ironbark Grassy Woodland	8	10	80%
-------------	--	---	----	-----

4 Statutory Assessment

4.1 BIODIVERSITY CONSERVATION ACT 2016

Development Applications under the EP&A Act are required to address the Biodiversity Offset Scheme (BOS) entry requirements under the BC Act.

Development applications must consider the question: *'Is the proposed development likely to have any clearing and/or prescribed biodiversity impacts on threatened species and/or threatened ecological communities (TECs)'* through application of the following thresholds:

1. Is the proposed development located on a declared Area of Outstanding Biodiversity Value (AOBV) (BC Act s. 7.2(1)(c)); OR
2. Is the proposed development located on the Biodiversity Values (BV) Map (BC Regulation c. 7.3); OR
3. Does clearing/assumed clearing associated with the proposed development exceed the area clearing threshold (BC Regulation c. 7.2); OR
4. After application of the 'Test of Significance' are the impacts considered significant (s. 7.3 BC Act)?

If the answer is 'yes' to any of the above three questions, then the BOS applies and a Biodiversity Development Assessment Report (BDAR) must be prepared by an accredited assessor to support the proposed modification application. These questions are addressed in Sections 4.1.1, 4.1.2 and 4.1.3 respectively.

4.1.1 Areas of Outstanding Biodiversity Values and Biodiversity Values Map

Utilising the Biodiversity Values Map and Threshold Tool (BMAT), it was determined that no part of the development footprint is on an AOBV nor the BV Map (Figure 7: Biodiversity Values Map).

This criterion therefore does not trigger entry into the BOS.

4.1.2 Area Clearing Threshold

For a zone minimum lot size of less than 1 ha it requires a cumulative clearing area of native vegetation of more than 0.25 ha or more to trigger entry into the BOS.

The clearing of any native vegetation within the development footprint contributes to the area of native vegetation that is cleared and therefore area clearing threshold.

The land is zoned RU5 and mapped as applicable under the Rural Boundary Clearing Code, allowing 25m clearing from the boundary.

In the instance of this proposed development the calculation of the clearing area is as follows:

Total clearing area =
Cumulative clearing within the proposed development footprint +
Assumed clearing associated with new APZ requirement +
Assumed clearing associated with 10/50 Rule entitlement -
Assumed 25m clearing from boundary

To simplify this calculation, we have taken the approach of identifying a notional clearing area as follows:

Notional clearing area (0.15ha)=
Cumulative clearing of native vegetation associated with the proposed
development including APZ's -
Rural boundary clearing allowance

4.1.3 Test of Significance

The Test of Significance (s. 7.3 BC Act) provides standardized and transparent consideration of threatened species and ecological communities, and their habitats, through the development assessment process. The Test of Significance contains the following five parts:

- Part a) Adverse effects on the life cycle of a species (relates to Candidate Species) (Table 5);
- Part b) Adverse effects on ecological communities (relates to TECs) (Table 6)
- Part c) Adverse effects on habitats (relates to Candidate Species and TECs) (Table 5);
- Part d) Adverse effects on areas of outstanding biodiversity value (relates to Areas of Outstanding Biodiversity Value); and
- Part e) Key threatening processes (Table 7).

Candidate entities (species and TECs) were determined for the Test of Significance in accordance with generally accepted industry best practice as follows:

- Downloaded NSW BioNet records for threatened species within a 5 km radius of the Site to identify candidate threatened species;
- Each candidate species was assigned a categorical 'Assessment of Likelihood' of occurrence (i.e. Present, Likely, Possible or Unlikely) based on the habitat features identified on the Site by both desktop and Site inspections and flora and fauna habitat surveys undertaken at the Site as described in Section 3; and Appendix C:.
- Finally, a justification was provided for the assigned likelihood of occurrence of each candidate species with reference to ecological data and descriptive text for the species contained in the Threatened Biodiversity Data Collection (DPIE 2019). Candidate species considered 'Unlikely' to occur were then excluded from further consideration (Appendix C:).

4.1.3.1 Parts a), b) and c)

Nineteen species were determined as present or likely to occur on the Site (Appendix C:). The Test of Significance was therefore applied to these species. No TEC was determined to be present on the site following flora surveys as described in Section 3.

The application of the Test of Significance considers the interpreting factors that are identified in the guidelines (OEH, 2018). The key to the Test of Significance is whether the viable local population of a threatened species is likely to be placed at risk of extinction as a result of direct or indirect impacts of the proposal. The Test of Significance Parts a and c for each candidate species are presented in Table 5 and Part b for the TEC in Table 6.



Client: MM Hyndes Bailey & Co Pty Ltd

Job #:

Author: David Pogson

Review:

Date: 07/11/23

0 900 1,800 m



Imagery ©
All locations indicative and subject to survey

Scale: 1:27,755

Coordinate System: EPSG:3857 - WGS 84 / Pseudo-Mercator

No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.

Biodiversity Values Map

Ecological Assessment Report
Lot 122 DP 750924., Almond st, Denman NSW

Fig 7

Table 5: Test of Significance - Parts a) and c)

Species	Adverse effects on the life cycle of a species (Part a)		Adverse effects on habitats (Part c)
	a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction		c) in relation to the habitat of a threatened species or ecological community:
			(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
			(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
			(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality
<i>Circus assimilis</i>	Spotted Harrier	The Site does contain some areas for with which this species is generally associated. No evidence of stick nests were observed, however, clearing has been kept to a minimum. Therefore, the proposal will not result in further fragmentation of habitat	(i) The proposal's footprint of clearing has s scattered mature native trees but clearing will be minimal
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.

		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality.
<i>Ninox strenua</i>	Powerful owl	The Site does contain some suitable habitat in which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Calyptrorhynchus lathamii</i>	Glossy Black Cockatoo	The Site does contain some suitable habitat in which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

<i>Glossopsitta pusilla</i>	Little Lorikeet	The Site does contain some suitable habitat in which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Stagonopleura guttata</i>	Diamond Firetail	The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Hieraaetus morphnoides</i>	Little Eagle	The species is often associated in the Hunter with Ironbark Grassy Woodlands, it will nest in tall living trees within a remnant patch, where pairs build a large stick nest in winter.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.

		The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Petauroides volans</i>	Greater Glider	The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality.
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	The Site does contain some suitable habitat in which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.

		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	<p>Quolls use hollow-bearing trees, fallen logs, other animal burrows, small caves and rock outcrops as den sites. As there were limited features recorded during the inspection on the Site, it is unlikely that the species would utilise the habitat except whilst in transit.</p> <p>The proposal may cause negligible increases in short-term noise and dust levels during construction.</p>	<p>The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.</p> <p>The proposal's footprint of clearing is minimal and as such there will be no further fragmentation of habitat utilised by this species.</p>
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	The Site does contain some suitable habitat in which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat.	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.

		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As no habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality.
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Chthonicola sagittata</i>	Speckled Warbler	The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality.

<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	In the context of the large range of this migratory species, the riparian area of the Site does contain some areas for which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Phascolarctos cinereus</i>	Koala	This species was not detected on the Site. No Core Koala Habitat will be directly or indirectly impacted by the proposal. Clearing does include possible food trees; however, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat. Therefore, the proposal will not result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature Koala feed trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	The Site does not contain habitat with trees that contain hollow-bearing limbs with which this species is generally associated. However, the clearing footprint	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.

		is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat	
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As limited habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Chalinolobus dwyeri</i>	Large-eared pied bat	<p>Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features.</p> <p>The Site does not contain such suitable habitat. Therefore, the proposal is not likely to result in further fragmentation of habitat</p>	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper	Mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, also found in mallee and River Red Gum (<i>Eucalyptus camaldulensis</i>) Forest bordering wetlands with an	(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.

open understorey of acacias, saltbush, lignum, cumbungi and grasses; fallen timber is an important habitat component for foraging.

The Site does contain some suitable habitat with which this species is generally associated. However, the clearing footprint is minimal. Therefore, the proposal is not likely to result in further fragmentation of habitat

The proposal may cause negligible increases in short-term noise and dust levels during construction.

(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.

Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

*Prostanthera
cryptandroides subsp.
cryptandroides*

**Wollemi Mint-
bush**

Occurs on rocky areas and ridgelines. The Site does not contain suitable habitat in which this species is generally found. Therefore, the proposal is not likely to result in further fragmentation of habitat.

(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.

The proposal may cause negligible increases in short-term noise and dust levels during construction.

(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.

Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

Pomaderris reperta

**Denman
Pomaderris**

Occupies woodland in association with *Eucalyptus crebra* *E. blakelyi*, *Notelaea macrocarpa* and *Allocasuarina littoralis*. Typically found on sandy loam on

(i) The proposal's footprint of clearing has mainly avoided these areas.

sandstone or conglomerate. Such habitat is not typical of the site, therefore, the proposal will not result in further fragmentation of habitat

The proposal may cause negligible increases in short-term noise and dust levels during construction.

(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.

Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

Acacia pendula

Weeping Myall
population in the
Hunter catchment

Suitable habitat has been historically cleared and used as farmland for many decades. Some planted Phenotype C individuals were observed. These were fenced off to avoid clearing or livestock damage. The proposal will not result in further fragmentation of habitat

(i) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.

The proposal may cause negligible increases in short-term noise and dust levels during construction.

(ii) The proposal's footprint of clearing has avoided as such there will be no further fragmentation of habitat utilised by this species.

Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.

(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

Miniopterus australis

Little Bent-winged Bat

Roosts in caves, tunnels, tree hollows, abandoned mines, stormwater drains, culverts, bridges and sometimes buildings The riparian area of the Site does may have some suitable habitat though tree hollows were observed. However, clearing has been avoided in these areas altogether. Therefore, the proposal will not result in further fragmentation of habitat

(i) The proposal's footprint of clearing has some scattered mature native trees but clearing will be minimal.

		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality.
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	Cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs. There is limited suitable habitat and no tree hollows were observed on the site. Therefore, the proposal will not result in further fragmentation of habitat	(i) The proposal's footprint of clearing has avoided these areas altogether.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further fragmentation of habitat utilised by this species.
		Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality.
<i>Pomaderris queenslandica</i>	Scant Pomaderris	Found in moist eucalypt forest or sheltered woodlands with a shrubby understorey, and occasionally along creeks. The site has limited areas similar, however, clearing footprint is minimal. Therefore, the proposal will not result in further fragmentation of habitat	(i) The proposal's footprint of clearing has some similar habitat but clearing will be minimal.
		The proposal may cause negligible increases in short-term noise and dust levels during construction.	(ii) The proposal's footprint of clearing is minimal, as such there will be no further

	fragmentation of habitat utilised by this species.
Consequently, the direct and indirect impacts of the proposal are unlikely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.	(iii) As minimal habitat is proposed for removal it is not considered important for the long-term survival for the species in the locality

Table 6: Test of Significance - Part b)

TEC	Adverse effects on the life cycle of a species	Adverse effects on habitats
	b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:	c) in relation to the habitat of a threatened species or ecological community:
	- is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or	(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
	- is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.	(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
		(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality

[TEC Name] N/A

[Nominate PCT] N/A

The proposal involves no clearing within a CEEC, and is unlikely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, nor is likely to modify the composition of the ecological community substantially and adversely such that its local occurrence is likely to be placed at risk of extinction

(i) The proposal will clear no vegetation within a TEC Zone.

(ii) The proposal will clear no vegetation within a TEC Zone.

(iii) Due to the extent and location of the proposed clearing, the removal of vegetation will not result in further fragmentation of habitat.

(iv) The proposed development will avoid directly impacting any TEC

4.1.3.2 Part d)

Part d) of the test applies to adverse effects on Areas of Outstanding Biodiversity Value. No AOBVs were identified on the Site and as such this part of the Test of Significance is not applicable.

4.1.3.3 Part e)

Part e) of the Test of Significance requires identification of Key Threatening Processes (KTP). A threatening process is a process that threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community. To date, 39 KTPs have been declared under the BC Act (Schedule 4). The proposal may potentially constitute or promote the following listed KTPs under the BC Act:

- Clearing of native vegetation

Part e) of the Test of Significance was applied to the KTP in Table 7. It was determined that the proposal is unlikely to significantly contribute to this process.

Table 7: Part e) of the Test of Significance

Key Threatening Processes	
e) whether the proposed development or activity is part of a key threatening process or is likely to increase the impact of a key threatening process	
Clearing of native vegetation	The proposal will clear under 2500m ² of native vegetation. The proposed development will avoid directly impacting any large patches of vegetation on the Subject site. It is therefore considered that this activity is not likely to significantly increase the impact of this KTP.

Following application of the Test of Significance, this criterion does not trigger entry into the Biodiversity Offsets Scheme.

4.1.3.4 Summary

After applying the BOS entry triggers and undertaking a Test of Significance (5-part test), it was concluded that there are no areas of high biodiversity value to be impacted either directly or indirectly on the Site. The area of proposed clearing of native vegetation is below the zone threshold of 0.25 ha. Further, the proposal is unlikely to cause any significant impact on threatened species or TECs nor does it involve any 'Prescribed Impacts'. Therefore, the BOS is not triggered and a BDAR is not required.

4.2 STATE ENVIRONMENTAL PLANNING POLICY (KOALA HABITAT PROTECTION) 2021

The State Environmental Planning Policy (Koala Habitat Protection) 2021 (Koala Habitat Protection SEPP) applies to all development where the local council does not have a koala plan of management that has been approved by the Planning Secretary, DPIE.

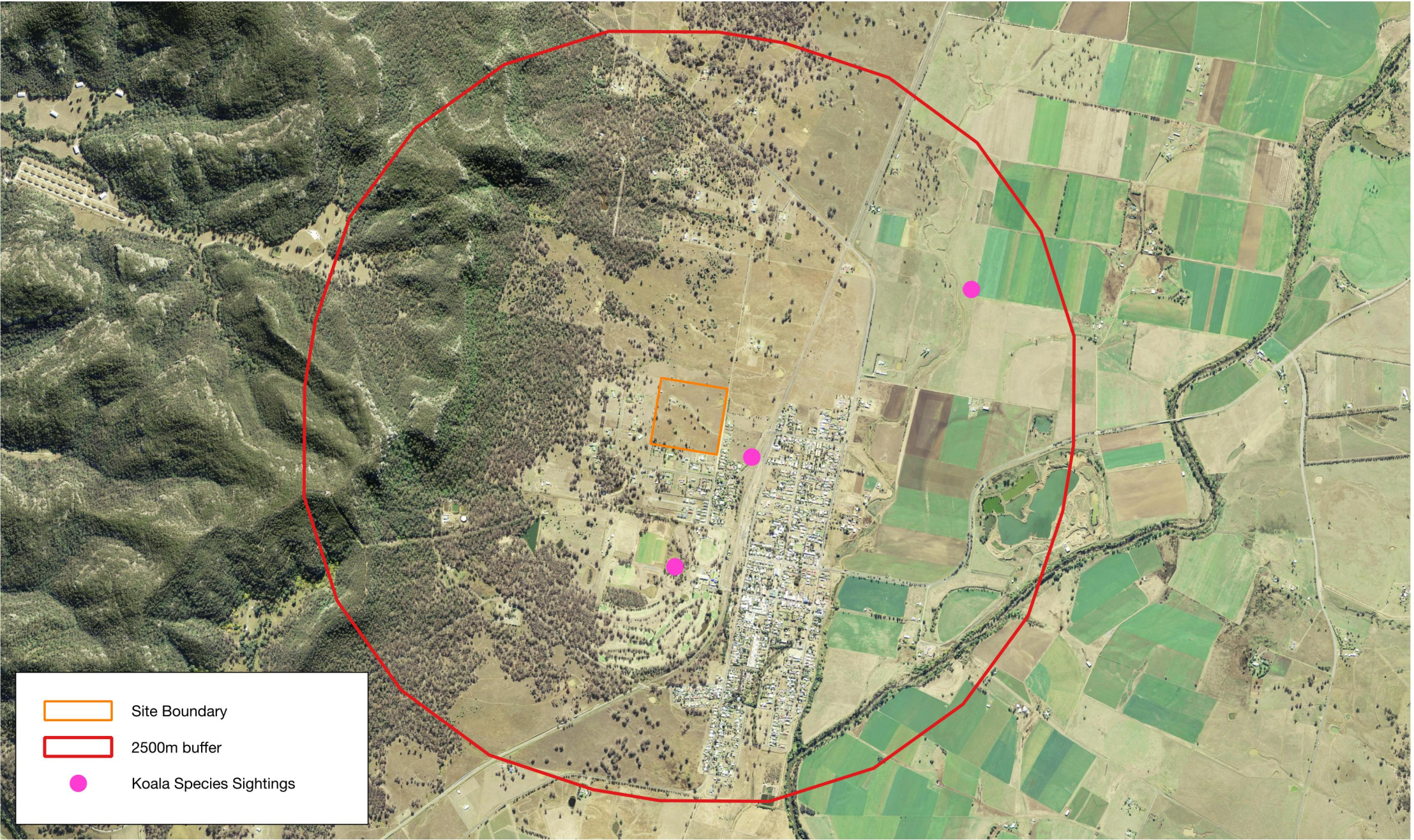
The Site is greater than 1 ha in area and vegetation on the Site is mapped on the Koala Development Application Map. The SEPP does therefore apply to the site, and a Koala Assessment Report (Table 9) is required in accordance with the Draft Koala Habitat Protection Guideline (DPIE, 2020).

A targeted survey for evidence of koalas *Phascolarctos cinereus* was undertaken, as detailed in Section 2.4.2. Based on the results of this survey (Section 3.3.3) no koalas were detected on the site.

However, the most common canopy tree species are *Eucalyptus moluccana* (Grey Box) and are determined to be suitable habitat based on the percentage of koala food trees found there (Table 4).

In accordance with Koala Habitat Protection Guideline (DPIE, 2021), NSW BioNet was queried for koala records within a 2.5 km radius. There have been two sightings recorded in 1967 and two in 2020. No sightings were recorded within the site boundary (Figure 8)

Limited Core Koala Habitat will be directly impacted by this proposal.



Client: MM Hyndes Bailey & Co Pty Ltd

Job #:

Author: David Pogson

Review:

Date: 07/11/23

0

1,100

2,200 m

Scale: 1:34,430

Coordinate System: EPSG:3857 - WGS 84 / Pseudo-Mercator

Imagery ©
All locations indicative and subject to survey

No warranty is given in relation to the data (including accuracy, reliability, completeness or suitability) and accept no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of or reliance upon the data. Data must not be used for direct marketing or be used in breach of privacy laws.

Koala Sightings Map

Ecological Assessment Report
Lot 122 DP 750924., Almond st, Denman NSW

Fig 8

RestoreAG
PTY LTD

Upper Muswellbrook Shire Development Control Plan 2009

Under **Section 5 Subdivision 5.5.6 Lot Size and Shape (v1)** there is a requirement to conserve in the proposal *"Vegetation which adds significantly to the visual amenity of a locality and/or which is environmentally significant or of habitat value."*

Also, an objective under **5.5.10 Open Space (d)** is *"To encourage the provision and retention of significant vegetation within public open space areas."*

The current vegetation extent complies with the above conditions and except for the habitat trees noted in Appendix B can be cleared without addressing compensatory planting. Consequently, compensatory planting is not proposed.

5 Potential impacts

Key anticipated biodiversity impacts are as follows:

- As all clearing activities are minimal in any PCT or CEEC zone for building envelopes, roads, drainage, culverts, proposed APZ or new boundary fencing, there is considered to be minimal direct impact on local habitats
- Potential indirect impacts to local habitats such as noise and dust.

It is recommended that biodiversity impacts are managed through implementation of mitigation measures described in Table 8.

A Koala Assessment Report as discussed in Section 4.2, which includes potential impacts and mitigation measures is presented in Table 9.

Table 8: Potential biodiversity impacts and recommended mitigation measures

Potential impact	Significance of impact ¹	Recommended mitigation measures
Direct impacts		
Native vegetation clearing	Unlikely	<p>The proposed development involves limiting clearing to less than 2500m² of native vegetation & avoids threatened species through:</p> <ul style="list-style-type: none"> • Locating of potential roads, drainage, culverts, new buildings & APZ zones to PCT Zero - non-native areas only
Fragmentation of native vegetation	Unlikely	Design for potential roads, drainage, culverts, new buildings & APZ zones footprints have avoided sensitive areas
Ecological corridors	Unlikely	Design for new boundary lines and buildings footprints have avoided sensitive areas
Impact significant habitats (eg streams and watercourses)	Unlikely	<p>Design for roads, drainage, culverts, new buildings & APZ zones avoid these areas, however in order to Avoid & Minimize all potential impacts, the following is recommended:</p> <ul style="list-style-type: none"> • Bi-annual weed control measures to be put in place within fenced off section of transplanted <i>Acacia Pendula</i> (Phenotype C) (Stg 1)
Indirect impacts		
Noise and dust	Unlikely	<p>Minimise impact of noise and dust during construction</p> <p>The moderate magnitude and short-term impact of noise and dust on biodiversity during construction is negligible. However, it is recommended that the proposed development:</p> <ul style="list-style-type: none"> • Minimise indirect impacts associated with construction noise by restricting the construction noise to 7am to 6pm Mon-Fri, 8am to 1pm Sat, and no construction on Sundays or public holidays.

- Employ dust control measures such as staged construction, revegetation and wash down procedures to minimise impacts from dust during construction. Dust suppression should be implemented as required.

¹ Significant, potentially significant, likely, unlikely.

Table 9: Koala Assessment Report

Koala Assessment Report	
Introduction	
Describe the nature of the proposed development.	Refer to Section 1.1, Figure 1 and 2.
Define how the SEPP applies to the proposed development.	Refer to Section 4.2.
Koala habitat values – addressing criteria 1 and 2	
Describe the site area, including the general environment and condition, location and extent.	Refer to Sections 1.1 and 1.3, Figure 1 and 2.
Provide details of koala survey as undertaken in accordance with State Environmental Planning Policy (Koala Habitat Protection) 2021 . This should include details of the results of the koala surveys, including how the site area meets the definition of core koala habitat and mapping that shows habitat areas and koala records within the site area and adjoining areas.	Refer to Section 2.4.2, 3.2.3 and 4.2, Table 3
Describe the site context (including mapping showing habitat that might be associated with vegetation in the adjoining landscape and records within the vicinity of the site area) and provide an analysis of the koala habitat values (including how koalas might use the site area and the relative importance of the site to the local koala population.	Refer to Section 1.3 and Figure 9. The site is fenced with timber and plain wire stockproof fencing. Rural properties are to the north & west of the site with limited tree cover. residential properties are to the south. The eastern boundary is Almond Street. The site is on the north-western residential fringe of the township/ The site contains scattered paddock trees only, including potential koala food trees. The site could be used for opportunistic browsing with <i>E. moluccana</i> been determined as a koala food tree (DPIE 2021).
Measures taken to avoid impacts to koalas – addressing criteria 3, 4, 5, 6, 7 and 8	

Describe the site selection process, including how koala habitat was taken into account and any avoidance outcomes achieved through this process.	The proposed development avoids and minimises clearing impacts on core koala habitat and koala food trees through: <ul style="list-style-type: none"> Locating potential roads, drainage, new buildings, culverts & APZ zones footprints on mainly cleared land, with clearing to avoid most core koala habitat and most Koala Food Trees.
Describe how the proposed development avoids or minimises direct impacts to koala habitat and habitat function.	
Analysis of potential impacts – addressing criteria 9	
Identify the residual direct impacts to koalas and koala habitat within the site area, including the nature and extent of impacts and the likely implications for the viability of a local koala population.	There will be minimal direct impacts to koalas, core koala habitat or koala food trees because of the development. The proposal has no likely impact to the viability of the local koala population. Refer to Section 4.1.3.
Identify the relevant potential indirect impacts to koalas and koala habitat within the site area and adjacent habitat areas, including the nature and extent of potential indirect impacts and the likely implications for the viability of a local koala population.	There may be some indirect impacts on the identified koalas and core koala habitat during construction from noise and dust. Refer to Table 7. These indirect impacts will be minimal and short-term and will therefore not impact the viability of the local koala population.
Plan to manage and protect koalas and their habitat – addressing criteria 10, 11, 12 and 13	
Describe the management measures that will be implemented as part of proposed construction and operations to manage the direct and indirect impacts identified. These measures should be outcomes focussed and include performance targets.	The following measures will be implemented during construction activities: <ul style="list-style-type: none"> Fencing of development footprint, that is designed to exclude koalas, to avoid machinery and or vehicles impacting koalas or other wildlife. Wildlife Aid Inc (Ph 0429 850 089) will be called should an injured koala be found onsite during construction. Refer to Table 7 for mitigation of noise and dust.
Describe any compensatory measures that will be delivered, including an analysis of the suitability of these measures against criteria 9 and 10.	The proposed development minimizes clearing of core koala habitat except for a limited number of potential food trees, therefore no compensatory measures are proposed.
Outline a plan for monitoring, adaptive management and reporting against the key outcomes and performance targets.	The proposed development minimizes clearing of most core koala habitat and Koala Food Trees. No plan for monitoring, adaptive management and reporting is proposed. Wildlife

Aid Inc (Ph 0429 850 089) will be called should an injured koala be found onsite during construction.

6 Conclusions

The proposal to develop Stages 2-5 of the Consent does not trigger entry into the Biodiversity Offsets Scheme due to planned clearing being minimal and not exceeding the scheme threshold guidelines of 2500m² in 1 ha or less, zoned land, and the existing mostly cleared nature of the Site.

A Test of Significance undertaken for each of the 19 threatened species that were present and/or were considered likely to be present on the Site, determined that the proposal is unlikely to have any significant impact on threatened species, CEECs or their habitats (See Section 4).

The potential impacts of the project on biodiversity, riparian lands and on koalas and koala habitat are expected to be negligible.

Environmental impact mitigation measures considered adequate for this development are presented in Table 7 and Table 8.

7 References

DECC (2002) *Descriptions for NSW (Mitchell) Landscapes – Version 2*. NSW Department of Environment and Climate Change, Sydney.

Department of Planning, Industry and Environment (2020) *Soil Landscapes of Central and Eastern NSW - v2.1*, NSW Office of Environment and Heritage, Sydney.

DPIE (2018) *Biodiversity Values Map*. NSW Department of Planning, Industry and Environment, Sydney.

DPIE (2019) *State Vegetation Type Map: Upper Hunter v1.0. VIS_ID 4894*, NSW Department of Planning, Industry and Environment, Sydney. DPIE (2019)

DPE (2022) *State Vegetation Type Map: Current Release C1.1.M1.1 (December 2022)*, NSW Department of Planning and Environment, Sydney.

DPIE (2020) *NSW Biodiversity Offsets Scheme and Land Management Framework Biodiversity Assessment and Approval Pathways for Local Government*, Department of Planning, Industry and Environment, Sydney.

DPIE (2021) *State Environmental Planning Policy Koala Habitat Protection 2021*, NSW Department of Planning, Industry and Environment, Sydney.

DPIE (2021) *Revegetating Koala Habitat - Northern Tablelands Koala Management Area*, Department of Planning, Industry and Environment, Sydney.

DPIE (2021), *Threatened Biodiversity Data Collection 'BioNet Atlas'*, Department of Planning, Industry and Environment, Sydney.

DPIE (2021) *Threatened Biodiversity Profile*, Department of Planning, Industry and Environment, Sydney.

NSW Rural Fire Service [RFS] (2001) *Planning for Bushfire Protection – A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners*. Planning NSW & NSW Rural Fire Service, Sydney.

NSW Rural Fire Service [RFS] (2006). *Planning for Bushfire Protection*. NSW Rural Fire Service and Department of Planning, Sydney.

NSW Rural Fire Service [RFS] (2010). *Addendum: Appendix 3, Planning for Bushfire Protection*. NSW Rural Fire Service and Department of Planning, Sydney.

NSW Rural Fire Service [RFS] (2019). *Planning for Bushfire Protection*, NSW Rural Fire Service, Sydney.

OEH (2010) *Key Habitats and Corridors Mapping*. Office of Environment & Heritage, Sydney, NSW.

OEH (2018), *Threatened Species Test of Significance Guidelines*. Office of Environment and Heritage, Sydney.

Parliamentary Counsel's Office (2009) *Muswellbrook Local Environmental Plan 2009*, Parliamentary Counsel's Office, Sydney, NSW.

Phillips, S. & Callaghan, J. (2011). *The Spot Assessment Technique: A tool for determining localised levels of habitat use by Koalas Phascolarctos cinereus*. Australian Zoologist. 35. 10.7882/AZ.2011.029.

Muswellbrook Shire Council (2009) *Section 5 – Subdivision, Muswellbrook Shire Development Control Plan 2009*, Muswellbrook, NSW.

Appendix A: Summary of Vegetation Survey Field Data

Table A-1: Flora Survey Species List for PCT 485

Scientific Name	Common Name
<i>E. moluccana</i>	Grey Box
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark
<i>Cynodon dactylon</i>	Couch Grass
<i>enecio madagascariensis</i>	Fireweed
<i>Galenia pubescens</i>	Galenia
<i>Eucalyptus dawsonii</i>	Slaty Gum
<i>N. microcarpa</i>	Narrow-leaved Mock Olive
<i>Gomphocarpus fruticosus</i>	Narrow-leaf Cotton Bush
<i>Austrostipa scabra</i>	Spear Grass
	Exotic Weeds

Table A-2: Flora Survey Species List for PCT 0

Scientific Name	Common Name
<i>E. moluccana</i>	Grey Box
<i>Conyza sp</i>	Horse weed
<i>Echinochloa sp</i>	Barnyard grass
<i>Trifolium repens</i>	White clover
<i>Sclerolaena muricata</i>	Black Roly Poly
<i>Enecio madagascariensis</i>	Fireweed
<i>Aristida ramosa</i>	Three-awn Speargrass
<i>Galenia pubescens</i>	Galenia

<i>Cynodon dactylon</i>	Couch grass
<i>Bidens pilosa</i> L.	Farmer's friends
<i>Eucalyptus dawsonii</i>	Slaty Gum
<i>Austrostipa scabra</i>	Speer Grass
	Exotic Weeds
<i>Dichondra repens</i>	Kidney Weed
<i>Austrostipa ramosissima</i>	Stout Bamboo Grass
<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark
<i>N. microcarpa</i>	Narrow-leaved Mock Olive

Appendix B: Site Survey Tree List

Table B-1: Site Tree List

Tree ID	Scientific name	Common name	Native/ Exotic	DBH at 1.3m (cm)	Koala Scat	PCT	Koala Tree Species List (as per Schedule 2 of the SEPP)	Proposed for removal
1		Planted Red Gum	N	45	N	0	Y	Y
2	<i>Eucalyptus moluccana</i>	Grey Box	N	60	N	0	Y	Y
3	<i>Eucalyptus dawsonii</i>	Slaty Gum	N	60	N	0	N	Y
8	<i>E. moluccana</i>	Grey Box	N	75	N	0	Y	Y
9	<i>E. moluccana</i>	Grey Box	N	60	N	0	Y	Y
11	<i>E. moluccana</i>	Grey Box	N	70	N	0	Y	Y
13	<i>E. moluccana</i>	Grey Box	N	80	N	3431	Y	Y
15	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	N	75	N	3431	Y	Y
16	<i>Eucalyptus crebra</i>	Narrow-leaved Ironbark	N	60	N	3431	Y	Y
17	<i>N. microcarpa</i>	Narrow-leaved Mock Olive	N	45	N	3431	N	Y
18	<i>E. moluccana</i>	Grey Box	N	80	N	3431	Y	N

19	<i>E. moluccana</i>	Grey Box	N	70	N	3431	Y	N
21	<i>E. moluccana</i>	Grey Box	N	100	N	3431	Y	N
22	<i>E. moluccana</i>	Grey Box	N	40	N	485	Y	N
23	<i>N. microcarpa</i>	Narrow-leaved Mock Olive	N	25	N	0	N	Y
24	<i>E. moluccana</i>	Grey Box	N	70	N	3431	Y	N
25	<i>N. microcarpa</i>	Narrow-leaved Mock Olive	N	25	N	3431	N	N
26	<i>E. dawsonii</i>	Slaty Gum	N	100	N	3431	N	N
27	<i>E. moluccana</i>	Grey Box	N	18	N	0	Y	Y
28	<i>E. moluccana</i>	Grey Box	N	75	N	3431	Y	N
29	<i>E. moluccana</i>	Grey Box	N	100	N	0	Y	Y
30	<i>E. moluccana</i>	Grey Box	N	60	N	3431	Y	Y

Fig B-2: Site Tree mapping



Appendix C: Assessment of Likelihood Table

Table C-1: Assessment of Likelihood

Scientific Name	Common Name	BC Act Status	EPBC Act Status	Occurrence
Amphibians				
<i>Litoria aurea</i>	Green and Golden Bell Frog	Endangered	Vulnerable	Unlikely
Bats				
<i>Vespadelus troungtoni</i>	Eastern Cave Bat	Vulnerable	Not Listed	Likely
<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	Vulnerable	Not Listed	Likely
<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	Vulnerable	Not Listed	Likely
<i>Phoniscus papuensis</i>	Golden-tipped Bat	Vulnerable	Not Listed	Unlikely
<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	Vulnerable	Not Listed	Likely
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable	Likely
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	Vulnerable	Not Listed	Likely
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	Vulnerable	Vulnerable	Likely
<i>Miniopterus australis</i>	Little Bent-winged Bat	Vulnerable	Not Listed	Likely

<i>Myotis macropus</i>	Southern Myotis	Vulnerable	Not Listed	Unlkely
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail-bat	Vulnerable	Not Listed	Likely
Birds				
<i>Ninox connivens</i>	Barking Owl	Vulnerable	Not Listed	Likely
<i>Ixobrychus flavicollis</i>	Black Bittern	Vulnerable	Not Listed	Unlikely
<i>Falco subniger</i>	Black Falcon	Vulnerable	Not Listed	Likely
<i>Turnix melanogaster</i>	Black-breasted Button-quail	Critically Endangered	Vulnerable	Unlikely
<i>Hamirostra melanosternon</i>	Black-breasted Buzzard	Vulnerable	Not Listed	Unlikely
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	Vulnerable	Not Listed	Unlikely
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	Endangered	Not Listed	Unlikely
<i>Limicola falcinellus</i>	Broad-billed Sandpiper	Vulnerable	Not Listed	Unlikely
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	Vulnerable	Not Listed	Likely
<i>Burhinus grallarius</i>	Bush Stone-curlew	Endangered	Not Listed	Unlikely
<i>Nettapus coromandelianus</i>	Cotton Pygmy-Goose	Endangered	Not Listed	Unlikely

<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	Not Listed	Likely
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	Vulnerable	Not Listed	Likely
<i>Pandion cristatus</i>	Eastern Osprey	Vulnerable	Not Listed	Likely
<i>Petroica phoenicea</i>	Flame Robin	Vulnerable	Not Listed	Unlikely
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	Vulnerable	Endangered	Unlikely
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler (eastern subspecies)	Vulnerable	Not Listed	Likely
<i>Hieraaetus morphnoides</i>	Little Eagle	Vulnerable	Not Listed	Likely
<i>Glossopsitta pusilla</i>	Little Lorikeet	Vulnerable	Not Listed	Likely
<i>Tyto novaehollandiae</i>	Masked Owl	Vulnerable	Not Listed	Likely
<i>Ninox strenua</i>	Powerful Owl	Vulnerable	Not Listed	Likely
<i>Erythrorhynchus radiatus</i>	Red Goshawk	Critically Endangered	Vulnerable	Unlikely
<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered	Critically Endangered	Unlikely
<i>Petroica boodang</i>	Scarlet Robin	Vulnerable	Not Listed	Unlikely
<i>Calyptrorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	Vulnerable	Vulnerable	Unlikely

Chthonicola sagittata	Speckled Warbler	Vulnerable	Not Listed	Likely
Circus assimilis	Spotted Harrier	Vulnerable	Not Listed	Likely
Lophoictinia isura	Square-tailed Kite	Vulnerable	Not Listed	Likely
Lathamus discolor	Swift Parrot	Endangered	Critically Endangered	Likely
Neophema pulchella	Turquoise Parrot	Vulnerable	Not Listed	Likely
Daphoenositta chrysoptera	Varied Sittella	Vulnerable	Not Listed	Likely
Haliaeetus leucogaster	White-bellied Sea-Eagle	Vulnerable	Not Listed	Unlikely
Hirundapus caudacutus	White-throated Needle-tail	Not Listed	Vulnerable	Likely
Herbs and Forbs				
Bothriochloa biloba	Lobed Bluegrass	Not Listed	Not Listed	Likely
Goodenia macbarronii	Narrow Goodenia	Not Listed	Not Listed	Unlikely
Marsupials				
Phascogale tapoatafa	Brush-tailed Phascogale	Vulnerable	Not Listed	Likely
Petrogale penicillata	Brush-tailed Rock-wallaby	Endangered	Vulnerable	Unlikely

Planigale maculata	Common Planigale	Vulnerable	Not Listed	Unlikely
Cercartetus nanus	Eastern Pygmy-possum	Vulnerable	Not Listed	Likely
Phascolarctos cinereus	Koala	Endangered	Endangered	Likely
Petauroides volans	Southern Greater Glider	Endangered	Endangered	Likely
Dasyurus maculatus	Spotted-tailed Quoll	Vulnerable	Endangered	Unlikely
Petaurus norfolcensis	Squirrel Glider	Vulnerable	Not Listed	Likely
Orchids				
Diuris tricolor	Pine Donkey Orchid	Vulnerable	Not Listed	Unlikely
Prasophyllum sp. Wybong	Prasophyllum sp. Wybong	Not Listed	Critically Endangered	Unlikely
Pterostylis chaetophora	Pterostylis chaetophora	Vulnerable	Not Listed	Unlikely
Prasophyllum petilum	Tarengo Leek Orchid	Endangered	Endangered	Unlikely
Reptiles				
Varanus rosenbergi	Rosenberg's Goanna	Vulnerable	Not Listed	Likely
Delma impar	Striped Legless Lizard	Vulnerable	Vulnerable	Likely

Shrubs

Commersonia rosea	Commersonia rosea	Endangered	Endangered	Unlikely
Persoonia pauciflora	North Rothbury Persoonia	Critically Endangered	Critically Endangered	Unlikely
Ozothamnus tessellatus	Ozothamnus tessellatus	Vulnerable	Vulnerable	Unlikely
Pomaderris queenslandica	Scant Pomaderris	Endangered	Not Listed	Unlikely

Trees

Eucalyptus glaucina	Slaty Red Gum	Vulnerable	Vulnerable	Known
---------------------	---------------	------------	------------	-------