



Winterbourne Wind Farm Transport Route

Areas Requiring Biodiversity
Assessment

PREPARED FOR



WinterbourneWind Pty Ltd

DATE

19 September 2024

REFERENCE

0526676



DOCUMENT DETAILS

DOCUMENT TITLE	Winterbourne Wind Farm Transport Route
DOCUMENT SUBTITLE	Areas Requiring Biodiversity Assessment
PROJECT NUMBER	0526676
Date	19 September 2024
Version	01
Author	Freya Robinson
Client name	WinterbourneWind Pty Ltd

DOCUMENT HISTORY

				ERM APPROVAL TO ISSUE		
VERSION	REVISION	AUTHOR	REVIEWED BY	NAME	DATE	COMMENTS
Draft	01	F. Robinson	M. Aitkens	M. Davey	19/09/2024	

Winterbourne Wind Farm - Haul Route Assessment

Biodiversity Due Diligence
0526676

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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
BAM	Biodiversity Assessment Method 2020
BAM-C	The Office of Environment and Heritage BAM calculator
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
BESS	Battery energy storage system
BOS	Biodiversity Offsets Scheme
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EPBC Act	<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>
ERM	Environmental Resources Management Australia Pty Ltd
FM Act	<i>Fisheries Management Act 1994</i>
ha	Hectares
IBRA	Interim Biogeographic Regionalisation for Australia
km	Kilometres
kV	Kilovolts
LGA	Local Government Area
LLS Act	<i>Local Land Services Act 2013</i>
m	Metres
MNES	Matters of National Environmental Significance
MW	Megawatts
MWh	Megawatt Hours
NSW	New South Wales
OSOM	Over-size over-mass
PCT	Plant Community Type
REZ	Renewable Energy Zone
RJA	Rex J Andrews Engineered Transportation
SSD	State Significant Development
SVTM	State Vegetation Type Map
TBDC	The BioNet Threatened Biodiversity Profiles Data Collection
TEC	Threatened Ecological Community
WTG	Wind Turbine Generators

1. INTRODUCTION

WinterbourneWind Pty Ltd (the Applicant) is seeking approval to construct, operate and decommission the Winterbourne Wind Farm (the Project), located at its closest point about 6.5 kilometres (km) northeast of Walcha in the New England Tablelands region of New South Wales (NSW).

The Project is located within the Walcha and Uralla Shire Local Government Areas. The Project is located northeast of Walcha in the Northern Tablelands and is generally bounded by Thunderbolts Way to the west, Oxley Highway to the south, Oxley Wild Rivers National Park to the east and south, and the Salisbury Plains to the north. The closest major centres to the Project are Tamworth (75 km southwest) and Armidale (35 km north).

The Project Area is approximately 21,844 hectares (ha) in area. The Amended Project comprises associated and ancillary infrastructure including:

- Up to 118 Wind Turbine Generators (WTG) with a hub height of 149 metres (m) and maximum height tip height of 230 m (vertical tip);
- A Battery Energy Storage System (BESS) of up to 100 MW/200 MWh capacity;
- Two 33/330 kV electrical substations, including control room, transformers, circuit breakers, switches, and other ancillary equipment; and
- Other ancillary infrastructure including internal access tracks, road upgrades, meteorological masts (met masts), and an operation and maintenance (O&M) facility.

An Amended Traffic Impact Assessment Report (Amber, 2024) and Route Study (RJA, 2024) have been prepared for the Amended Project. These reports identify the transport routes to be used by heavy vehicles and oversize and/or overmass (OSOM) vehicles, and the upgrades required to facilitate these safe vehicle passage.

The purpose of this report is to identify the road segments or intersections where upgrades may require the clearing of native vegetation that will be required to be assessed in the Biodiversity Development Assessment Report (BDAR).

This report only considers the transport route from the north of Bendemeer Village to the Project Area. The Applicant has assumed that the transport route between Port of Newcastle Port and Bendemeer Village (northeast of Tamworth) will be upgraded by others. This includes the announced Port to REZ (Renewable Energy Zone) road and intersection upgrades being delivered by EnergyCo and Transport for NSW, and upgrades included in the development consent of approved projects in the region (e.g., Thunderbolt Wind Farm, Hills of Gold Wind Farm). As such, these upgrades do not require inclusion in this report. Upgrades to local roads within the Project Area are not covered in this report as these impacts have been included in the Subject Land that was assessed in the BDAR.

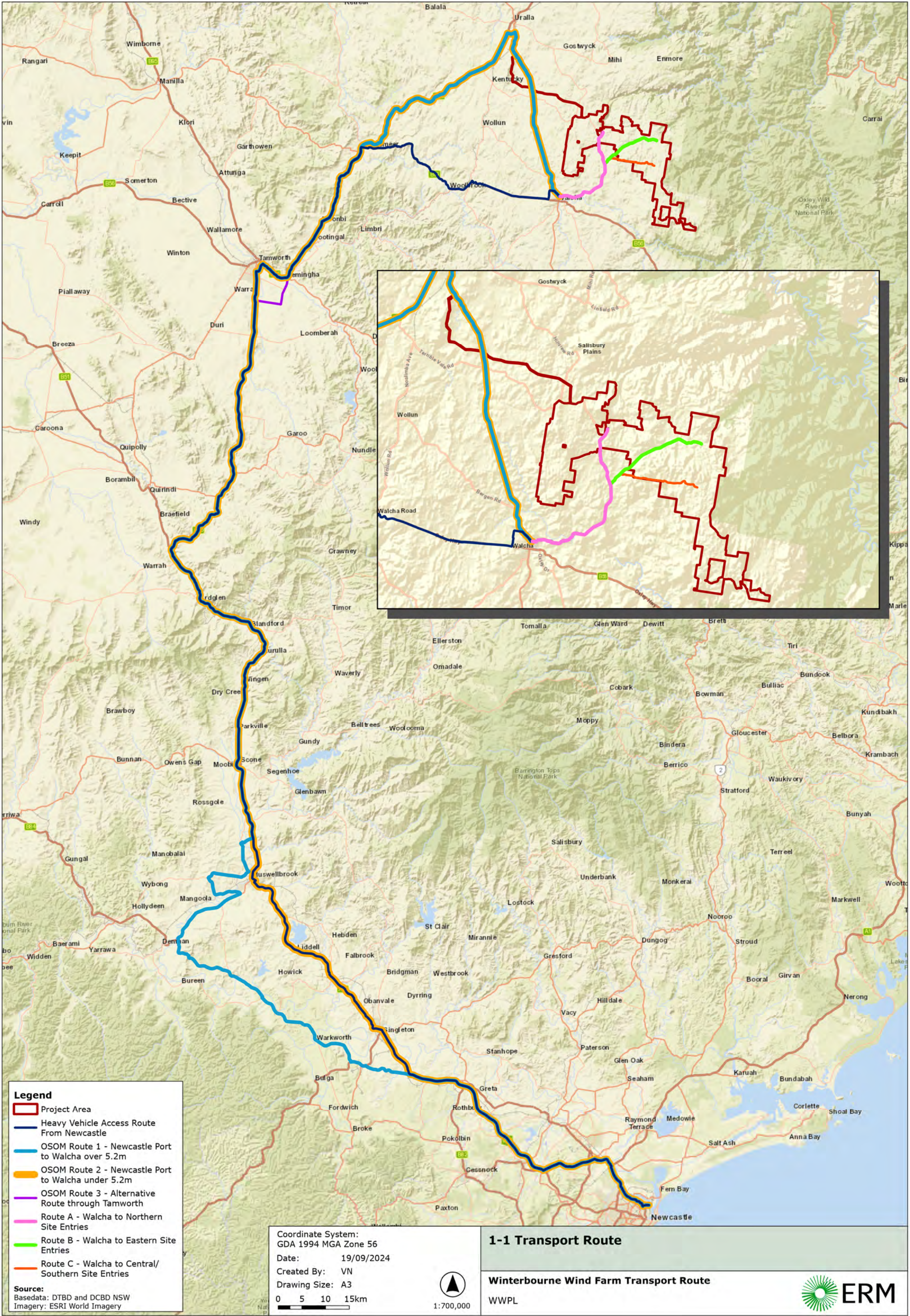
1.1 BACKGROUND

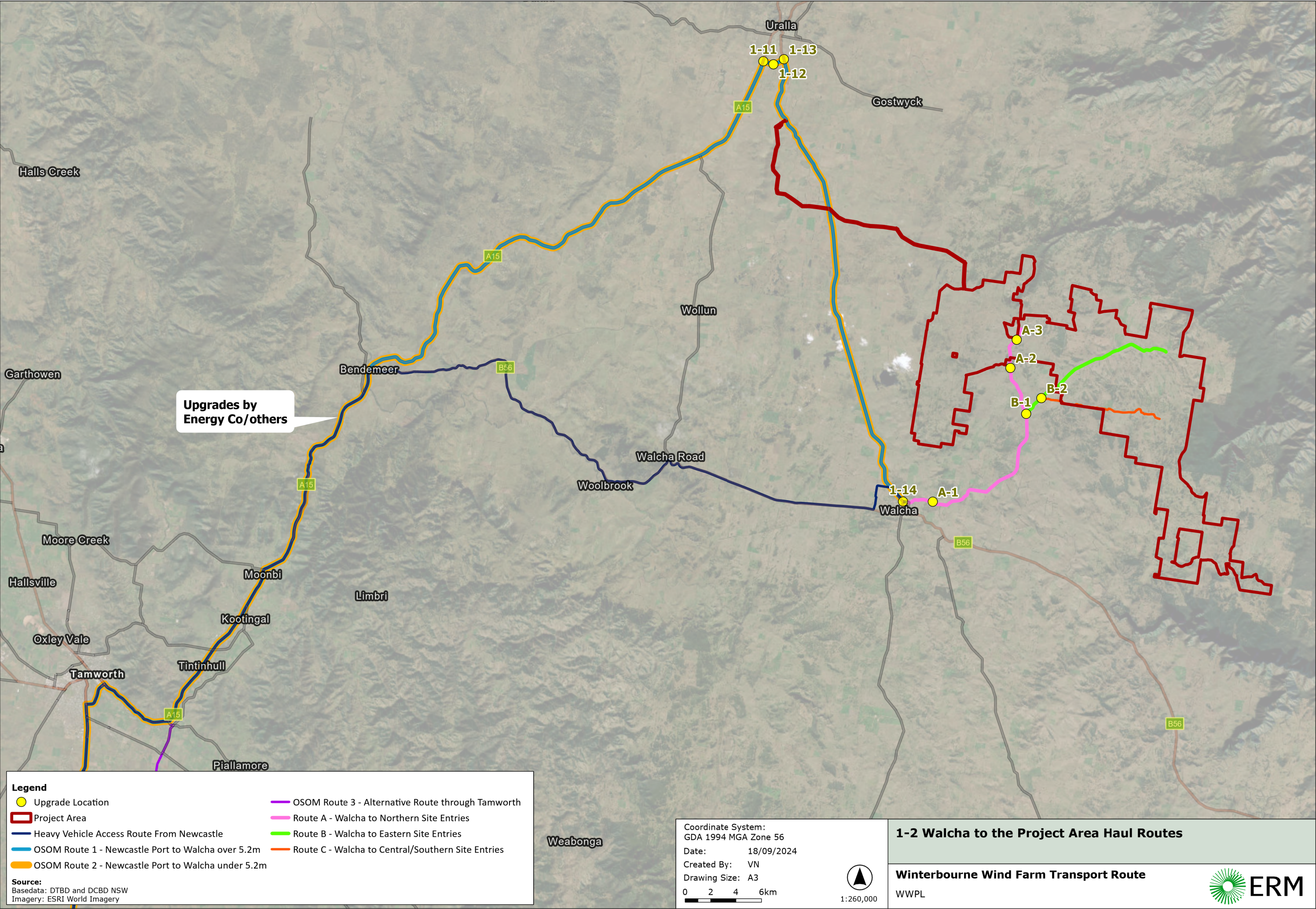
The Project, spanning across a total area of 21,844 ha (Project Area) will utilise the Vestas V162-6.2 megawatt (MW) turbine model with an uppermost blade tip height of 230 metres (m) (hub height 149 m, blade length 81 m) and rotor diameter of 162 m. As part of the construction of the Project, blades and tower components will be transported from the Port of Newcastle to the Project Area. Due to the large and specific equipment required to transport these loads, locations were identified along the transport routes where modifications are required to either private or government owned land, including removal of signage and/or light poles, tree trimming and removal, and road and intersection amendments.

The transport routes from the Port of Newcastle to the Project Area have been separated as follows:

- Route 1: Components over 5.2 m including blades, towers and nacelle between Port of Newcastle and Walcha;
- Route 2: Components under 5.2 m including powertrain, hub and small components between Port of Newcastle and Walcha;
- Route 3: Alternative route through Tamworth for blades;
- Route A: Walcha to northern site entries for all components; and
- Route B: Walcha to eastern site entries including Bark Hut Road for all components.

Routes 1, 2 and 3 are displayed in **Figure 1-1**. Routes A and B are displayed in **Figure 1-2**.





1.2 TRANSPORT ROUTES

An updated Route Study has been prepared (RJA, 2024) for the Amended Project and is included with the Amendment Report (Appendix A in Appendix I). The Port of Newcastle and sections of the transport routes proposed for the Project are also proposed to be used and upgraded by developers of other, approved wind farms. The NSW Government, through EnergyCo in partnership with Transport for NSW are also proposing to upgrade a section of the transport route to facilitate wind energy development of the Central West and Orana REZ.

Three transport routes are proposed from the Port of Newcastle to Walcha:

- **Route 1** allows for components >5.2 m overall height. Route 1 can accommodate for the transportation of the blades, towers and nacelles. The route is 448 km long and travels via Selwyn Street, George Street, Industrial Drive, Maitland Road, New England Highway, John Renshaw Drive, Hunter Expressway, New England Highway, Golden Highway, Putty Road, Jerrys Plains Road, Golden Highway, Denman Road, Bengalla Road, Wybong Road, Kayuga Road, Invermein Street, Stair Street, Dartbrook Mine access Road, New England Highway, (Tamworth bypass via Scott Street, Marius Street), New England Highway, Staces Road, Thunderbolts Way and Jamieson Street;
- **Route 2** allows for components <5.2 m overall height. Route 2 can accommodate for the transportation of the powertrain, hub and other small components. The route is 406 km long and travels via Selwyn Street, George Street, Industrial Drive, Maitland Road, New England Highway, John Renshaw Drive, Hunter Expressway, New England Highway, Bell St, Victoria St, Bridge St, New England Highway, (Tamworth bypass via Scott Street, Marius Street), New England Highway, Staces Road, Thunderbolts Way and Jamieson Street; and
- **Route 3** is an alternative route through Tamworth that could accommodate transportation of the blades. The route is limited to 25 tonnes and is subject to flooding and would require traffic control procedures to implemented either side of the Tamworth township. The route is 11.2 km long. The route travels via Whitehouse Lane, Marsden Park Road, O'Briens Lane and Nundle Road and bypasses areas of Tamworth that would otherwise require modifications as detailed in Route 1.

Two routes are proposed between Walcha and the Project Area and site entry points:

- **Route A** includes transport from Walcha to the northern site entries, travelling for 22 km via Jamieson Street, Emu Creek Road, Winterbourne Road and Blue Mountain Road and requires modifications at 3 locations; and
- **Route B** includes transport from Walcha to the eastern site entries, travelling for 28 km via Jamieson Street, Emu Creek Road, Winterbourne Road and Table Top Road and requires modifications at an additional 3 locations (1 location as per Route A).

The full description of required works is provided within the Amended Traffic Impact Assessment (Amber, 2024) and the Route Study (RJA, 2024).

2. METHODOLOGY

2.1 DESKTOP REVIEW

The Desktop Review included analysis of the following online resources:

- Interim Biogeographical Regionalisation for Australia (IBRA) and IBRA sub-regions v7 (SEED) (<https://datasets.seed.nsw.gov.au/dataset/interim-biogeographic-regionalisation-for-australia-ibra-version-7-subregions>);
- NSW Mitchell Landscapes map v3.1 (SEED) (<https://datasets.seed.nsw.gov.au/dataset/nsw-mitchell-landscapes-version-3-1>) and descriptions (NPWS 2003);
- Department of Planning and Environment (DPE) State Vegetation Type Mapping Version C2.0M2.0 (SEED) (<https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map>); and
- NSW Hydrography Mapping (SEED) (<https://datasets.seed.nsw.gov.au/dataset/nsw-hydrography>).

Site context features have been identified from an inspection of the transport route locations requiring modification via Geographic Information System (GIS) assessment of available relevant digital mapping layers and aerial imagery.

The State Vegetation Type Map was reviewed to identify areas of native vegetation along the transport route at areas that require modification. No vegetation integrity surveys were undertaken in accordance with the BAM (2020).

2.2 FIELD SURVEYS

A two-day preliminary vegetation and habitat survey was undertaken between 1-2 February 2024 by two ecologists to assess the transport route between Uralla and the Project site entry points. The purpose of the field survey was to ground truth the presence of native vegetation along the haul route, including:

- The likely presence of threatened fauna and flora species;
- Threatened ecological communities; and
- Habitat and resources considered important for threatened species or ecological communities.

Surveys were undertaken via a meander of points of interest along the transport route. Survey methodologies were designed to rapidly assess biodiversity values and to record native and non-native vegetation and features of ecological value present. Comprehensive and targeted fauna surveys and vegetation integrity plots were not undertaken as part of the field survey.

2.3 ASSUMPTIONS AND LIMITATIONS

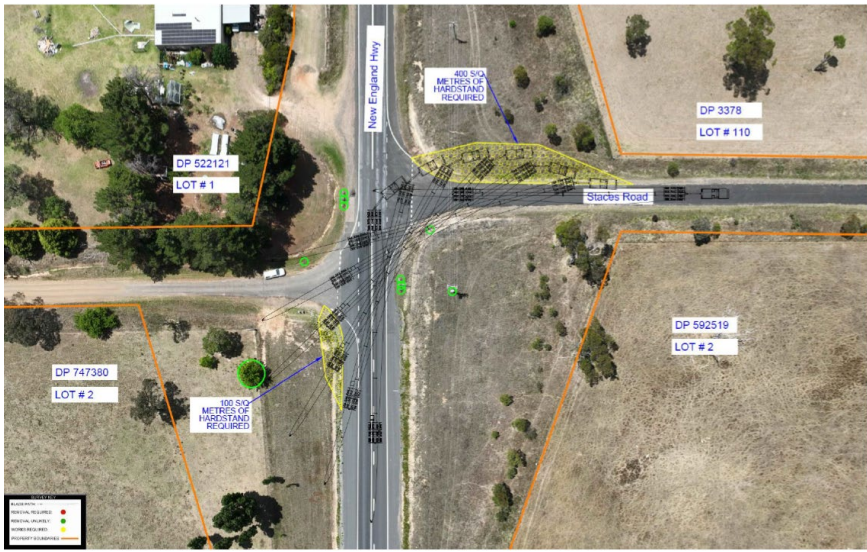
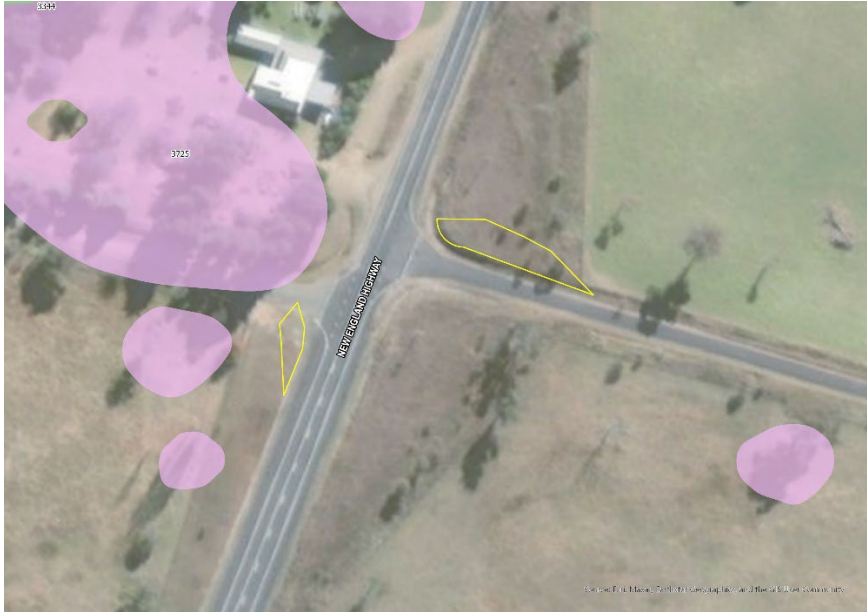
The field and desktop assessments undertaken to identify areas of native vegetation outside the Project Area that could potentially be impacted by road upgrades and therefore requires assessment in the BDAR for the Amended Project. The field survey was undertaken across points of interest along the Project Area to gain a general understanding of the types of species and habitat features that occur.

The absence of a species from a database list or field surveys does not confirm its absence from the Project Area. The lack of existing records from databases may indicate a low historic sampling effort in the region, as opposed to an absence of species. Similarly, the timing of the field survey precludes the detection of several species that are typically absent from the area at that time of the year.

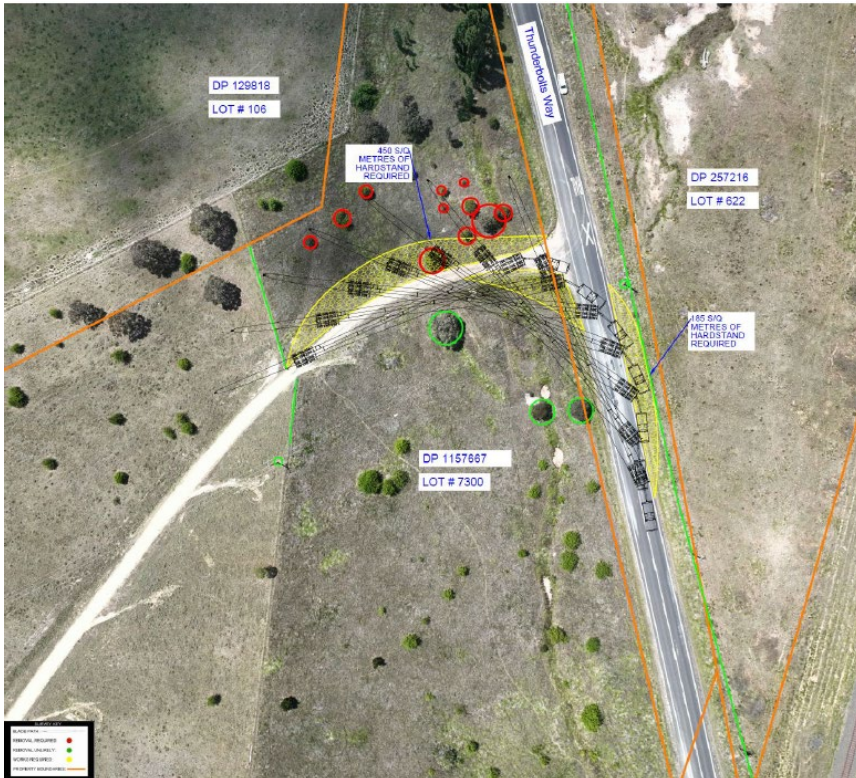
3. ANALYSIS

Table 3-1 provides an assessment of the transport routes segments of relevance to this study. Note, Routes 1 and 2 are the same from Bendemeer Village to the Project Area. Route 3 is an alternative route through Tamworth and is not included in this study.

TABLE 3-1 POTENTIAL VEGETATION CLEARING ALONG THE TRANSPORT ROUTE

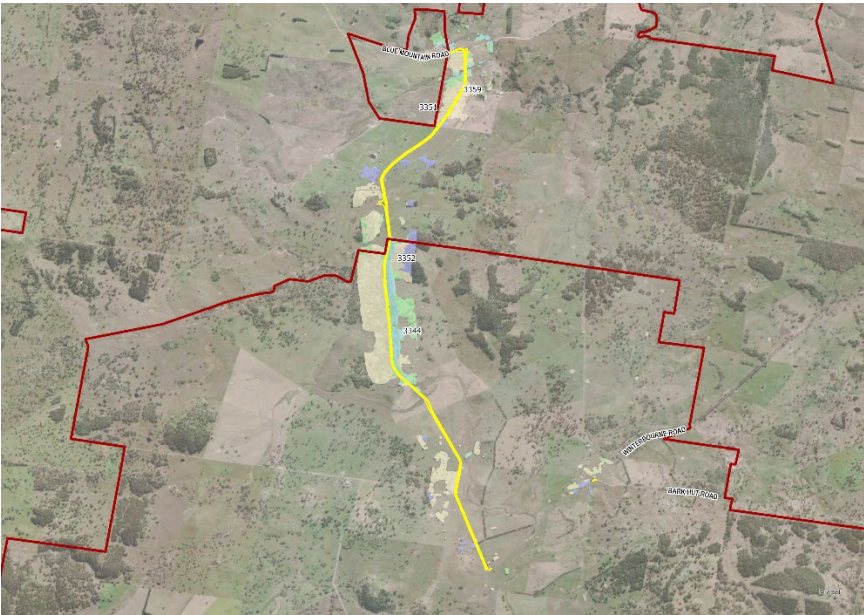
Routes 1 and 2 – Location 11	
km Index	366km (from Newcastle Port)
Location	New England Highway onto Staces Road, Uralla
Description of works	Hardstand (approx. 500 m ²) required on outside of corner.
Indicative design	
Vegetation (SVTM)	
Recommendation	This area is mapped as non-native vegetation on the SVTM and the modifications required are not expected to have any impact to biodiversity values. As such, this part of the haul route is not included in the Subject Land and was not assessed in the BDAR.

Routes 1 and 2 – Location 12	
km Index	367km (from Newcastle Port)
Location	Easement between Staces Road and Thunderbolts Way, Uralla
Description of works	950 m of road to be built through easement. 4 trees will require removal.
Indicative design	
Vegetation (SVTM)	
Recommendation	Native vegetation present was assessed during field surveys. This part of the haul route is included in the Subject Land and was assessed in the BDAR.

Routes 1 and 2 – Location 13	
km Index	367km (from Newcastle Port)
Location	Easement between Staces Road and Thunderbolts Way, Uralla
Description of works	950 m of road to be built through easement. Approximately 450 m ² of hardstand is proposed and 11 trees will require removal.
Indicative design	
Vegetation (SVTM)	
Recommendation	Native vegetation present was assessed during field surveys. This part of the haul route is included in the Subject Land and was assessed in the BDAR.

Route 1 – Location 14	
km Index	406km (from Newcastle Port)
Location	Thunderbolts Way onto Jamieson Street, Walcha
Description of Works	Several signs to be relocated or made removable.
Indicative design	
Vegetation (SVTM)	
Recommendation	No native vegetation is proposed to be removed. As such, this part of the haul route is not included in the Subject Land and was not assessed in the BDAR.

Routes A and B – Location 1	
km Index	2.0km (east of Walcha)
Location	Right hand curve on Emu Creek Road, Walcha
Description of Works	Remove dead trees on tailswing
Indicative design	
Vegetation (SVTM)	
Assessment	Dead trees can still provide critical habitat to fauna species and their removal can impact the surrounding native vegetation. The field survey verified there is native vegetation present. This part of the haul route is included in the Subject Land and was assessed in the BDAR.

Route A – Location 2 and 3	
km Index	14.3km (east of Walcha)
Location	Blue Mountain Road, Walcha
Description of Works	Widen road to 5.5 m with 500 mm verge on each side. Site entrance to be made suitable for the swept path of the largest load.
Image from Route Study	
Vegetation (SVTM)	
Recommendation	Native vegetation likely to be present in the road verge. This part of the haul route is included in the Subject Land and was assessed in the BDAR.

Route B – Location 1	
km Index	14.3km (east of Walcha)
Location	Righthand curve on Winterbourne Road, Walcha
Description of works	Approximately 320 m ² of hardstand required on outside of corner
Indicative design	
Vegetation (SVTM)	
Recommendation	This area is mapped as non-native vegetation on the SVTM. As such, this part of the haul route is not included in the Subject Land and was not assessed in the BDAR.

Route B – Location 2	
km Index	16.1km (east of Walcha)
Location	Winterbourne Road onto Bark Hut Road, Walcha
Description of works	Approximately 500 m ² of hardstand required on inside of corner and culvert to be extended
Indicative design	
Vegetation (SVTM)	
Recommendation	This area is mapped as non-native vegetation on the SVTM. As such, this part of the haul route is not included in the Subject Land and was not assessed in the BDAR.

4. CONCLUSION

A desktop study supported by fieldwork to ground truth findings has been undertaken for the sections of transport road between Bendemeer Village and the Project Area boundary. Areas of native vegetation that could potentially be impacted by upgrades required along this section of the transport route have been identified at the following locations:

- Routes 1 and 2, Location 13 - Easement between Staces Road and Thunderbolts Way, Uralla;
- Route A and B, Location 1 - Right hand curve on Emu Creek Road; and
- Route A, Location 2 and 3 - Blue Mountain Road, Walcha.

Native vegetation at these locations requires assessment under the BAM to determine its biodiversity value and any offsets required under the BOS. Accordingly, these areas were included in the Subject Land assessed in the Amended BDAR.

5. REFERENCES

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