Planning Report

Development Application for a Fixed Wireless Telecommunications Facility

117 Kangaloolah Road Binda 2583

Lot 289 in DP753012

NBN Site Reference: 2CWL-51-02-BNDA

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EXECUTIVE SUMMARY

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Installation of a 60m high lattice tower with a triangular headframe;
Installation of one (1) transmission antennas at the height of EL 58.0m, six (6) nbn panel antennas at the height of EL 60.0m and one (1) GPS antenna;
The installation of a 2.4m high chain-link security compound fence (compound area 10m x 12m), with a 3m wide access gate;
The installation of two (2) outdoor equipment cabinets at ground level, adjacent to the proposed tower.
The installation of associated feeder cables that will run underground from the equipment cabinets, and then internally within the tower to the antennas;
The installation of underground nbn power run approximately 60m long to the nearest power pole;
Ancillary equipment associated with operation of the proposed facility.</td></tr>
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39 Delhi Road, North Ryde NSW 2113
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1 INTRODUCTION

The **nbn**™ rollout is an upgrade to Australia's existing telecommunications network. It is designed to provide Australians with access to fast, affordable and reliable internet.

nbn™ plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

nbn™ has engaged Downer to act on its behalf to design and deliver new fixed wireless equipment and infrastructure within the broader network which is already in operation.

To support the fixed wireless component of this network, **nbn**™ requires a fixed wireless site to provide internet coverage to the locality of Binda. The proposed facility will be located at 117 Kangaloolah Road, Binda NSW 2583.

Prior to confirming this site as the preferred location for a fixed wireless facility, an in-depth site selection process was undertaken. This process matched potential candidates against five key factors, namely:

- The ability of the site to provide acceptable coverage levels to the area;
- The ability of the site to provide line of sight (LoS) to other facilities;
- Town planning considerations (such as zoning, surrounding land uses, environmental significance and visual impact);
- Construction feasibility and cost; and
- The ability of **nbn**™ to secure a lease agreement with the landowner.

This Statement of Environmental Effects (SEE) will provide assessment in respect of the relevant planning legislation and guidelines, and demonstrates site selection on the basis of the following:

- The proposal is designed to comply with State Environmental Planning Policy (Transport & Infrastructure) 2021;
- The site is designed to achieve the required coverage objectives for the area;
- The site is designed to be appropriately located & sited to minimise visual impact on the immediate & surrounding area;
- The proposal is designed to operate within the regulatory framework of Commonwealth, State and Local Government;
- The proposal has been designed to ensure that no adverse environmental impact will result from the proposal
- The facility is designed to operate within all current and relevant standards and is regulated by the Australian Communications and Media Authority.

This telecommunications facility proposal is part of the Regional Digital Connectivity Program, a collaborative initiative between the NSW Government and **nbn** Co. This program aims to establish a network of 56 new or co-located fixed wireless broadline towers across 46 locations in regional NSW by 2025. One of these locations is sought to be within Binda area.

1.1 Owner's Consent

The subject site is privately owned land and the owners' consent was obtained for the preparation and lodgement of the Development Application to propose construction of **nbn** Lattice Tower and associated equipment.

2 BACKGROUND

2.1 nbn™ and the National Broadband Network

nbn is the organisation responsible for overseeing the upgrade of Australia's existing telecommunications network and for providing wholesale services to retail service providers. The **nbn** is designed to provide Australians with access to fast, affordable and reliable internet and landline phone services.

nbn plans to upgrade the existing telecommunications network in the most cost-efficient way using best-fit technology and taking into consideration existing infrastructure.

The **nbn**'s fixed wireless network uses cellular technology to transmit signals to and from a small antenna fixed on the outside of a home or business, which are able to achieve Line of Sight (LoS) towards the fixed wireless facility.

nbn's fixed wireless network is designed to offer service providers with wholesale access speeds of up to 50Mbps for downloads and 20Mbps for uploads[1].

2.2 What is Fixed Wireless and how is it different to Mobile Broadband?

The **nbn**'s fixed wireless network, which uses advanced technology commonly referred to as LTE or 4G, is engineered to deliver services to a fixed number of premises within each coverage area.

This means that the bandwidth per household is designed to be more consistent than mobile wireless, even in peak times of use.

Unlike a mobile wireless service where speeds can be affected by the number of people moving into and out of the area, the speed available in a fixed wireless network is designed to remain relatively steady.

2.3 The Fixed Wireless Network – Interdependencies

Although fixed wireless facilities are submitted to Council as standalone developments, for planning purposes, they are highly interdependent. Each fixed wireless facility is connected to another to form a chain of facilities that link back to the fibre network. This is called the 'transmission network'.

The transmission network requires LoS from facility to facility until it reaches the fibre network via a hub site. The fixed wireless network will remain unconnected without the transmission network and a break in this chain can have flow on effects to multiple communities.

A typical fixed wireless facility will include a number of antennas mounted above a structure on a headframe. Each antenna is designed to cover a set area to maximise signal strength. In turn, these network antennas communicate to a small antenna installed on the roof of each customer's home or business.

The nature of the Fixed Wireless network is visually demonstrated through **Figure 1** below.

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[1] **nbn**™ is designing the **nbn** to provide these speeds to our wholesale customers, telephone and internet service providers. End user experience including the speeds actually achieved over the **nbn** depends on some factors outside **nbn**™'s control like equipment quality, software, broadband plans and how the end user's service provider designs its network.

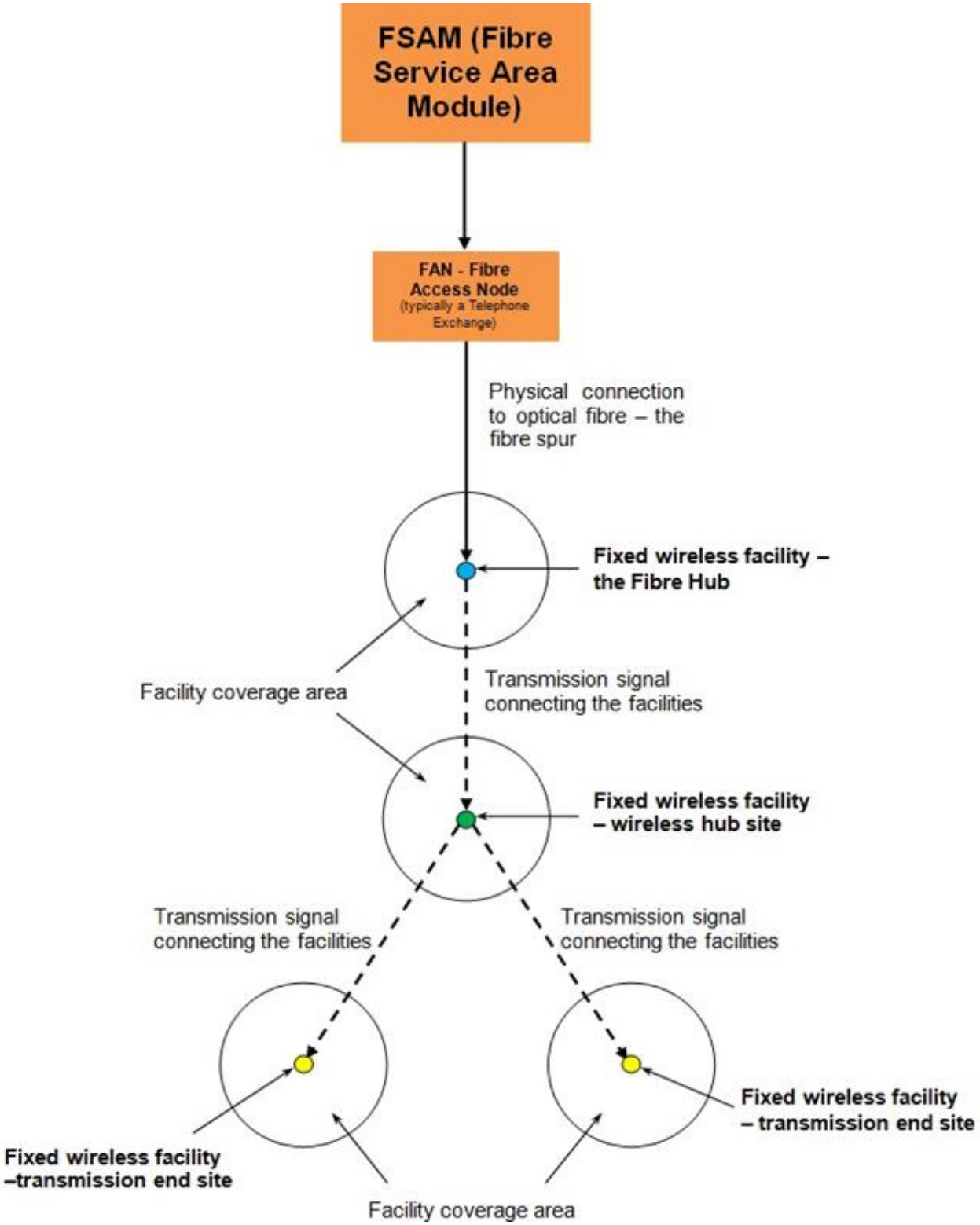

Figure 1 The Fixed Wireless Network

3 SITE SELECTION

Planning for a new fixed wireless broadband facility is a complex process. **nbn**™ conducts a rigorous multi-stage scoping process, as outlined in this section of the SEE.

3.1 Identification of areas requiring Fixed Wireless coverage

nbn's Fixed Wireless locations are determined by many factors including the availability of both the **nbn** Fibre transit network and the availability of Point of Interconnect (POI) facilities to allow for the installation of **nbn** fibre equipment.

nbn uses a number of methods to identify those parts of Australia that require fixed wireless coverage. When an area is identified as requiring fixed wireless coverage, investigations are undertaken to determine the measures required to provide this coverage.

nbn has identified a requirement to provide a Fixed Wireless facility at Binda. The facility is designed to provide fixed wireless internet services to premises in Binda and surrounding areas.

3.2 Site Selection Parameters

nbn™ generally identifies an area where the requirement for a Fixed Wireless facility would be highest known as a 'search area.' A preliminary investigation of the area is then undertaken, in conjunction with radio frequency engineers, planning and property consultants and designers to identify possible locations to establish a facility.

New sites must be located within, or immediately adjacent to, the identified search area. Search areas are produced by radio frequency engineers who work on the network and are areas where a facility is technically feasible and can meet **nbn** coverage objectives.

While the operational and geographical aspects of deploying new facilities are primary factors, there are also many other issues that influence network design, which should be considered.

Some of the issues that are considered throughout selection include:

- the availability and suitability of land;
- the ability to find a willing landowner to host the proposal;
- topographical constraints affecting network loS and NTP count;
- construction constraints;
- occupational health and safety; and
- cost constraints

These compounding factors often severely restrict the available search area within which a facility can be established to provide fixed wireless broadband services to a local community.

3.3 Candidate Sites

3.3.1 Opportunities to Co-locate

It should be noted that as a first preference, **nbn** attempts to utilise, where possible, any existing infrastructure or co-location opportunities. The nearest existing telecommunication facilities are located at Lost River and Crookwell approx. 11km to the southwest and southeast, which will not meet the location criteria requirement. No other co-location opportunities that offer the required coverage is available within the search area. Topography of the

surrounding area and LoS limitation are the triggers for a 60m high lattice tower at this location to achieve the desired coverage and transmission levels in the area.

3.3.2 Existing Structures

Unfortunately, no other colocation opportunities exist on existing telecommunications or other utility infrastructure within the Binda area that provides the required height to achieve the acceptable coverage.

3.3.3 New Site Candidates

Following desktop and field investigations of a large number of potential candidates, a total of two (2) candidates as shown in **Figure 2** below were selected to be explored in-depth.

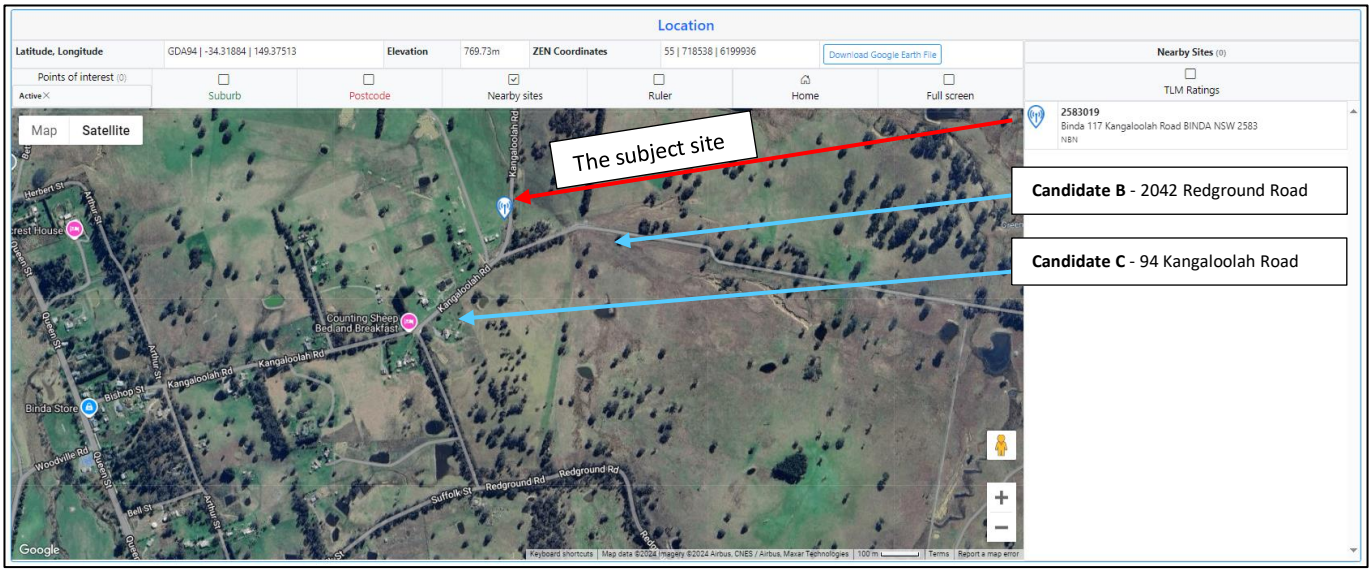

Figure 2 Candidate Locations

A summary of the candidate sites that were considered is outlined below in **Table 1**, including a description of the opportunities and constraints that each site presented.

Table 1 Summary of candidates' details

Candidate	Address and Lot Number	Facility Type	Description
A	117 Kangaloolah Road, Binda NSW 2583	Lattice Tower – 60m high	This is the selected candidate and is discussed in detail in this planning report.
B	94 Kangaloolah Road, Binda NSW 2583 (-34.32079, 149.373797)	Lattice Tower – 60m high	This site was eliminated following the site visit and landowners' advice that the property is being sold and a residential development is being proposed on the adjacent lot.
C	2042 Redground Road, Binda NSW 2583 (-34.324455, 149.376566)	Lattice Tower – 60m high	This property was discounted due to the lack of power connection nearby and the likelihood of further subdivision by the owner in the near future.

4 SUBJECT SITE & SURROUNDS

The telecommunications facility is proposed to be located at Lot 289 in DP 753012, 117 Kangaloolah Road, Binda NSW 2583. A rural residential dwelling sits on the southernmost portion of the land accessible via a gravel route from Kangaloolah Road. There are some dams and sparse trees scattered across the property and a stream traverses the land in a northwest-southeast direction.

Figure 3 Locality Map

Figure 4 Site Map

The subject site is located in a rural area on undulating land within the Upper Lachlan Local Government Area (LGA), approximately 250 km southwest of Sydney CBD. The proposed location for the **NBN** facility will be roughly 1.2 km northeast of the Binda town. The facility will be constructed within a 10 m by 12 m compound area to the northeast of the existing dwelling, accessible via Kangaloolah Road. Underground cabling is proposed to run between the compound and the existing power pole, located approximately 120 m to the southwest. The immediate surrounding landscape consists of large rural parcels of land, with patches of trees scattered throughout, primarily along access roads and the boundaries of land parcels.

5 THE DEVELOPMENT APPLICATION

5.1 The nbn™ Fixed Wireless Facility and Equipment Details

The Development Application seeks approval for the use and development of a telecommunications facility, comprising a 60m high lattice tower, antennas, transmission equipment and ground equipment within a secure compound which measures approximately 120 m^2.

The specific components of the proposed installation are described below:

- Installation of a 60m high lattice tower with a triangular headframe at the height of 60m from the ground level.
- Installation of one (1) transmission antennas at the height of EL 58.0m, six (6) **nbn** panel antennas at the height of EL 60.0m and one (1) GPS antenna.
- The installation of a 2.4m high chain-link security compound fence (compound area 10m x 12m), with a 3m wide access gate.
- The installation of two (2) outdoor equipment cabinets at ground level, adjacent to the proposed tower on the proposed concrete slab.
- Installation of two (2) RAUs attached on mounts at the height of EL 58m.
- The installation of associated feeder cables that will run underground from the equipment cabinets, and then internally within the tower to the antennas.
- The installation of underground **nbn** power run approximately 60m long to the nearest power pole.
- Ancillary equipment associated with operation of the proposed facility; and
- Provision of a 3m wide gravel access to the compound area from the existing access route.

This **nbn**™ Fixed Wireless facility is a Transmission End site within the network, providing **nbn**™ broadband coverage to Binda.

Figure 5 (overleaf) identifies the location of the structure.

Figure 5 Site Location- shown by green arrow

Please refer to the proposed drawings in **Appendix A** for details of the facility and site compound.

5.2 Utility Service Details

The site will be linked to the wider **nbn** network via transmission signal to the nearest fibre hub. Power to the facility will be provided via an underground cable from the nearby power pole which is approximately 60m to the southwest of the proposed compound area.

5.3 Construction Schedule

During the construction phase, trucks will be used to deliver the equipment to the site and a crane will be utilised to lift most of the equipment into place. Any traffic impacts associated with construction will be of a short-term duration and are not anticipated to adversely impact on the surrounding road network.

A Section 138 application will be submitted to seek Upper Lachlan Shire Council's approval for the temporary access route closure during the construction.

A total construction period of approximately ten weeks (including civil works and network integration and equipment commissioning) is anticipated.

Construction activities will involve four basic stages:

- Stage 1 (Week 1) – Site preparation works, including field testing, excavation and construction of foundations;
- Stage 2 (Weeks 2, 3 and 4) – Construction of the lattice tower;
- Stage 3 (Weeks 5 and 6) – Construction of the equipment shelter and fences;
- Stage 4 (Weeks 7 – 10) – Installation of antennas and radio equipment, as well as equipment testing.

Once operational, the facility will function on a continuously unstaffed basis and will typically only require maintenance works three to four times a year.

5.4 Construction and Noise

Noise and vibration emissions associated with the proposed facility are expected to be limited to the construction phase outlined above. Noise generated during the construction phase is anticipated to be of short duration and accord with the standards outlined in the relevant EPA guidelines. Construction works are planned only to occur between the hours of 7.00am and 6.00pm or as stipulated by council through consent conditions.

There is expected to be some low-level noise from the ongoing operation of air conditioning equipment associated with the equipment shelter and cabinets, once installed. Noise emanating from the air conditioning equipment is expected to be at a comparable level to a domestic air conditioning installation and should generally accord with the background noise levels prescribed by relevant guidelines.

6 RELEVANT PLANNING LEGISLATION AND CONTROLS

6.1 Commonwealth Legislation

As a licensed telecommunications carrier, **nbn** must operate under the provisions of the *Telecommunications Act 1997* and the following supporting legislation:

- The *Telecommunications Code of Practice 1997*;
- The *Telecommunications (Low-impact Facilities) Determination 2018* (as amended); and
- The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*.

6.1.1 The Telecommunications Act

This legislation establishes the criteria for 'low impact' telecommunication facilities. If a proposed facility satisfies the requirements of a 'low impact' facility, the development is exempt from the planning approval process.

Further clarification of the term 'low impact' is provided in the Telecommunications Act 1997 and the *Telecommunications (Low Impact Facilities) Determination 2018*, which was gazetted subsequent to the Act. The *Telecommunications (Low Impact Facilities) Determination 2018* establishes certain facilities, which cannot be considered 'low impact' facilities.

The proposed facility is not considered to be low impact under the definitions contained in the Commonwealth legislation as it involves the construction of a new lattice tower (a detached tower).

6.1.2 Telecommunications Code of Practice 1997

Under the *Telecommunications Act 1997*, the Government established the Telecommunications Code of Practice 1997, which sets out the conditions under which a carrier must operate.

Section 2.11 of the Telecommunications Code of Practice 1997 sets out the design, planning and installation requirements for the carriers to ensure the installation of facilities is in accordance with industry 'best practice'. This is required to:

"… minimise the potential degradation of the environment and the visual amenity associated with the facilities." [Section 2.11(3)]

The siting and design of the proposal has taken place in accordance with Section 3 (Planning and Siting) of the Australian Standard – Siting of Radio Communications Facilities (AS 3516.2).

Furthermore, following an assessment of the available options, it became evident that there were no suitable existing telecommunications facilities or other structures (including buildings or power poles) located within the search area that could provide the required site objective/co-location opportunities.

6.1.3 The Telecommunications (Low-impact Facilities) Determination 2018

The *Telecommunications (Low-impact Facilities) Determination 2018* identifies both the type of facilities that can be "Low-impact", and the areas in which these facilities can be installed. Importantly, this current facility is not defined as a "low impact facility" and is therefore subject to State/Territory and local Planning Laws and Regulation.

6.1.4 The Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* obliges telecommunications carriers to consider 'matters of national environmental significance'. Under this legislation, an action will require approval

from the Minister of Environment if the action has or is likely to have an impact on a matter of 'national environmental significance'. According to the *EPBC Act 1999*, there are seven matters of national significance which must be considered.

All relevant EPBC matters have been considered. It is not anticipated that the proposal will have a significant impact on any matters of national environmental significance. Accordingly, approval from the Minister of Environment is not required in this instance. Refer to **Appendix D**.

6.2 Environmental Planning & Assessment Act 1979

The principal legislation regulating land use and development in NSW is the *Environmental Planning and Assessment Act 1979* (EP&A Act). The *EP&A Act* provides a framework for the making of Environmental Planning Instruments (EPIs) such as State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs) and Development Control Plans (DCPs). Part 4 of the *EP&A Act* also provides a framework for the assessment of certain development types.

The telecommunications facility proposed is classified under the *EP&A Act* as development that needs consent. Therefore, the environmental assessment provided in this Statement of Environmental Effects (SEE) has been undertaken pursuant to Section 4.15 of the *EP&A Act*.

6.2.1 Integrated Development

Integrated development is a development that, in order for it to be carried out, requires one or more approval, permit, license, authority or consent under various legislation.

The proposal has considered Section 4.46 of the EP&A Act 1997. As referenced in **Table 2** (overleaf), the proposed development will not require any approvals from the relevant NSW State Government Agencies in relation to the listed legislation.

Table 2 Integrated Development assessment and referral requirement

Legislation	Referral	Comment
Fisheries Management Act 1994	No	N/A
Heritage Act 1977	No	
Water Management Act 2000	No	
National Parks and Wildlife Act 1974	No	
Coal Mine Subsidence Compensation Act 2017	No	
Mining Act 1992	No	
Petroleum (Onshore) Act 1991	No	
Protection of the Environment Operations Act 1997	No	
Rural Fires Act 1997	No	
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	No	
Roads Act 1993	No	

6.3 State Environmental Planning Policy, Legislation and Guidelines

6.3.1 Statement of Environmental Planning Policy (Transport & Infrastructure) 2021

The *SEPP (Transport & Infrastructure) 2021* commenced on 1 March 2022 after the consolidation and repeal of 4 below-mentioned SEPPs in accordance with Section 3.22 of the Environmental Planning and Assessment Act 1979:

- *SEPP (Infrastructure) 2007 (Infrastructure SEPP)*
- *SEPP (Educational Establishments and Childcare Facilities) 2017 (Education and Childcare SEPP)*
- *SEPP (Major Infrastructure Corridors) 2020 (Corridor SEPP)*
- *SEPP (Three Ports) 2013 (Three Ports SEPP).*

The relevant provisions of SEPP Infrastructure 2007 have been transferred to Chapter 2 of the SEPP and provide a consistent planning framework for infrastructure and the provision of services across NSW, along with providing consultation with relevant public authorities during the assessment process.

Division 21 Telecommunications and other communications facilities of *SEPP (Transport & Infrastructure) 2021* establishes a framework for the deployment of telecommunications facilities within NSW aimed at improving efficiency and providing consistent planning regime for telecommunications infrastructure and the provision of services such as mobile phone coverage and broadband.

Division 21 classifies certain telecommunications development that are permitted without consent, with consent and exempt from local environmental approvals.

The proposed development is deemed to be development which requires consent in accordance with clause 2.143 of the SEPP.

Clause 2.143(1) of the SEPP provides that:

> *(1) Development for the purposes of telecommunications facilities, other than development in section 2.141 or development that is exempt development under section 2.20 or 2.144, may be carried out by any person with consent on any land.*

While telecommunications facilities are permissible with consent in any zone in accordance with the SEPP, consideration has also been given to Clause 2.143(2) of Division 21 which states:

> *Before determining a development application for development to which this section applies, the consent authority must take into consideration any guidelines concerning site selection, design, construction or operating principles for telecommunications facilities that are issued by the planning for secretary for the purposes of this section and published in the Gazette.*

The proposed **nbn**™ facility has been sited and designed with consideration given to the principles of *NSW Telecommunications Facilities Guideline including Broadband 2022*.

6.4 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) provides a framework to avoid, minimise and offset impacts on biodiversity. In conjunction with the *Local Land Services Amendment Act 2016*, the *BC Act* repeals the *Native Vegetation Act 2003*, the *Threatened Species Conservation Act 1995* (TSC Act), and parts of the *National Parks and Wildlife Act 1974*.

The *BC Act* introduces the Biodiversity Assessment Method (BAM), a consistent method for the assessment of biodiversity on a proposed development. The BAM must be applied by an accredited assessor and a Biodiversity Development Assessment Report (BDAR) prepared for all proposals assessed under Part 4 of the *EP&A Act* which:

- Exceed the relevant clearing threshold as set out in Section 7.2 of the *Biodiversity Conservation Regulation 2017* (The Regulation)
- Are located within an area identified on the 'Biodiversity Value Map", which identifies land of high biodiversity value as defined by the *Biodiversity Conservation Regulation 2017*.
- Are located in a declared Area of Outstanding Biodiversity Values (AOBVs). Note listed areas of declared critical habitat under the now repealed TSC Act have become AOBVs under the new legislation.
- Are considered "likely to significantly affect threatened species" using the test of significance in Section 7.3 of the Act.

An assessment of the information available through the Department of Planning and Environments Biodiversity Values Map and Threshold tool has identified that the subject site does not include high or outstanding Biodiversity Values and the proposal will not result in exceedance from vegetation clearing threshold.

Considering that the site is mapped as containing native vegetation which may be impacted by the proposal, an ecological assessment has been undertaken by AEP in accordance with the *BC Act 2016* and concluded that the BAM will not be triggered as a result of the proposed **nbn** facility at this location. For further details, refer to the Environmental Assessment Report in **Appendix D**.

6.5 Local Environmental Plan – Upper Lachlan Local Environmental Plan 2010

The relevant Local Environmental Plan (LEP) applicable to the subject site is the Upper Lachlan LEP 2010. This Plan aims to make local environmental planning provisions for land located within the Upper Lachlan Shire LGA in accordance with the relevant standard environmental planning instrument under Division 3.4 of the Act.

6.5.1 LEP Zoning

The subject lot is zoned RU2 – Rural Landscape under the Upper Lachlan LEP 2010 (ULLEP).

The 'Land Use Table' under the ULLEP outlines those uses that can be development carried without consent, with consent, or a development that is prohibited pursuant to the ULLEP. The land use table is constructed to depict those uses that are permissible without consent and those uses that are prohibited. If a defined use does not appear under either of these two headings, then it is deemed to be permissible subject to the consent of Council.

Telecommunications facilities are permitted with consent within the RU2 land under ULLEP.

The purpose of RU2 zoned land is:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*
- *To protect, manage and restore areas with high conservation, scientific, cultural or aesthetic value.*
- *To encourage development that generates employment opportunities, integrates with tourism and is compatible with, and adds value to, local agricultural production.*
- *To retain the significant historic and social values expressed in existing landscapes and land use patterns.*
- *To conserve and enhance the quality of potentially valuable environmental assets, including waterways, riparian land, wetlands and other surface and groundwater resources, remnant native vegetation and fauna movement corridors.*

The proposal is consistent with the purpose of the Zone for the following reasons:

- Improved access to the **nbn** and internet services in the Binda area will benefit local agricultural and tourism businesses through enhanced communication and faster access to information. This encourages sustainable primary industry by providing opportunities for better resource management and increased market access. It is expected that the community will be supportive of the proposal providing much needed internet services to the area.
- Improved telecommunications can enhance emergency response capabilities, ensuring that residents have access to critical services and information, which is essential in rural areas.
- While the proposed location sits within reasonable distance from community sensitive locations, it is in a strategic location to provide the optimum coverage for the **nbn** wireless network within Binda.
- It supports the local community of Binda and surrounding rural area through provision of better connectivity to online education and telehealth services.

The presence of established vegetation and undulating terrain of the surrounding area offers some visual screening at lower levels of the proposed tower when considering viewpoints from distant surrounding area. The visual

impact is considered reasonable when balanced with the net community benefit of introducing better access to a more reliable internet network.

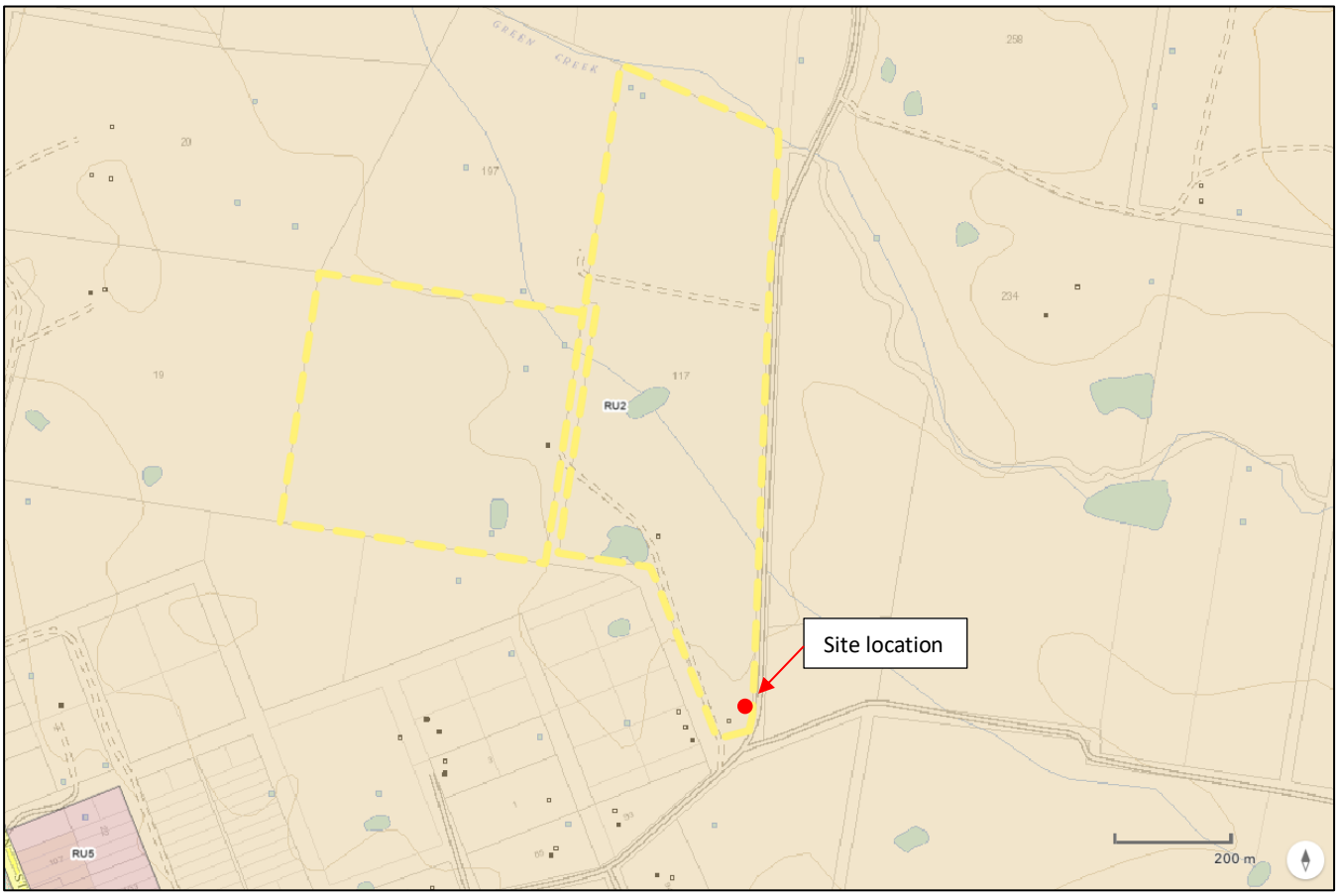

Figure 6 Zoning Map and Location of the Site

6.5.2 Other relevant section of the LEP*

Some other relevant clauses of the ULLEP 2010 have been discussed under the following headings:

Clause 5.10 Heritage Conservation

The site is not identified as containing any local or state heritage items or located within a heritage conservation area. An Aboriginal Heritage Information Management System (AHIMS) report was generated on September 19, 2024 (see **Appendix C**) and confirmed that there were no identified Aboriginal items or places located within 1km of the proposed location.

Clause 5.11 Bush fire Hazard Reduction

The site is not identified as "Bushfire Prone Land" according to the ULLEP 2010. Therefore, no further assessment is required.

Clause 5.21 Flood Planning /Clause 5.22 Special Flood Considerations

The site is not mapped as being within the flood planning area and the probable maximum flood. Therefore, no further assessment is deemed required.

Clause 6.2 Biodiversity

The proposed site is mapped under the ULLEP as sensitive land on the "Natural Resources Sensitivity- Biodiversity Map". An Environmental Assessment Report has been prepared by AEP to assess the proposal's likely impacts on the native or nationally significant ecological communities and their habitat. The Environmental Assessment Report concluded that impacts on Matters of National Environmental Significance or on threatened species listed under BC Act are unlikely to occur. General recommendations and mitigation measures to minimise any likely environmental impacts during the construction phase are detailed in the AEP Report (**Appendix D**).

Clause 6.3 Land

The proposed subject site occupies a small portion of the parent lot. The parent lot is partially identified as "sensitive land" on "Natural Resources Sensitivity - Land Map" under this clause of ULLEP. However, the proposed location for installation of the **nbn** tower is outside the area subject to this clause. It has been concluded that the proposed location aligns with the requirements of this clause and has minimal detrimental impacts Therefore, no further assessment is required.

Clause 6.12 Airspace Operations

The objective of this clause is to ensure:

- Effective and ongoing operation of Crookwell Airport which will not be compromised by proposed development that penetrates the Obstacle Limitation Surface for the airport; and
- Community protection from undue risk from such operation.

As part of the development application assessment, Council will refer all towers and the like over 30m to the department of Communications Information Technology and the Civil Aviation Safety Authority for endorsement and any requirements advised by that authority.

6.5.3 Upper Lachlan Shire Development Control Plan 2010 (Amended 2022)

- **Clause 4.2 Environment**

4.2.1 Tree and Vegetation Preservation

This control's objective is to ensure that the development seeks approval for any removal of native vegetation including trees, shrubs and other vegetation that exists in areas zoned non-urban and non-industrial in order to preserve vegetation contributing to the environmental and amenity value of the region.

The proposal encompasses a 10m by 12 m compound area which will sit in a modified area. No tree removal is proposed and therefore, no further assessment, consent or permit will be required.

4.2.2 Waterways, Water bodies and Wetlands

This DCP control is consistent with Clause 6.4 of the Upper Lachlan LEP 2010 which aims to maintain the integrity and value of existing flora and fauna and the biodiversity values of the waterways. The compound area proposed for the **nbn** tower is located within considerable distance from the waterways or watercourses. While the nearest riparian corridor is located within 150m of the proposed site, Green Creek, which is approximately 900m away, crosses the northern boundary of the parcel lot. It is believed that no adverse impact will occur as a result of the proposed development and the objectives of this clause will be satisfied.

4.2.3 Riparian Corridors

Considering the approximate 150m distance between the proposed location and the nearest riparian corridor, no adverse impact on the environmental values of the riparian corridor is expected; therefore, no further assessment is required.

4.2.6 Biodiversity Management

According to the Environmental Assessment Report prepared by AEP, the proposal will not impose any detrimental impacts on the existing biodiversity values of the land including ecological community, threatened species and nationally significant species of flora and fauna or habitat.

Clause 3.17- Bushfire Risk Management

Not applicable. The Site is not identified as a bushfire prone land.

- **4.4 Heritage**

4.4.1 European (non-Indigenous) Heritage Conservation

The site is not identified as containing any local or state heritage items or located within a heritage conservation area. No further assessment is required.

4.4.2 Indigenous Heritage and Archaeology

An Aboriginal Heritage Information Management System (AHIMS) report was generated on September 19, 2024 (see **Appendix C**) and confirmed that there are no identified Aboriginal items or places located within 1km of the proposed location. The NSW State Heritage Inventory also confirmed there is no existing registered heritage, interim heritage order or Aboriginal place within proximity of the site. Therefore, the precautionary approach will be implemented during the earth/construction works meaning that in the event that artefacts are uncovered, all activities must cease until all relevant approvals have been obtained for removal/destruction of the artefacts.

9.4 Telecommunications

This section of ULDCP provides controls for Non-Low Impact telecommunications facilities which require development consent under the Environmental Planning & Assessment Act 1979.

Design Controls

The siting and design of the proposed facility has taken place in accordance with Section 3 (Planning and Siting) of the Australian Standard – Siting of Radio Communications Facilities (AS 3516.2) and Section 2.11 of the Telecommunications Code of Practice 2018. The proposed facility comprises of a 60m high lattice tower and according to the Civil Aviation Safety Authority a referral will be requested by Council to ensure that the tower does not penetrate the identified surface and will not be considered a hazard to aircraft operations.

Visual Amenity

The proposed telecommunication tower will sit on a portion of a rural land within considerable distance from Binda town and majority of sensitive land uses. The presence of established vegetation and undulating terrain of the surrounding area offers partial visual screening at the lower levels of the proposed tower when considering viewpoints from distant area. The facility's height is proposed to be the minimum required to ensure optimal coverage for the locality and effective signal transmission and the visual impact is considered reasonable when balanced with the net community benefit of introducing better access to a more reliable internet network. All ground-based equipment is to be contained within **nbn** equipment cabinets within the designated compound area.

Co-location

There is no appropriate co-location opportunity within the search area that offers an optimum location to achieve the desired coverage and transmission objectives in Binda.

Siting

Precautionary Approach has been implemented in order to minimise the EMR exposure as a result of the proposed facility and a thorough planning, property and engineering investigation has been conducted in the site selection process. The site was selected based on its suitability in relation to considerations such as topography and LoS /NTP count, landowners' support, occupational and health matters, construction feasibility and the required fix wireless coverage. The site is located within a rural context adequately distant from community sensitive locations and Binda community centre. A standalone 3m wide gravel access will be developed off Kangaloolah Road to the proposed compound. (Refer to the proposed drawings in **Appendix A)**

Noise and vibration emission associated with the proposal will be limited to the construction phase. The ongoing operation of air conditioning equipment, once installed, will be low-level and at a comparable level to the domestic air conditioning installation, in line with the background noise levels prescribed by Australian Standard AS1055.

Heritage and Environment

The site is not mapped under any Environmental Planning Instruments (EPIs) as containing a registered state/local heritage item, nor is it located within a heritage conservation area. The Environmental Assessment Report accompanying this DA confirms no detrimental impact will be on the existing condition of flora and fauna as a result of the proposal. All considerations will be taken into account to avoid and minimise likely environmental impacts.

Facility Physical Design Controls

nbn is committed to consider new technologies for antennas and associated equipment to minimise unnecessary or incidental EMR emissions and exposure in compliance with clause 5.2.3 of the ACIF Code. All the precautionary approaches regarding public access restriction, EMR signage, etc. will be installed consistent with the proposed plans that accompany the Development Application. The **nbn** proposed facilities will operate in compliance with the operational standards set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA is a Federal Government agency incorporated under the Health and Ageing portfolio and is charged with the responsibility for protecting the health and safety of both people and the environment from the harmful effects of radiation (ionising and non-ionising).

All **nbn**™ network installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the **nbn**™ facility does not result in any increase in the level of risk to the public.

Facility Health Controls

The Development Application is accompanied by Electromagnetic Emissions (EME) Report demonstrating the analysis of the cumulative EMR effects of the proposed facility and how it complies with the relevant Australian exposure standards as specified by the ACMA.

7 LIKELY IMPACTS OF THE DEVELOPMENT

7.1 Visual Impact

With tens of thousands of base stations in operation around Australia, panel antennas, dishes and other relevant equipment have become part of the urban landscape. Telecommunications facilities aren't only operated for day-to-day use by the general public, but also entail critical infrastructure assets employed by the emergency services, rail and other public utility authorities to ensure the active and safe operation of their respective duties.

Freestanding telecommunications base stations are a common feature within urban and rural landscapes. The justification behind the use of a freestanding structure is to provide unrivalled coverage within flat and undulating topography. Specific design elements have been included within the planning of the proposed facility, inclusive of:

- Limiting the height of the proposal to an overall height of 60 metres (with antenna protrusion). This will ensure that the best level of coverage can be provided to the locality, without constructing to a height which would offer no additional benefit to the service area.
- Ground based equipment is to be contained within new **nbn** equipment cabinets within the designated compound.
- The siting, design, and location of the proposal has been taken into consideration during the site selection process in order to ensure that the site does not result in any undue visual intrusion towards surrounding viewing corridors.

The location of the subject site was chosen for its rural characteristics, its distance from majority of sensitive land uses, and its suitability to achieve the design and coverage objectives. Although visibility from the adjacent public domain is unavoidable, the existing nearby vegetation, rural landscape and undulating topography of Binda will offer partial visual screening from the surrounding area.

nbn considers the significant views to a proposed site as part of the site selection process. **nbn** acknowledge that the site cannot be totally hidden and will have a visual presence in the environment from some perspectives close by. Views of the proposed facility from the surrounding area are not considered to significantly disturb the existing vistas.

7.2 Flora and Fauna

Comprehensive Flora & Fauna assessment of the nearby natural environment was undertaken, and the outcome was incorporated into the design of the telecommunications proposal to ensure that there are no disturbances to the natural surrounds and that a marginal amount of ground clearance would be required.

In summary, minimal ground clearance will be required to accommodate for the construction of the proposed tower compound, access track and facility. Considering that the proposed new facility encompasses a footprint of approximately 10m x 12m, it is believed that any clearance works required to establish the proposal will not result in significant adverse environmental impacts to the surrounding locality.

During the construction phase, the subject site area will be rigorously concealed by imposing barriers and fencing to repeal any impacts to the surrounding environment. This proposal will employ effective measures to mitigate any impacts to surrounding flora, fauna and natural environment inhabitants. Additionally, once constructed the operation of the telecommunications facility will not result in any negative impacts on the natural environment or the ecology of the locality.

7.3 Aboriginal and Non-Aboriginal Heritage

nbn takes its obligations under the act seriously and assesses each site against the NSW State Heritage Inventory and the local heritage register under the relevant LEP. In the case of this proposal at Binda, a search with a 1Km buffer has been conducted on September 19, 2024, through the Aboriginal Heritage Information Management System (AHIMS). It has been determined that the site does not contain any identified Aboriginal Cultural Heritage sites or places. Additionally, based on the NSW Heritage Inventory and ULLEP, the site is not mapped for any registered state or local heritage items. Accordingly, no further investigation is deemed required.

7.4 Bushfire Risk

The land is not identified as a bushfire prone land.

7.5 Electrical Interference

The **nbn**™ fixed wireless network is licensed by the Australian Communications and Media Authority (ACMA) for the exclusive use of the OFDMA9800 frequency band. As **nbn** is the exclusive licensee of this sub-band, emissions from **nbn**™ equipment within the frequency band should not cause interference.

Filters will also help to ensure that each facility meets the ACMA specifications for emission of spurious signals outside the **nbn**™ frequency allocations. **nbn**™ intends to promptly investigate any interference issues that are reported.

7.6 Erosion, Sedimentation Control and Waste Management

All erosion and sediment control mitigation measures will comply with the Building Code of Australia, The Blue Book, and local Council standards where applicable. In addition, contractors must comply with the '**nbn**™ Construction Specification' that requires contractors to undertake the necessary erosion and sediment control measures to protect the surrounding environment.

It is expected that a condition pertaining to erosion and sediment control will be implemented in the development consent subject to Upper Lachlan Shire Council's Approval.

7.7 Traffic Generation

After the construction period, the only traffic generated by the base station will be that associated with maintenance vehicles. In this respect, it is estimated that maintenance of the facility will generate only three to four visits per year and will remain unattended at all other times. The traffic generation will therefore be minimal and not sufficient to create any adverse impacts.

7.8 Utility Services

All services required for the ongoing operation of the base station are capable of being provided to the facility without impacting on the supply or reliability of these services to any existing consumers in the locality.

7.9 Noise

Noise and vibration emissions associated with the proposed facility will be limited to the initial construction phase. There will be some low-level noise from the ongoing operation of air conditioning equipment associated with the equipment shelter, once installed. Noise emanating from the air conditioning equipment is at a comparable level to a domestic air conditioning installation and will generally accord with the background noise levels prescribed by Australian Standard AS1055.

7.10 Social and Economic Impacts

Access to fast internet is an essential service in modern society. Initially, small to medium business customers accounted for a significant part of the demand for broadband technology, but internet services have now been embraced by the general public. Usage of internet services continues to widen as new technologies become progressively more affordable and accessible to the wider community.

The new **nbn**™ network is designed to provide the community with access to fast and reliable internet services. A reliable internet service is important to help promote the economic growth of communities, and the facility is anticipated to have significant social and economic benefits for the local community.

7.11 Public Safety – Radiofrequency Emissions

In relation to public safety and specifically Electromagnetic Emissions (EME) and public health, **nbn**™ network operates within the operational standards set by the Australian Communication and Media Authority (ACMA) and Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). ARPANSA is a Federal Government agency incorporated under the Health and Ageing portfolio and is charged with the responsibility for protecting the health and safety of both people and the environment from the harmful effects of radiation (ionising and non-ionising).

All **nbn**™ network installations are designed and certified by qualified professionals in accordance with all relevant Australian Standards. This helps to ensure that the **nbn**™ facility does not result in any increase in the level of risk to the public.

This facility is to be operated in compliance with the mandatory standard for human exposure to EME – currently the Radio communications (Electromagnetic Radiation Human Exposure) Standard 2003. The EME Report associated with this site is attached in **Appendix B**. The report shows that the maximum predicted EME will equate to 2.03% of the maximum exposure limit.

Moreover, all **nbn**™ network equipment has the following features, all of which help to minimise the amounts of energy used and emitted:

- Dynamic/Adaptive Power Control is a network feature that automatically adjusts the power and hence minimises EME from the facility.
- Varying the facility's transmit power to the minimal required level, minimising EME from the network, and
- Discontinuous transmission, a feature that reduces EME emissions by automatically switching the transmitter off when no data is being sent.

7.12 The Public Interest

The public benefits of access to high quality broadband have been widely acknowledged for many years. Broadband access is now more than ever considered an integral component of daily life, so much so that its absence is considered a social and economic disadvantage.

Across the Upper Lachlan Shire LGA, the Fixed Wireless network is designed to service rural and rural residential communities that have traditionally been significantly disadvantaged both in terms of basic access to broadband and in terms of the quality and reliability of broadband that these communities receive.

The Government's National Map illustrates the substantial disparity and inequity in service between larger townships and smaller communities, and often even within individual rural communities.

The proposed **nbn**™ facility is expected to have significant benefit for residents, businesses and educational establishments in Binda. It will assist by providing improved internet services within the area. Furthermore, the proposal has been designed to minimise environmental impact.

8 Conclusion

The **nbn**™ facility proposed has been sited in a manner which allows **nbn**™ to provide broadband services to Binda effectively and efficiently. The facility has been strategically sited and designed to ensure that the target coverage area is able to be provided with nbn™ broadband services and that line of sight will be able to be achieved to an adjoining facility.

The proposed facility is considered appropriate for the subject site for the following reasons:

- The facility is located specifically to provide reliable fixed wireless services to the Binda area;
- The siting of the tower is well separated from majority of sensitive land uses at Binda town;
- The landowner is supportive of the proposal;
- Public views to the facility are partially screened by existing vegetation and undulating terrain;
- The facility will operate within the regulatory framework of Commonwealth, State and Local Governments;
- The proposal is consistent with the relevant provisions of the Local Environmental Plan and Local Development Plan;
- The facility will ensure the provision of significantly improved **nbn** coverage in regional and remote Australia aligned with the objectives of the Regional Digital Connectivity Program, a collaborative initiative between the NSW Government and **nbn** Co;
- The facility will operate within all current and relevant Australian Standards;
- The proposal will not prejudice the existing and future uses of the site; and,
- The proposal will have a number of significant economic and social benefits to the area.

The proposed **nbn**™ facility is expected to have significant benefit for residents, businesses, tourism and educational establishments in the Binda area. It will assist by providing improved internet services and contribute socially and economically within the area. Furthermore, the proposal has been designed to minimise environmental impact.

Given the considerable merit of this application, we respectfully request that Council considers the limited impacts and expected public benefits of the proposed facility in assessing this Development Application.

Appendix A Proposed Drawings

DATE OF ISSUE		19.07.24	
DRAWING PACKAGE VERSION		1	

GENERAL

9CVZ-2CWL-5102-T1	COVER SHEET	01
9CVZ-2CWL-5102-T2	REFERENCE DOCUMENTS	01
9CVZ-2CWL-5102-C1	SITE SPECIFIC NOTES	01
9CVZ-2CWL-5102-C2	OVERALL SITE PLAN	01
9CVZ-2CWL-5102-C3	SITE SETOUT PLAN	01
9CVZ-2CWL-5102-C4	SITE ELEVATION AND DETAILS	01
9CVZ-2CWL-5102-C4-1	STRUCTURE EQUIPMENT DETAIL EXPANDED VIEW	01

ELECTRICAL

RF AND TX CONFIGURATIONS

9CVZ-2CWL-5102-A1	NBN ANTENNA CONFIGURATION	01
9CVZ-2CWL-5102-A2	NBN ANTENNA SETOUT PLAN	01

DESIGN DOCUMENTS

DISTRIBUTION

DOWNER	IBRAHIM TURKMEN	1
NBN	SHAIL GOPANI	1

SITE CODE: 2CWL-51-02-BNDA

BINDA

117 KANGALOOLAH ROAD,
BINDA
NSW 2583

RFNSA No: TBC

Australia's broadband network

PROJECT SUMMARY

- INSTALL NEW NBN 60m HIGH LATTICE TOWER WITH NEW TRIANGULAR HEADFRAME
- INSTALL NEW NBN OUTDOOR CABINET (2-OFF) ON NEW CONCRETE SLAB WITHIN THE NBN COMPOUND
- INSTALL NEW RF 2.3GHz, 3.4GHz & 26GHz ANTENNA
- INSTALL NEW TRANSMISSION ANTENNA (1-OFF)
- INSTALL NEW GPS ANTENNA (1-OFF)

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
117 KANGALOOLAH ROAD,
BINDA
NSW 2583

PRELIMINARY

Rev	Date	Revision Details	CAD
01	19.07.24	PRELIMINARY ISSUE	JM

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DRAFTED BY:	AR
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Drawing Title:
COVER SHEET

Drawing No.	Revision
9CVZ-2CWL-5102-T1	01

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DATE OF ISSUE		19.07.24
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NBN STANDARD DOCUMENTS

NBN-STD-0001	STANDARD CONSTRUCTION NOTES	E
NBN-STD-0003	TYPICAL GROUND LAYOUT LATTICE TOWER	D
NBN-STD-0004	GENERIC MONOPOLE AND LATTICE TOWER LOADING CONDITIONS	D
NBN-STD-0006	TYPICAL LATTICE TOWER FOUNDATION	D
NBN-STD-0009-SHT 1	TYPICAL LATTICE TOWER HEADFRAME EXAMPLES	E
NBN-STD-0009-SHT 3	TYPICAL MONOPOLE HEADFRAME LAYOUT SHEET 3	E
NBN-STD-0011	TYPICAL 1200-1800 PARABOLIC ANTENNA MOUNTING DETAILS - TOWER	D
NBN-STD-0012	STANDARD COMPOUND FENCING DETAILS	F
NBN-STD-0013	STANDARD CABLE LADDER WATERFALL DETAILS	G
NBN-STD-0014	STANDARD ELEVATED CABLE LADDER SUPPORT POST DETAILS	G
NBN-STD-0016-SHT 1	STANDARD ODC BASE FRAME DETAILS	F
NBN-STD-0016-SHT 4	ENCLOSURE E6150 ODC BASE FRAME DETAILS	B
NBN-STD-0016-SHT 5	B158 ODC BASE FRAME DETAILS	B
NBN-STD-0017	STANDARD ODC SUPPORT SLAB DETAILS	G
NBN-STD-0019	STANDARD SITE EARTHING LATTICE TOWER	E
NBN-STD-0021-SHT 1	STANDARD EARTHING BAR DETAILS	D
NBN-STD-0021-SHT 2	SEB ALLOCATION TABLE - SHEET A	C
NBN-STD-0021-SHT 3	SEB ALLOCATION TABLE - SHEET 2	A
NBN-STD-0022	STANDARD METER BOX-H-FRAME DETAILS	E
NBN-STD-0027-SHT 5	PDB LAYOUT	B
NBN-STD-0027-SHT 14	STANDARD PDB/ METERING SCHEMATIC - E6150	A
NBN-STD-0027-SHT 17	STANDARD NBN ANTENNA EME PATTERNS AIR6419 B40	A
NBN-STD-0030-SHT 11	STANDARD NBN ANTENNA EME PATTERNS AIR3219 B42	A
NBN-STD-0030-SHT 15	STANDARD NBN ANTENNA EME PATTERNS AIR5322 N257	A
NBN-STD-0033	ODC MOUNTED ON FOUNDATION	C
NBN-STD-0034-SHT 4	STANDARD ODC SLAB WITH MOUNTED H-FRAME	F
NBN-STD-0036	GPS ANTENNA MOUNT DETAILS	A

REFERENCE DOCUMENTS

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
117 KANGALOOLAH ROAD,
BINDA
NSW 2583

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APPROVED BY:	SG

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REFERENCE DOCUMENTS

Drawing No.	Revision
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SITE INFORMATION:

1. SITE ADDRESS
   117 KANGALOOLAH ROAD, BINDA, NSW 2583.
   LATITUDE: -34.318843°; LONGITUDE: 149.375127°.

2. GENERAL
   THE CONTRACTOR SHALL COMPLY WITH ALL RELEVANT NBN CONSTRUCTION STANDARDS, AUSTRALIAN STANDARDS AND SPECIFICATIONS.

3. SITE ACCESS
   FROM THE CENTRE OF TOWNSHIP OF BINDA HEAD NORTH ON QUEEN STREET FOR 330m. TURN RIGHT ONTO BISHOP STREET AND FOLLOW FOR 1.1KM AND THE ACCESS DRIVEWAY WILL BE ON THE LEFT.

4. EQUIPMENT
   NEW NBN OUTDOOR CABINETS E6150 (1-OFF) AND B158 (1-OFF) ON NEW CONCRETE SLAB WITHIN NBN COMPOUND.

5. STRUCTURE
   NEW NBN 60m HIGH LATTICE TOWER.

6. ANTENNA ACCESS
   NEW ANTENNA ACCESS VIA NEW LATTICE TOWER MOUNTED ACCESS LADDER WITH FALL ARREST OR EWP (BY QUALIFIED PERSONNEL ONLY).

7. EXISTING SERVICES
   THE CONTRACTOR SHALL IDENTIFY AND CONFIRM THE LOCATION OF ALL RELEVANT EXISTING SERVICES AS REQUIRED PRIOR TO THE COMMENCEMENT OF WORKS.

8. EXISTING SITE HAZARDS
   THE FOLLOWING HAZARDS ARE PRESENT ON SITE:
   - ELECTRICAL CABLING AND/OR TRIP HAZARDS
   - MANUAL HANDLING
   - WORKING AT HEIGHT
   - EME EXCLUSION ZONES OF ANTENNAS ON FACILITY. REFER TO RFNSA FOR DETAILS.

9. ELECTRICAL SUPPLY
   REFER TO SHEETS C2 & C3 FOR DETAILS.

10. TRANSMISSION LINK & RF CONFIGURATION
    REFER NBN ANTENNA CONFIGURATION ON DRG. 9CVZ-2CWL-5102-A1 FOR DETAILS.

11. SITE EARTHING
    NBN EQUIPMENT AND STRUCTURE EARTHING IS TO BE INSTALL NEW IN ACCORDANCE WITH LATEST AS/NZS 1768, NBN STANDARD DRAWINGS NBN-STD-0019 AND NBN-STD-0020-SHT2.

12. LATTICE TOWER WIND LOAD PARAMETERS

SITE TOPOGRAPHIC DATA		
REGION	TERRAIN CATEGORY	TOPOGRAPHIC MULTIPLIER (Mt)
XXX	XXX	XXX

13. SITE SIGNAGE REQUIREMENTS
    NBN EQUIPMENT SIGNAGE SHALL COMPLY WITH NBN RAN DOCUMENT AND NBN STANDARD DRAWING NBN-STD-0025.

14. NEW SCOPE OF WORKS:

TX SCOPE:
CROOKWELL:
- INSTALL NEW NBN MOUNT (1-OFF)
- INSTALL NEW NBN ø900 PARABOLIC ANTENNA (1-OFF) ON NEW MOUNT
- INSTALL NEW NBN RAU (2-OFF) ON NEW MOUNTS

RF SCOPE:
- INSTALL NEW NBN PANEL ANTENNA (6-OFF; 1-OFF EACH FOR SECTORS 1, 2, B1, B2, K1 & K2) ON NEW MOUNTS
- INSTALL NEW NBN CORE 6/12 (1-OFF) AND 9/18 (1-OFF) HYBRID FEEDER CABLE AND CANISTER (2-OFF) IN NEW CABLE ROUTE IN PIGGY BACK FASHION

REFER TO CERTIFICATE XXX FOR DETAILS.

GROUND SCOPE:
- INSTALL NEW NBN RP6651 (2-OFF)
- INSTALL NEW GPS UNIT (1-OFF)
- INSTALL NEW CONCRETE SLAB FOR NEW NBN OUTDOOR CABINETS
- INSTALL NEW NBN OUTDOOR CABINET E6150 (1-OFF) ON NEW CONCRETE SLAB
- INSTALL NEW NBN OUTDOOR CABINET B158 (1-OFF) ON NEW CONCRETE SLAB
- INSTALL NEW NBN PDB ON H-FRAME
- INSTALL NEW NBN 300mm WIDE CABLE TRAY BETWEEN CABINETS.

EARTHING SCOPE
- ALL NEW EQUIPMENT TO BE EARTHED IN ACCORDANCE WITH NBN-STD-0019, NBN-STD-0021-SHT 1 AND NBN-STD-0021-SHT 3

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
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BINDA
NSW 2583

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SITE SPECIFIC NOTES

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9CVZ-2CWL-5102-C1	01

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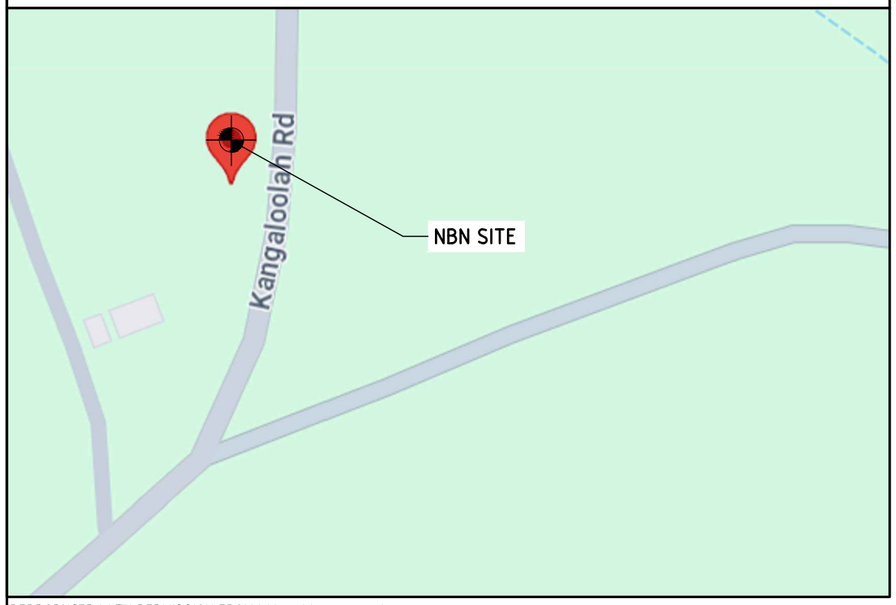
SITE LOCATION



REPRODUCED WITH PERMISSION FROM https://maps.google.com

DBY JOB NO. 37107666
ENQUIRE DATE: 11/07/24
CONTRACTOR TO REVALIDATE AT TIME OF CONSTRUCTION

SITE CO-ORDINATES

LATTICE TOWER

DATUM: MGA (GDA94)	ZONE: 55
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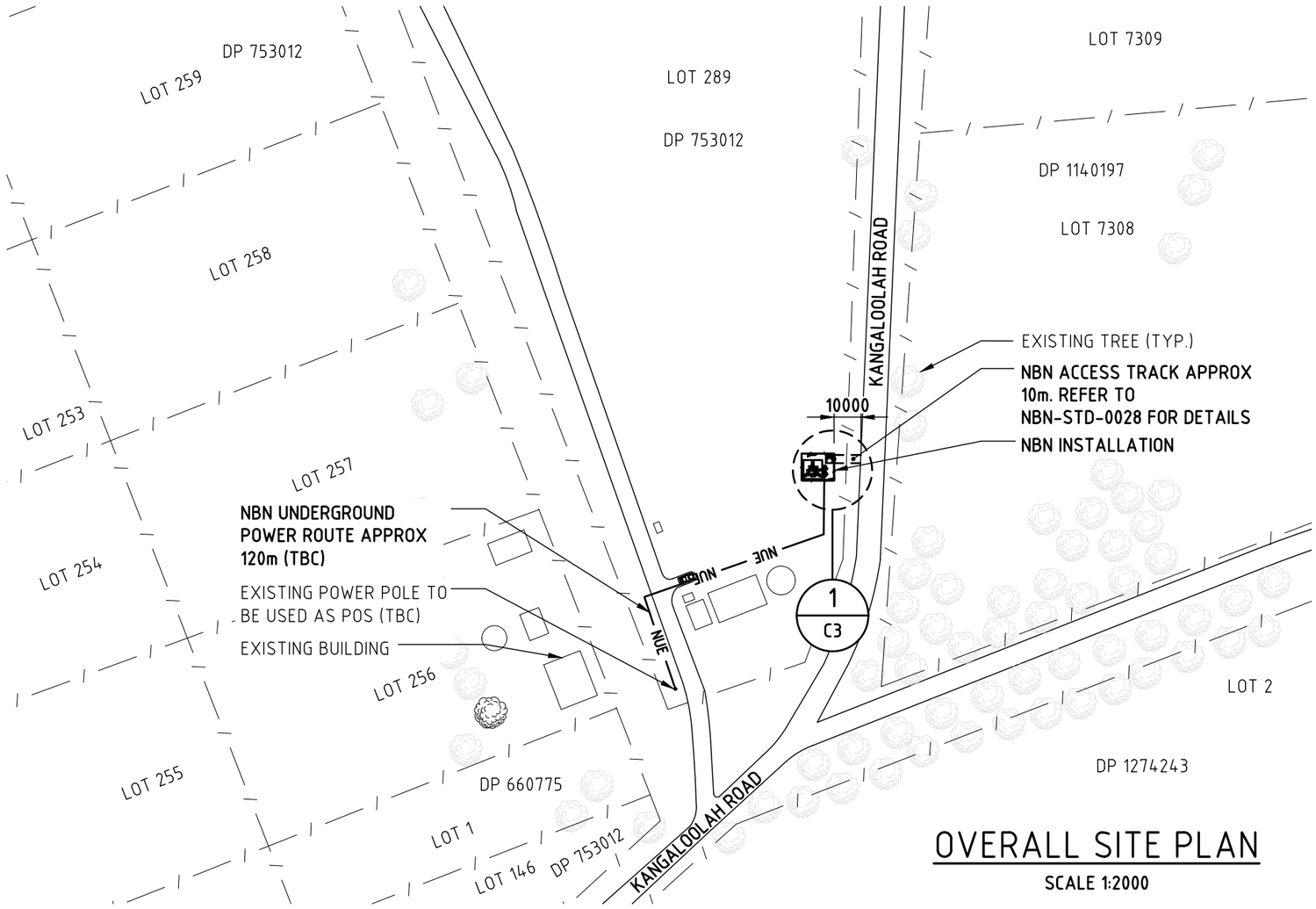
LONGITUDE	149.375127°
EASTING	7 185 37.92
NORTHING	6 199 935.77



OVERALL SITE PLAN

SCALE 1:2000

LEGEND

- PROPERTY BOUNDARY
- NUE — NUE — NBN UNDERGROUND ELECTRICAL
- — / — / — FENCE LINE
- E NBN ELECTRICAL CABLE PIT
- BUILDING

Client:

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Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
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OVERALL SITE PLAN

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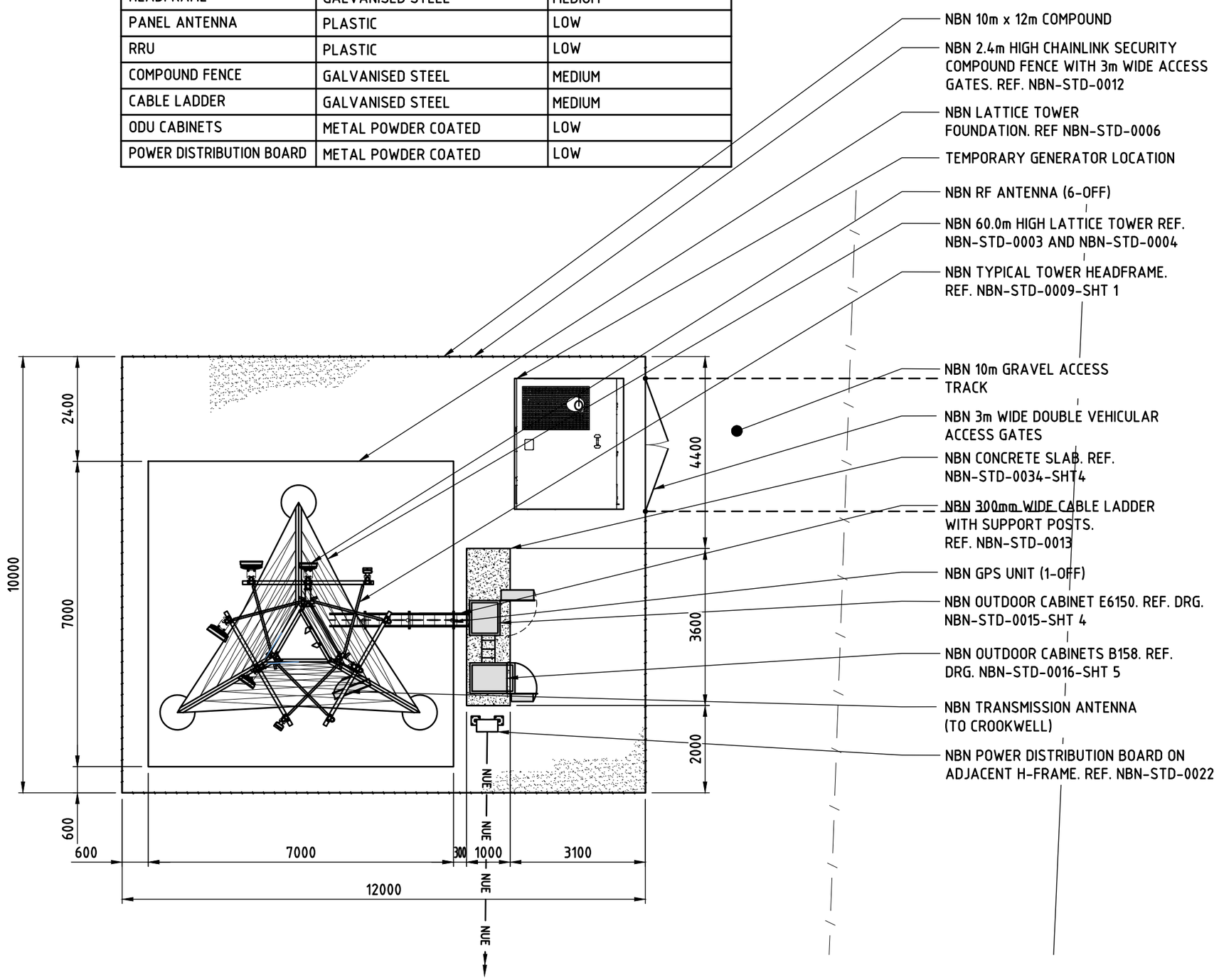
MGA

NBN EQUIPMENT EXTERNAL COLOUR SCHEDULE

FEATURE	EXTERNAL MATERIAL	LEVEL OF REFLECTIVITY
LATTICE TOWER	GALVANISED STEEL OR CONCRETE	LOW
MOUNTING BRACKETS & PIPES	GALVANISED STEEL	MEDIUM
HEADFRAME	GALVANISED STEEL	MEDIUM
PANEL ANTENNA	PLASTIC	LOW
RRU	PLASTIC	LOW
COMPOUND FENCE	GALVANISED STEEL	MEDIUM
CABLE LADDER	GALVANISED STEEL	MEDIUM
ODU CABINETS	METAL POWDER COATED	LOW
POWER DISTRIBUTION BOARD	METAL POWDER COATED	LOW



DETAIL 1/C2
SCALE 1:100

NOTES:
- REF. 9CVZ-2CWL-5102-A1 TO A2 FOR RF, TRANSMISSION AND GPS ANTENNA DETAILS.
- RAUS AND RRUS NOT SHOWN FOR CLARITY.

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
117 KANGALOOLAH ROAD,
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Drawing Title:
SITE SETOUT PLAN

Drawing No.	Revision
9CVZ-2CWL-5102-C3	01

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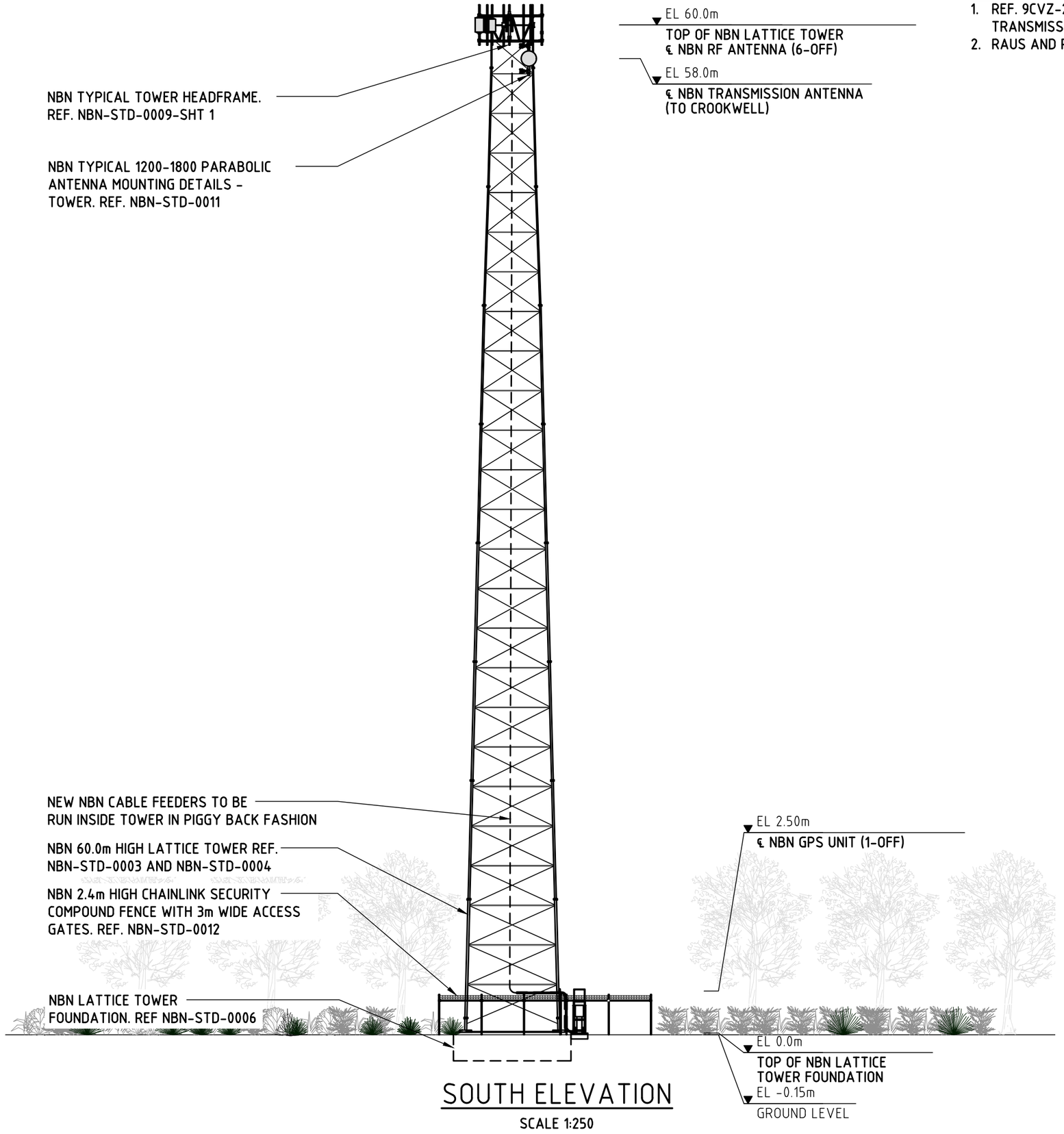


SOUTH ELEVATION

SCALE 1:250

NOTES:

1. REF. 9CVZ-2CWL-5102-A1 TO A2 FOR RF, TRANSMISSION AND GPS ANTENNA DETAILS.
2. RAUS AND RRUS NOT SHOWN FOR CLARITY.

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
117 KANGALOOLAH ROAD,
BINDA
NSW 2583

PRELIMINARY

Rev	Date	Revision Details	CAD
01	19.07.24	PRELIMINARY ISSUE	JM

Downer
Relationships creating success

DRAFTED BY:	AR
CHECKED BY:	IT
APPROVED BY:	SG

Drawing Title:
SITE ELEVATION AND DETAILS

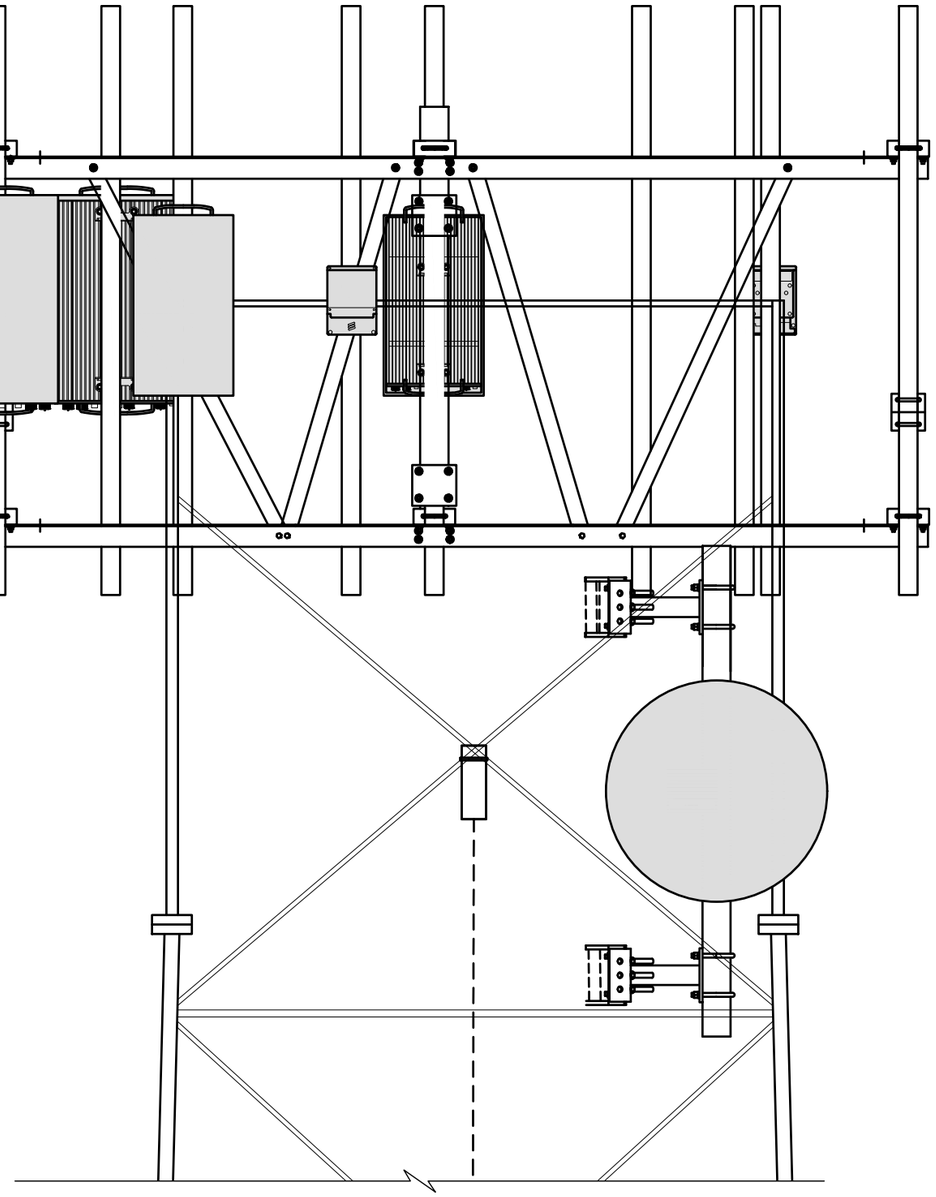
Drawing No.	Revision
9CVZ-2CWL-5102-C4	01

20 10 0 10 20 30 40 50mm

A3

EL 60.0m
℄ NBN RF ANTENNA (6-OFF)

EL 58.0m
℄ NBN TRANSMISSION
(TO CROOKWELL)
℄ NBN CANISTER (2-OFF)



EL 58.0m
℄ NBN RAU (2-OFF)

SOUTH ELEVATION

SCALE 1:25

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
117 KANGALOOLAH ROAD,
BINDA
NSW 2583

PRELIMINARY

Rev	Date	Revision Details	CAD
01	19.07.24	PRELIMINARY ISSUE	JM

Downer
Relationships creating success

DRAFTED BY:	AR
CHECKED BY:	IT
APPROVED BY:	SG

Drawing Title:
STRUCTURE EQUIPMENT DETAIL EXPANDED VIEW

Drawing No.	Revision
9CVZ-2CWL-5102-C4-1	01

20 10 0 10 20 30 40 50mm

A3

NBN RF ANTENNA CONFIGURATION – 2300MHz

DUAL BAND PANEL ANTENNA DETAILS									MAIN FEEDER DETAILS					RRU DETAILS					RF TAIL DETAILS	RET DETAILS
SECTOR	TYPE	DIMENSIONS HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILTS		MECH TILT	ACTION	TYPE	OVERALL LENGTH	CANISTER HEIGHT	RRU TO CANISTER LENGTH	ACTION	TYPE	LOCATION	C/L HEIGHT	RRU PORT	ACTION	ANTENNA TO RRU LENGTH	LENGTH
					PORTS	°														
1	AIR6419 B40	929x506x208	60.0m	0°	1 + 2	2		INSTALL	H&S HYBRID MKII 9/18 Ø39.5mm[1]	60.0m	58.0m		INSTALL							
2	AIR6419 B40	929x506x208	60.0m	215°	1 + 2	2		INSTALL	H&S HYBRID MKII 9/18 Ø39.5mm[1]	60.0m	58.0m		INSTALL							

NBN RF ANTENNA CONFIGURATION – 3400MHz

DUAL BAND PANEL ANTENNA DETAILS									MAIN FEEDER DETAILS					RRU DETAILS					RF TAIL DETAILS	RET DETAILS
SECTOR	TYPE	DIMENSIONS HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILTS		MECH TILT	ACTION	TYPE	OVERALL LENGTH	CANISTER HEIGHT	RRU TO CANISTER LENGTH	ACTION	TYPE	LOCATION	C/L HEIGHT	RRU PORT	ACTION	ANTENNA TO RRU LENGTH	LENGTH
					PORTS	°														
B1	AIR3219 B42	776x408x199	60.0m	0°	1 + 2	2		INSTALL	H&S HYBRID MKII 9/18 Ø39.5mm[1]	60.0m	58.0m		INSTALL							
B2	AIR3219 B42	776x408x199	60.0m	215°	1 + 2	2		INSTALL	H&S HYBRID MKII 9/18 Ø39.5mm[1]	60.0m	58.0m		INSTALL							

NBN RF ANTENNA CONFIGURATION – 26000MHz

DUAL BAND PANEL ANTENNA DETAILS									MAIN FEEDER DETAILS					RRU DETAILS					RF TAIL DETAILS	RET DETAILS
SECTOR	TYPE	DIMENSIONS HxWxD	C/L HEIGHT	AZIMUTH (TN)	E-TILTS		MECH TILT	ACTION	TYPE	OVERALL LENGTH	CANISTER HEIGHT	RRU TO CANISTER LENGTH	ACTION	TYPE	LOCATION	C/L HEIGHT	RRU PORT	ACTION	ANTENNA TO RRU LENGTH	LENGTH
					PORTS	°														
K1	AIR5322	279x200x110	60.0m	0°		0	5.5°	INSTALL	H&S HYBRID MKII 6/12 Ø33.5mm[2]	60.0m	58.0m		INSTALL							
K2	AIR5322	279x200x110	60.0m	215°		0	5.5°	INSTALL	H&S HYBRID MKII 6/12 Ø33.5mm[2]	60.0m	58.0m		INSTALL							

NBN TRANSMISSION & GPS ANTENNA CONFIGURATION

ANTENNA DETAILS							MAIN FEEDER DETAILS			RAU DETAILS			Tx SPLITTER DETAILS	
SECTOR	TYPE	DIMENSIONS	℄ HEIGHT	AZIMUTH (TN)	DESTINATION	ACTION	TYPE	OVERALL LENGTH	ACTION	COUNT	TYPE	ACTION	COUNT	ACTION
A	ANT3 A 0.9 10/11 HPX	Ø900	58.0m	158.64°	CROOKWELL	INSTALL	2 x LDF1-50	70.0m	INSTALL	2	MINI-LINK6365	INSTALL		
GPS	KRE 101 2082/1	Ø69x96	2.5m			INSTALL	LDF1-50	7.0m	INSTALL					

NOTE:

1. SHARED FEEDERS DENOTED BY SUPERSCRIPT [1] AND [2].

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK

SITE No: 9CVZ-2CWL-5102

BINDA

117 KANGALOOLAH ROAD,
BINDA
NSW 2583

PRELIMINARY

Rev	Date	Revision Details	CAD
01	19.07.24	PRELIMINARY ISSUE	JM

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DRAFTED BY:	AR
CHECKED BY:	IT
APPROVED BY:	SG

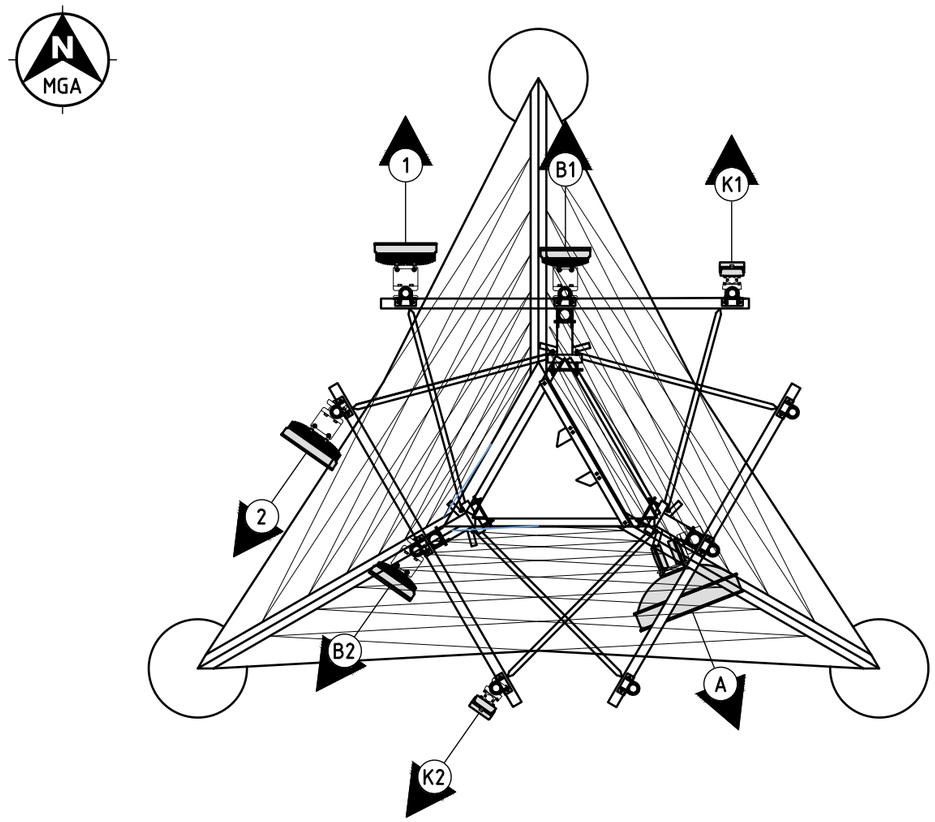
Drawing Title:

NBN ANTENNA CONFIGURATION

Drawing No.	Revision
9CVZ-2CWL-5102-A1	01

20 10 0 10 20 30 40 50mm

A3



NBN ANTENNA SETOUT PLAN

SCALE 1:50

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK

SITE No: 9CVZ-2CWL-5102

BINDA

117 KANGALOOLAH ROAD,
BINDA
NSW 2583

PRELIMINARY

Rev	Date	Revision Details	CAD
01	19.07.24	PRELIMINARY ISSUE	JM

Downer
Relationships creating success

DRAFTED BY:	AR
CHECKED BY:	IT
APPROVED BY:	SG

Drawing Title:

NBN ANTENNA SETOUT PLAN

Drawing No.	Revision
9CVZ-2CWL-5102-A2	01

20 10 0 10 20 30 40 50mm

A3

Appendix B EME Report

Environmental EME Report

Location	Binda, 117 Kangaloolah Road, BINDA NSW 2583		
Date	21/08/2024	**RFNSA No.**	2583019

How does this report work?

This report provides a summary of levels of radiofrequency (RF) electromagnetic energy (EME) around the wireless base station at Binda, 117 Kangaloolah Road, BINDA NSW 2583. These levels have been calculated by NBN using methodology developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).
A document describing how to interpret this report is available at ARPANSA's website:
A Guide to the Environmental Report.

A snapshot of calculated EME levels at this site

There are currently no existing radio systems for this site.

The maximum EME level calculated for the **proposed** changes at this site is

2.03%

out of 100% of the public exposure limit, 190 m from the location.

EME levels with the proposed changes

Distance from the site	Percentage of the public exposure limit
0-50 m	0.39%
50-100 m	1.37%
100-200 m	2.03%
200-300 m	2.01%
300-400 m	1.30%
400-500 m	0.78%

For additional information please refer to the EME ARPANSA Report annexure for this site which can be found at *http://www.rfnsa.com.au/2583019*.

Radio systems at the site

This base station currently has equipment for transmitting the services listed under the existing configuration.
The proposal would modify the base station to include all the services listed under the proposed configuration.

	Existing		Proposed	
Carrier	**Systems**	**Configuration**	**Systems**	**Configuration**
NBN			4G, 5G	LTE2300 (proposed), LTE3500 (proposed), NR28000 (proposed)

An in-depth look at calculated EME levels at this site

This table provides calculations of RF EME at different distances from the base station for emissions from existing equipment alone and for emissions from existing equipment and proposed equipment combined. All EME levels are relative to 1.5 m above ground and all distances from the site are in 360º circular bands.

	Existing configuration			Proposed configuration		
Distance from the site	Electric field (V/m)	Power density (mW/m^2)	Percentage of the public exposure limit	Electric field (V/m)	Power density (mW/m^2)	Percentage of the public exposure limit
0-50m				3.82	38.76	0.39%
50-100m				7.18	136.93	1.37%
100-200m				8.75	202.94	2.03%
200-300m				8.70	200.82	2.01%
300-400m				6.99	129.57	1.30%
400-500m				5.41	77.60	0.78%

Calculated EME levels at other areas of interest

This table contains calculations of the maximum EME levels at selected areas of interest, identified through consultation requirements of the Communications Alliance Ltd Deployment Code C564:2020 or other means. Calculations are performed over the indicated height range and include all existing and any proposed radio systems for this site.

Maximum cumulative EME level for the proposed configuration

Location	Height range	Electric field (V/m)	Power density (mW/m^2)	Percentage of the public exposure limit
No locations identified				

Appendix C AHIMS REPORT

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : Binda

Client Service ID : 932510

Nikta P

Delhi Road
North Ryde New South Wales 2113

Attention: Nikta P

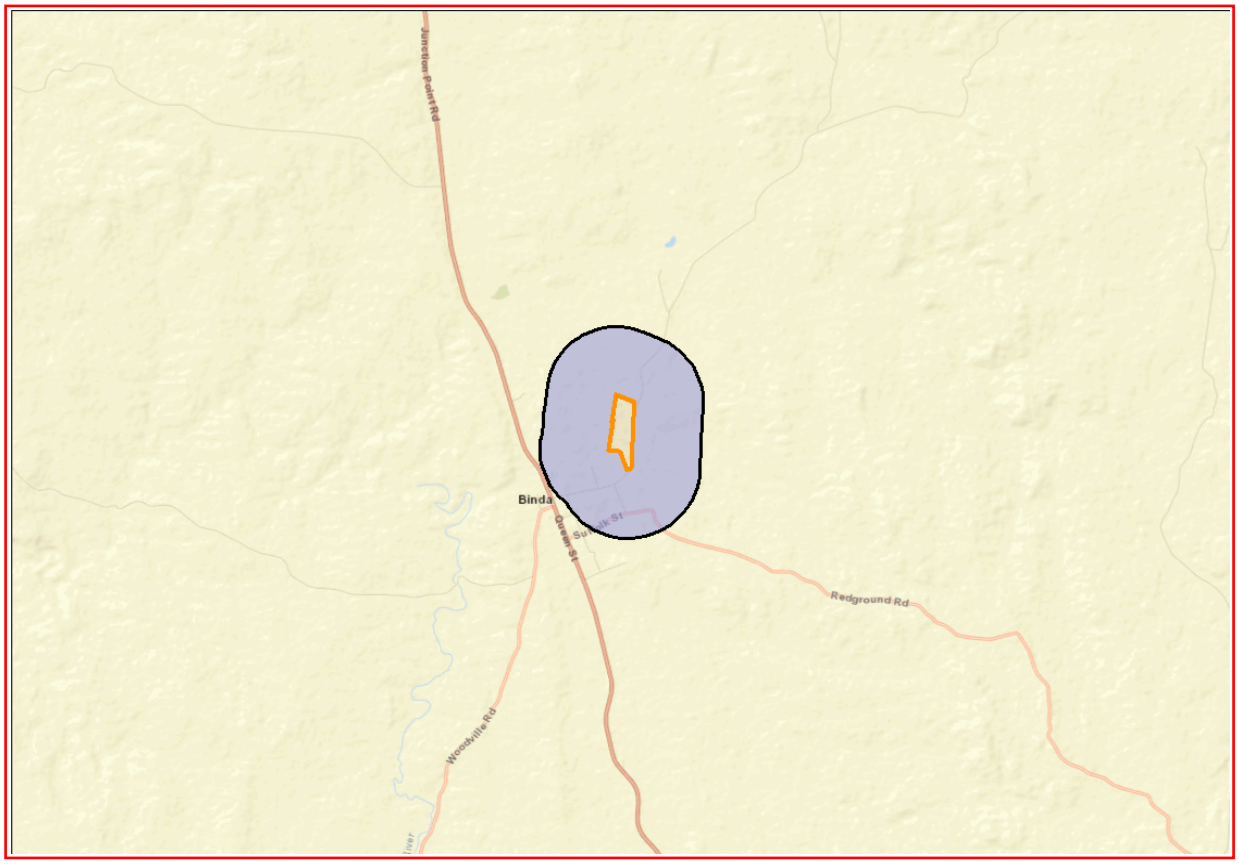
Email: nikta.pilbala@downergroup.com

Date: 19 September 2024

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 289, DP:DP753012, Section : - with a Buffer of 1000 meters, conducted by Nikta P on 19 September 2024.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

Appendix D Environmental Assessment Report

AEP

BIODIVERSITY | BUSHFIRE | ARBORICULTURE

NEWCASTLE SYDNEY

Ecological Assessment Report

Proposed NBN Lattice Tower
117 Kangaloolah Road, Binda NSW 2583

Prepared for: Downer Group

October 2024

AEP Ref: 5164

Revision: 00

Newcastle | Sydney
10 Darvall St Carrington 2294 | 275 Stanmore Rd Petersham 2049
P 0420 624 707 E info@andersonep.com.au ABN 57 659 651 537

Document Control

Document Name	Ecological Assessment Report for Proposed NBN Lattice Tower at 117 Kangaloolah Road, Binda NSW 2583
Project Number	5164
Client Name	Downer Group
AEP Project Team	Jeremy Burrill Joelan Sawyer Geoff Turner

Revision

Revision	Date	Author	Reviewed	Approved
00	11 October 2024	Geoff Turner	Jeremy Burrill	Jeremy Burrill

Distribution

Revision	Date	Name	Organisation
00	11 October 2024	Nikta Pilbala	Downer Group

EXECUTIVE SUMMARY

Anderson Environment & Planning was commissioned by Downer Group to undertake an Ecological Assessment Report (EAR) for a proposed development at Lot 286 DP 753012, 117 Kangaloolah Road, Binda NSW 2583 (the Subject Site). The site is currently zone RU2 – Rural Landscape. This proposal involves construction of one (1) NBN Lattice tower, a compound area including two (2) outdoor cabinets and transmission board and a gravel access way from Kangaloolah Road.

The report is specifically intended to indicate the likelihood of the proposed development having a significant impact on potentially occurring threatened species or ecological communities. In this regard, the report aims to recognise the relevant requirements of the *Environmental Planning & Assessment Act 1979*, the *Biodiversity Conservation Act 2016* (NSW) (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Ground-truthing of the vegetation present within the Subject Site revealed that the vegetation consists of grazed exotic grass vegetation, typical of a rural setting.

Assessment under the Five-part Test of Significance of Impacts as prescribed under Section 7.3 of the BC Act determined that no significant impacts upon threatened entities listed under the *BC Act* are likely to occur if mitigation measures are implemented, and consideration of the *EPBC Act* revealed that impacts on Matters of National Environmental Significance are unlikely to occur, as is a referral to the Commonwealth.

Review of the *State Environmental Planning Policy (Biodiversity and Conservation) 2021* reveals that this SEPP is applicable to the site in relation to *Chapter 3 Koala Habitat Protection 2020*. An assessment against the provisions of this chapter concluded that no significant impacts on Koala are expected as a result of the proposal.

General recommendations and mitigation measures have been included in the report to minimise environmental impacts of the proposal. These measures should provide adequate protection during the construction phase for native flora and fauna in the locality.

Contents

Tables

Figures

Appendices

1.0 Introduction

Anderson Environment & Planning was commissioned by Downer Group (the client) to undertake an Ecological Assessment Report (EAR) for the proposed at 117 Kangaloolah Road, Binda NSW 2583 (Subject Site). The site is currently zoned RU2 – Rural Landscape. The proposed development involves the construction of an NBN tower and an associated compound area.

Anderson Environment & Planning (AEP) have undertaken necessary investigations for the production of an EAR. This assessment has been undertaken with reference to the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), the *NSW Biodiversity Conservation Act 2016* (BC Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This report is specifically intended to indicate the likelihood of the proposal having a significant impact on threatened species or ecological communities. In this regard, the report aims to recognise the relevant requirements of the *EP&A Act*, the *BC Act* and the *EPBC Act* and consideration of other relevant policies is given including *State Environmental Planning Policy (SEPP) (Biodiversity and Conservation) 2021*. The purpose of this report is to:

- Describe the ecological values of the Subject Site;
- Explore the potential for threatened species to utilise the area; and
- Assess ecological impacts associated with the proposal against relevant legislation.

Potential ecological impacts on native species in general are also considered, as are recommendations for minimising any impacts within the scope of the development.

For the purposes of referencing, this document should be referred to as:

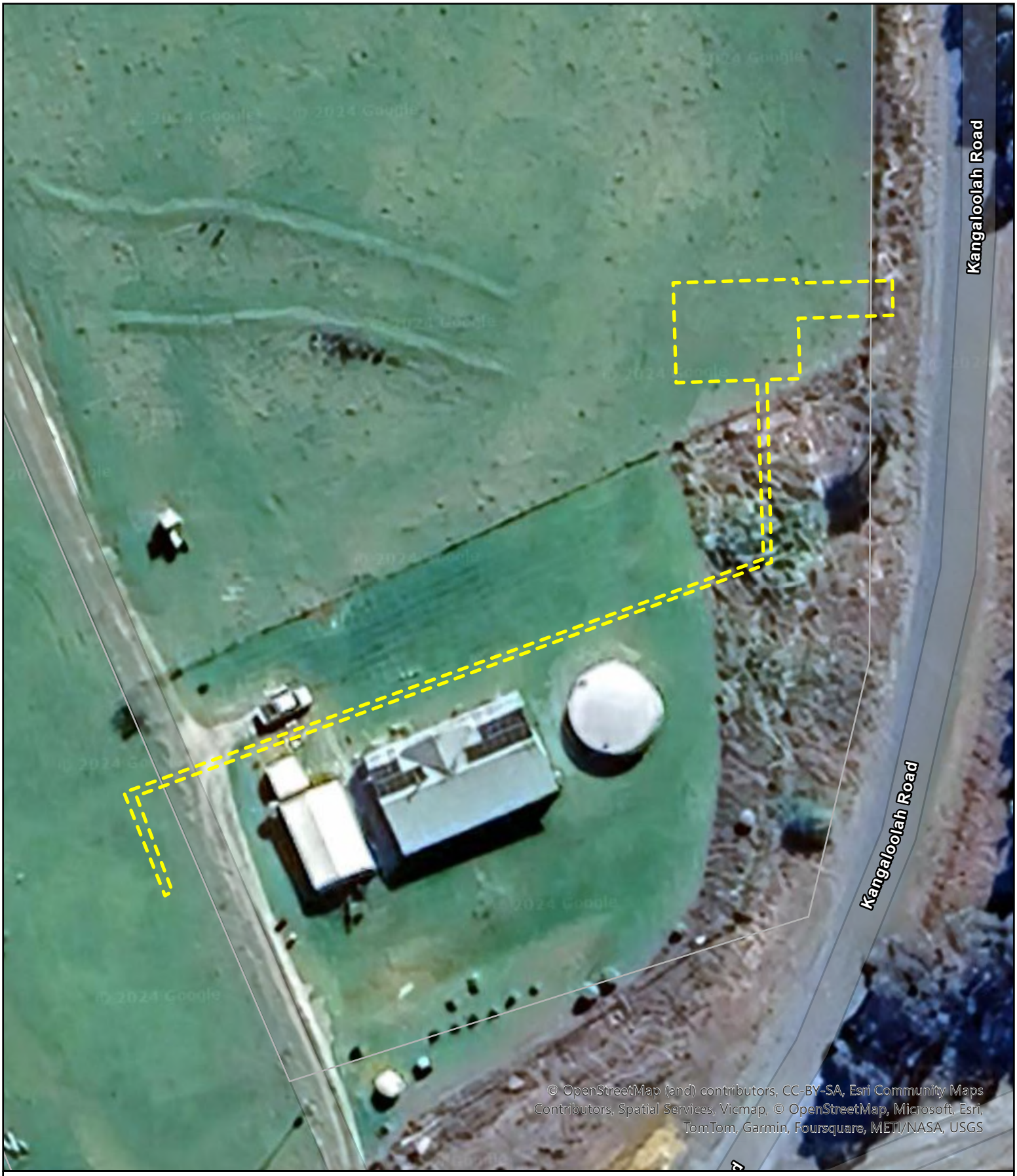
> Anderson Environment & Planning (2024). *Ecological Assessment Report for NBN Tower and compound area at 117 Kangaloolah Road, Binda NSW 2583*. Unpublished report for Downer Group. October 2024.

2.0 Site Particulars

Table 1 – Site Particulars

Detail	Comments
Client	Downer Group
Address	117 Kangaloolah Road, Binda, NSW 2583
Title(s)	Lot 286, DP753012
Subject Site	The Subject Site is composed of the proposed works area within the Parent Lot 286 DP 753012 (approx. 0.02 ha). (see **Figure 1**)
LGA	Upper Lachlan Shire Council
Zoning	Under the *Upper Lachlan Local Environmental Plan 2010* (the LEP), the Subject Site comprises of land zoned RU2 – Rural Landscape.
Current Land Use	The site is comprised of grazed and ungrazed grassland. Rural farming land practices occur within the property. In the Parent Lot in which the Subject Site sits, there exists a dwelling, water tank and garage/shed.
Surrounding Land Use	Land surrounding the Subject Site is composes primarily of RU2 – Rural Landscape properties, where grazing live stock are dominant. The centre of the town of Binda lies approximately 1.2km to the southwest of the Subject Site.

Figure 1 depicts the extent of the site overlain on an aerial photograph of the locality.



Legend

Subject Site Cadastre

Address: 117 Kangaloolah Road, Binda NSW Client: Downer Group | AEP Ref: 5164 | Date: October 2024	Imagery: Google Satellite Spatial Reference: GDA2020 MGA Zone 56	0 5 10 m Scale: 1:500	N W E S

Figure 1 - Site Location

AEP

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

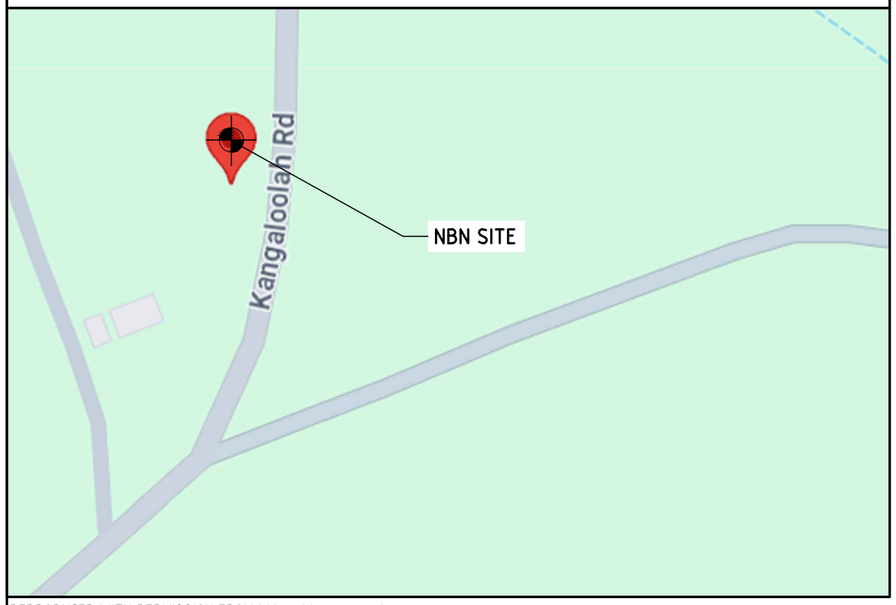
3.0 Proposed Development

The proposed development includes the following features:

- A 60m high NBN tower, with a footprint of 120m^2;
- 2.4m high fencing and gates;
- A 10m gravel access track from Kangaloolah Road; and,
- Compound area including the following:
    - Two (2) outdoor cabinets; and
    - Transmission board.

Figure 2 depicts the proposed development plan within the Subject Site.

SITE LOCATION



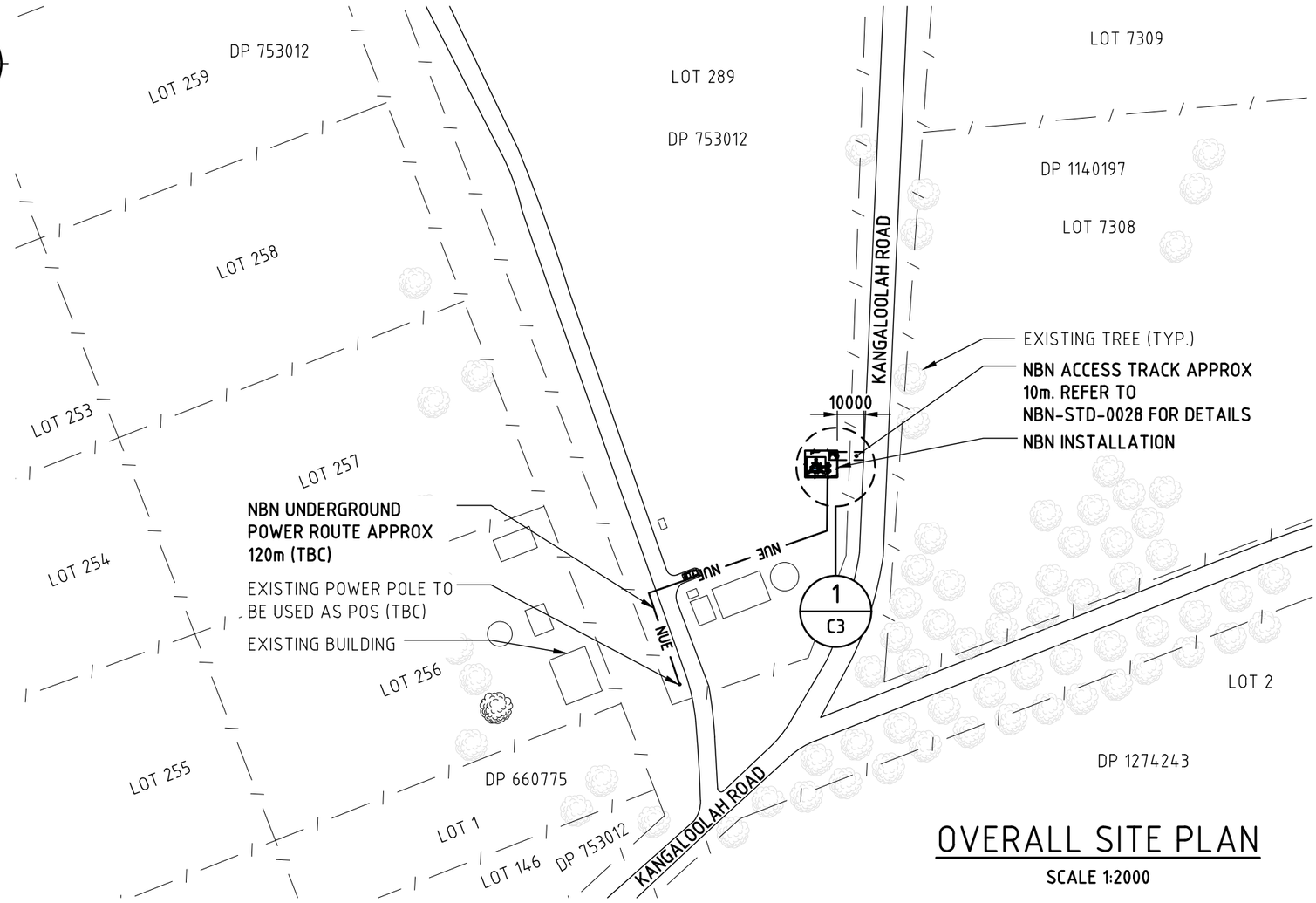
REPRODUCED WITH PERMISSION FROM https://maps.google.com

DBY JOB NO. 37107666
ENQUIRE DATE: 11/07/24
CONTRACTOR TO REVALIDATE AT TIME OF CONSTRUCTION

SITE CO-ORDINATES

LATTICE TOWER

DATUM: MGA (GDA94)	ZONE: 55
LATITUDE	-34.318843°
LONGITUDE	149.375127°
EASTING	7 185 37.92
NORTHING	6 199 935.77



DRAFT

LEGEND

- PROPERTY BOUNDARY
- NUE — NUE — NBN UNDERGROUND ELECTRICAL
- — / — / — FENCE LINE
- E NBN ELECTRICAL CABLE PIT
- BUILDING

OVERALL SITE PLAN

SCALE 1:2000

Client:

Client:

Client:

Project:

NATIONAL BROADBAND NETWORK
SITE No: 9CVZ-2CWL-5102
BINDA
117 KANGALOOLAH ROAD,
BINDA
NSW 2583

PRELIMINARY

Rev	Date	Revision Details	CAD
01	19.07.24	PRELIMINARY ISSUE	JM

Downer
Relationships creating success

DRAFTED BY:	AR
CHECKED BY:	IT
APPROVED BY:	SG

Drawing Title:
OVERALL SITE PLAN

Drawing No.	Revision
9CVZ-2CWL-5102-C2	01

20 10 0 10 20 30 40 50mm

A3

4.0 Scope and Purpose

Investigations were carried out within the Subject Site and via literature / database searches to gather information required to adequately address Section 7.3 of the *BC Act* (known as the "5-part Test"). Also afforded consideration were the *EPBC Act*, and relevant SEPPs.

The assessment approach was tailored to undertake sufficient works to ensure that legislative requirements were met relating to threatened species and native species in general for the proposed specific development. This was achieved by background research and literature review, database searches, consultation, targeted ecological fieldwork and mapping, detailed habitat assessment, and ultimately impact assessment consideration against the type and form of development proposed.

Impact assessment was undertaken with due reference to the "*Threatened Species Test of Significance Guidelines"* (OEH, 2018).

Specifically, the scope of this study is to:

- Identify vascular plant species occurring within the site, including any threatened species listed under the *BC Act* or *EPBC Act*;
- Identify and map the extent of vegetation communities within the site, including any TECs listed under the *BC Act* or *EPBC Act*;
- Identify any fauna species, including threatened and migratory species, and populations or their habitats, which occur within the site and are known to occur in the wider locality;
- Assess the potential of the proposed development to have a significant impact on any threatened species, populations or ecological communities (or their habitats) identified from the site; and
- Describe measures to be implemented to avoid, minimise, manage or monitor potential impacts of the proposal.

In addition to the survey work conducted within the site and its immediate surrounds, consideration has been afforded to the wider locality, via database searches within a 100km^2 area with the site at its centre and via consideration of habitat areas that may be linked ecologically to the site.

5.0 Study Certification and Licencing

The fieldwork for this assessment was undertaken by Joelan Sawyer (BSc); reporting was undertaken by Geoff Turner (BSc), reviewed and certified by Jeremy Burrill (BEnvSc) of Anderson Environment & Planning.

Research was conducted under the following licences:

- NSW National Parks and Wildlife Service Scientific Investigation Licence SL101313;
- Animal Research Authority (Trim File No: 14/600(2)) issued by NSW Agriculture; and
- Animal Care and Ethics Committee Certificate of Approval (Trim File No: 14/600(2)) issued by NSW Agriculture.

Certification:

As the certifier, I, Jeremy Burrill, make the following certification:

- The results presented in the report are, in the opinion of the principal author and certifier, a true and accurate account of the species recorded, or considered likely to occur within the Survey Area.
- Commonwealth, state and local government policies and guidelines formed the basis of project surveying methodology, unless specified departures from industry standard guidelines are justified for scientific and/or animal ethics reasons.
- All research workers have complied with relevant laws and codes relating to the conduct of flora and fauna research, including the Animal Research Act 1995, National Parks and Wildlife Act 1974 and the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes.

Reviewer and Certifier:

Jeremy Burrill

Ecologist / Project Manager

Anderson Environment & Planning

6.0 Methodology

The field surveys for the site have been prepared and performed with due recognition of the relevant state survey guidelines (DEC 2004; DPIE 2020a; DPIE 2020b; DPE 2022b).

The size of the site, the type of native vegetation and habitats remaining, the status of existing and proposed surrounding land use, and the level and type of habitat linkages to proximate bushland areas were considered in formulating the methodology employed and described below.

The assessment approach was tailored to undertake sufficient works to ensure that legislative requirements were met relating to threatened species and native species in general for the proposed specific development.

6.1 Information Sources

Information and spatial data provided within this EAR has been compiled from various sources including:

- Aerial Photograph Interpretation (API) of the site and surrounding locality;
- *NSW Biodiversity Values Map* (accessed September 2024);
- NSW State Vegetation Type Map (DPE 2023);
- State survey guidelines (DEC 2004; DPIE 2020a; DPIE 2020b; DPE 2022b);
- NSW DCCEEW Threatened Species, Populations and Ecological Communities website (*https://www.environment.nsw.gov.au/AtlasA pp/UI_Modules/TSM_/Default.aspx?a=1*) (accessed September 2024); and
- Collective knowledge gained from previous ecological survey and assessment in over the past 25 years.

In addition, database searches were carried out, namely:

- Review of flora and fauna records held by the BioNet Atlas of NSW Wildlife within a 100km^2 search area with the site at its centre (September 2024); and
- Review of flora and fauna records held by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search within a 5km radius of the Subject Site (October 2024).

6.2 Considerations of Biodiversity Offsets Scheme

There are three criteria that require assessment under the Biodiversity Offsets Scheme (BOS) to determine whether or not entry into the NSW Biodiversity Offsets Scheme (BOS) is required. The three criteria are as follows:

- Whether or not the site contains Biodiversity Values Mapped land;
- Whether or not it exceeds the Area Clearing Threshold applicable to the minimum lot size; and / or
- Whether or not a 5-part Test of Significance determines that a significant impact on threatened biodiversity is likely to occur.

The criteria are addressed below.

6.2.1 Biodiversity Values Map

The Biodiversity Values Map (BV Map) identifies land with high biodiversity value, as defined by the *Biodiversity Conservation Regulation 2017*. The BOS applies to all local developments, major projects or the clearing of native vegetation where the SEPP (Vegetation in Non-Rural Areas) 2017 applies. Any of these will require entry into the BOS if they occur on land mapped on the BV Map. Exempt and complying development or private native forestry are not subject to the BOS.

The Subject Site is not mapped as Biodiversity Values land, therefore, the proposal does not trigger the BOS and the requirement for a Biodiversity Development Assessment Report (BDAR) under this criterion (refer **Appendix D**).

6.2.2 Area Clearing Threshold

"The area threshold varies depending on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan (LEP)), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP). The area threshold applies to all proposed native vegetation clearing associated with a development proposal".

Table 2 – Area Clearing Thresholds (BC Act)

Minimum lot size	Threshold for clearing, above which the BOS applies
< 1ha	>0.25ha
1ha to <40ha	**>0.5ha**
40ha to <1000ha	>1.0ha
>1000ha	>2ha

In this case, as per the LEP, the applicable minimum lot size is 2ha. Therefore, the applicable area clearing threshold is 0.5ha. As impacts to native vegetation will not occur, the area clearing threshold will not be impacted. Consequently, the BOS is not triggered in this instance, and a test of significance is required to determine extent of impact.

6.2.3 Test of Significance

Following the above assessments, it is a requirement to determine whether or not the development is likely to significantly affect threatened species, ecological communities or their habitats using a Test of Significance. The Test of Significance is used to undertake qualitative analysis of the likely impacts and determine whether further assessment is required in association with the development. As part of this Ecological Assessment Report, a Five-part Test of Significance has been undertaken in **Section 9.0**.

6.3 Field Survey

All fieldwork was conducted within the Subject Site (**see Figure 5**).

6.3.1 Vegetation Communities

Vegetation was surveyed utilising a variety of methods, as outlined below.

- Consideration of regional mapping for the site by SVTM (DPE, 2023);
- Aerial Photo interpretation (API) to identify any notable variations within the site;
- Consultation of 1:25,000 topographic map series for the area;
- Inspection of the site to ground-truth communities listed by DPE (2022f); and
- Identification of the Plant Community Type (PCT) via identification of required dominant species in community structural layers.

The final derived vegetation map was based on vegetation mapping and ground-truthed vegetation surveys.

Consideration was given to the potential for the derived vegetation communities to constitute TECs as listed under the *BC Act* and/or *EPBC Act*. The floristic composition, geomorphological characteristics and geographical extent were important considerations in this process. The type and location of the relevant vegetation communities can be seen in **Figure 4.**

6.3.2 Flora

A flora survey was undertaken to produce a flora species list for the Subject Site, to search specifically for threatened flora species known from the wider locality, and to gather data necessary to both derive vegetation community type(s) and to meet relevant survey guidelines. Such works included:

- Identification of all vascular plant species encountered during fieldwork;
- Survey involved systematic coverage of the Subject Site. The Random Meander Technique (Cropper, 1993) was utilised to maximise species encountered. All vascular plant species encountered during fieldwork were recorded; and
- One (1) BAM plot and one (1) Rapid Data Point was undertaken, which was placed centrally within the Subject Site.

6.3.3 Habitat

An assessment of the relative habitat values present within the Subject Site was carried out. This assessment focused primarily on the identification of specific habitat types and resources within the site favoured by known threatened species from the region. The assessment also considered the potential value of the Subject Site (and surrounding areas) for all major guilds of native flora and fauna.

The assessment was based on the specific habitat requirements of each threatened fauna species in regards to home range, feeding, roosting, breeding, movement patterns and corridor requirements. Consideration was given to contributing factors including topography, soil, light and hydrology for threatened flora and assemblages.

In particular, focus was put on documenting the presence of key habitat features such as tree hollows. Hollows are an important resource utilised by a variety of fauna, and are particularly relevant for several of the likely key threatened species in this locality. Vertebrate and invertebrate species use hollows as diurnal or nocturnal shelter sites, for rearing young, feeding, thermoregulation, and to facilitate ranging behaviour and dispersal.

Tree hollows were surveyed within the Subject Site and surrounds utilising the methodology of tree hollow identification set by OEH in the BioBanking field plot methodology (2009), namely:

> *"A hollow is only recorded if: (a) the entrance can be seen; (b) the minimum entrance width is at least 5 cm across; (c) the hollow appears to have depth (i.e., you cannot see solid wood beyond the entrance); and (d) the hollow is at least 1 m above the ground (this omits hollows in cut stumps or at the base of trees)".*

6.3.4 Fauna

Fauna surveys were carried out utilising techniques as outlined below and were undertaken with reference to the relevant guidelines The Observed Species List has been generated from incidental and targeted surveys within the Subject Site (**Appendix B**).

Avifauna Surveys

The presence of avifauna within the site was assessed via a diurnal fauna survey. For the diurnal survey, birds were identified by direct observation or by recognition of calls or distinctive features such as nests, feathers etc.

Mammals

The occurrence of mammals within the site was assessed by utilising habitat assessment as an analogue for presence in combination with a diurnal survey including. Habitat assessment included survey for foraging resources (blossom, herbaceous, prey etc), hollows and roosting opportunity, connectivity and water as outlined in **Section 6.3.3** above.

Incidental Observations & Secondary Indications

Incidental records of any fauna species observed during fieldwork were noted. This included opportunistic sightings of secondary indications (scratches, scats, diggings, tracks etc.) of any resident or migratory species. Searches were also conducted for whitewash, regurgitation pellets and prey remains from Owls, chewed (Allo) Casuarina cones from Glossy Black-Cockatoos, chewed fruit remains from frugivorous birds etc.

6.3.5 Details of Field Surveys

A summary of the survey effort within the Subject Site is listed below in **Table 3** and shown in **Figure 5**.

Table 3 – Field Survey Periods

Date	Time	Field Activity	No. of Persons on Site
01/10/2024	10:30am-3:30pm	Site assessment including one (1) BAM plot, one (1) Random Data Point (RDP), incidental observations and habitat assessment.	1

The above survey methodology is considered to provide sufficient understanding of the biodiversity of the Subject Site. AEP conducted a habitat assessment for all listed species identified in BioNet Atlas within 100km^2.

7.0 Results

7.1 Vegetation Communities

7.1.1 State Vegetation Type Mapping

State Vegetation Type Mapping (SVTM 2023) indicates that the Subject Site is mapped as non-native vegetation. The following PCTs are mapped within a 1.5km buffer of the Subject Site:

- PCT 4063 - *Central and Southern Tableland River Oak Forest*;
- PCT 3981 – *Tableland Semi-permanent Shallow Wetlands*;
- PCT 3747 – *Southern Tableland Western Hills Scribbly Gym Forest*;
- PCT 3376 – *Southern Tableland Grassy Box Woodland*; and
- PCT 3370 – *Central Tableland Red Stringybark Grassy Forest*.

Figure 3 shows the extent of vegetation communities within and surrounding the Subject Site as mapped in the SVTM 2023

7.1.2 Ground-truthed Vegetation Mapping

Fieldwork was conducted to identify flora species and determine the occurrence of Plant Community Types (PCTs) within the Subject Site. One (1) BAM plot, and one (1) Random Data Point (RDP) were completed within the Subject Site and in the surrounding vegetation. A full list of plant species can be found in **Appendix A.** Vegetation within the site is comprised of exotic grass and forb species that are subject to grazing.

Exotic Grassland Vegetation

Exotic grass vegetation totals 0.02ha and was assessed using a BAM plot. All species present within the plot were exotic and abundant species included, *Lolium perenne* (Perennial Ryegrass), *Romulea rosea* (Onion Grass) and *Hypochaeris glabra* (Smooth Catsear).

Given the highly modified state of the vegetation, the high cover of exotic species and lack of middle- and upper-storey vegetation, it is classified as Exotic Grass and not assigned to a PCT.

Plate 1: BAM Plot 1.

Figure 4 shows the extent of ground-truthed vegetation identified within the Subject Site.

Legend

- Subject Site
- Cadastre

State Vegetation Type Mapping (2023)

- Not classified
- PCT 3370 - Central Tableland Red Stringybark Grassy Forest
- PCT 3376 - Southern Tableland Grassy Box Woodland

Address: 117 Kangaloolah Road, Binda NSW
Client: Downer Group | AEP Ref: 5164 | Date: October 2024

Imagery: Google Satellite
Spatial Reference: GDA2020 MGA Zone 56

0 10 20 m
Scale: 1:1,000

N W E S

Figure 3 - State Vegetation Type Mapping (SVTM, 2023)

AEP

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

Legend

- Subject Site
- Cadastre
- Hydroline

Ground-truthed Vegetation

- Exotic Grass
- Infrastructure

Address: 117 Kangaloolah Road, Binda NSW
Client: Downer Group | AEP Ref: 5164 | Date: October 2024

Imagery: Google Satellite
Spatial Reference: GDA2020 MGA Zone 56

0 4 8 m
Scale: 1:400

N
W E
S

Figure 4 - Ground-truthed Vegetation

AEP

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

7.2 Flora

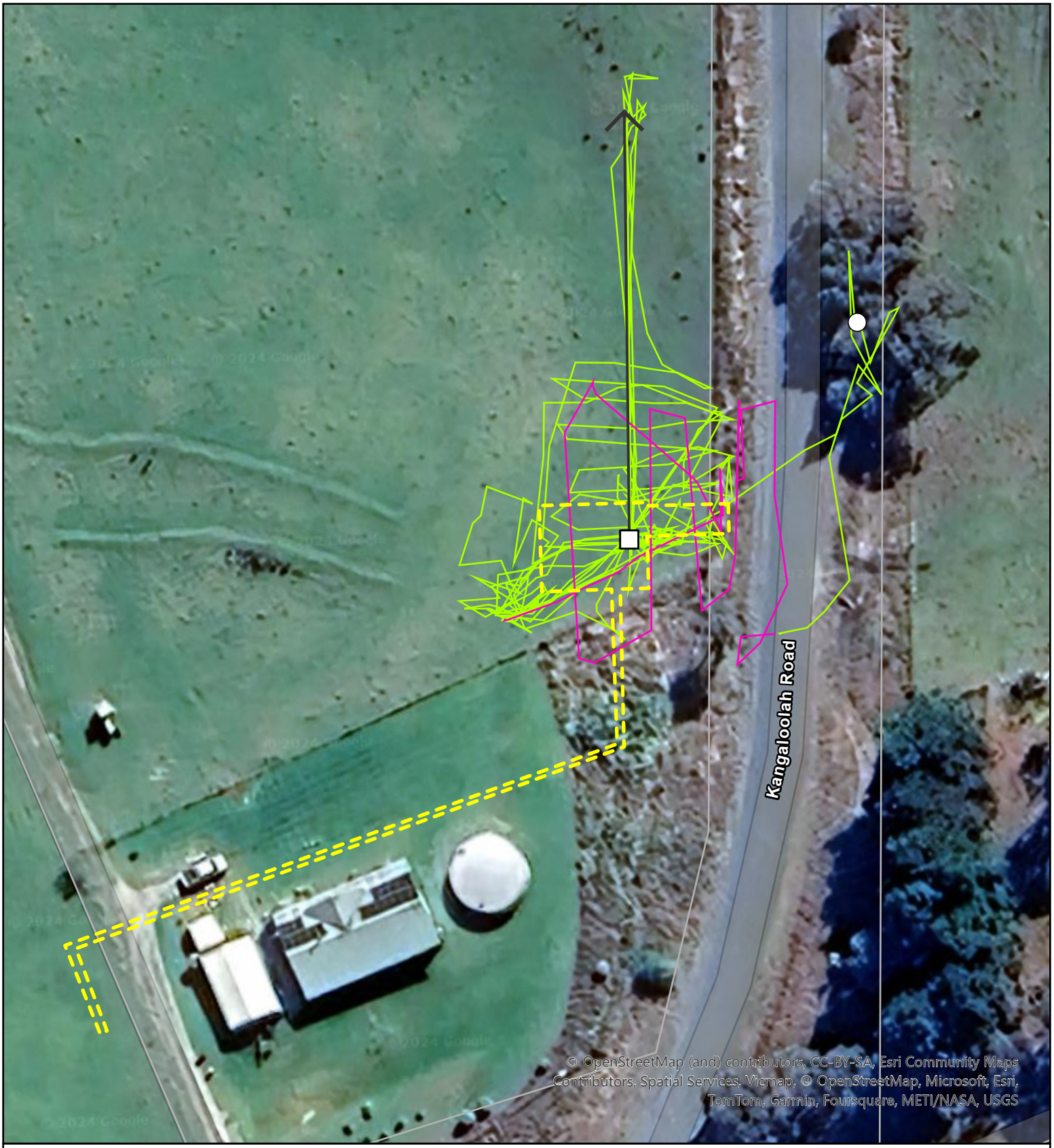
Flora surveys have resulted in the identification of 6 species within the Subject Site, all of which are exotic species.

A full list of flora species identified within the site is included in **Appendix A**.

7.3 Habitat Assessment

The Subject Site provides extremely limited habitat for threatened flora and fauna species. There exists only a ground layer of vegetation, which consists of exotic species and is regularly grazed by horses. During the site inspection, no rocky outcrops, water bodies, or tree hollows were observed, suggesting the site's utility is likely confined to transient fauna.

Fauna survey identified four (4) fauna species; no threatened species were observed during assessment. A full list of Fauna observed within the site is included in **Appendix B**.



Legend

- Subject Site
- BAM Plot
- Tracks - 10m Transects (Sep 2024)

Survey Effort

- BAM Direction
- Tracks - BAM & RDP (Sep 2024)
- Random Data Point (RDP)

Address: 117 Kangaloolah Road, Binda NSW
Client: Downer Group | AEP Ref: 5164 | Date: October 2024

Imagery: Google Satellite
Spatial Reference: GDA2020 MGA Zone 56

0 6 12 m
Scale: 1:600

N W E S

Figure 5 - Survey Effort

AEP

Note:
1. Boundaries are not survey accurate
2. Do not scale off this plan

7.4 Database Searches

Searches were undertaken of databases within a 100km^2 search area with the Subject Site at its centre for *BC Act* listings and *EPBC Act* listings. Any records considered erroneous, historic only, or obviously of no relevance to the site in regards to habitat (e.g., seabirds, marine species etc.) were omitted.

The potential for listed threatened species to occur within the site is considered in **Appendix C** and selection for subject species in **Table 4** below. Detailed ecological profiles of threatened species can be found at: https://www.environment.nsw.gov.au/threatenedspeciesapp/

The assessment of the potential listed species in **Appendix C** resulted in two (2) key species. These species are considered key subject or indicator species for the Subject Site due to potential likelihood of occurrence. The site potentially forms an important part of a local home range for resident species and some potential habitat will be removed by the proposal.

Table 4 – Subject Species

Scientific Name	Common Name	NSW status	EPBC Act
Flora			
Eucalyptus aggregata	Black Gum	V	V
Aves			
Artamus cyanopterus cyanopterus	Dusky Woodswallow	V	-

Table Key - Status (BC Act & EPBC Act): E: Endangered, V: Vulnerable

8.0 Key Species Considerations

The species identified for further consideration have been categorised into guilds in **Table 5**. By considering these species and their lifecycle needs, many other species are also inadvertently considered. The analysis below considers key lifecycle features for each guild of species in more detail, and assists in informing the subsequent 5-part Test assessment.

Table 5 – Key Species Analysis

Guild / Species	Reason for Inclusion	Comment
Flora		
Eucalyptus aggregata (Black Gum)	Proximity of local records.	BioNet records indicate that a population of this species occurs within the locality. While the site is highly modified and unlikely to support this species, further consideration is warranted due to the occurrence of records within the locality. Species was not identified during site inspection.
Aves		
Artamus cyanopterus cyanopterus (Dusky Woodswallow)	Proximity of records and foraging habitat	BioNet records indicate one (1) sighting within 5km of the Subject Site. The site lacks structured and abundant vegetation which this species forages amongst. Species was not observed during site inspection.

9.0 Five-part Test Assessment

Section 7.3 of the *BC Act* lists five factors that must be taken into account in determining the significance of potential impacts of proposed activities on threatened species, populations, ecological communities and/or their habitats as listed within the *BC Act*.

The 5-part test is used to determine whether there is likely to be a significant impact, and thus whether the Biodiversity Offsets Scheme (BOS) is triggered.

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

Eucalyptus aggregata

The site contains a highly modified understorey and lacks native species. This species was not identified during site inspection. Considering this species was not identified, and known populations within the locality will not be impacted, it is not considered likely that the proposal will have an adverse effect on the life cycle of such that a viable local population is likely to be placed at risk of extinction.

Dusky Woodswallow

While the removal of a small amount of vegetation within the site may reduce potential foraging habitat, the wider locality has larger areas of intact vegetation which will not be impacted by the proposal. Therefore, it is not considered that the proposal will have an adverse effect on the life cycle, as such that a viable local population is likely to be placed at risk of extinction.

b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

i) 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

ii) 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

Due to the dominance of exotic vegetation, no PCTs were identified within the site. As such, no ecological communities, including Threatened Ecological Communities (TEC) will be impacted by the proposal.

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

The area of vegetation to be removed within the site is approximately 0.02ha. The immediate locality and wider landscape contain areas of higher quality vegetation. Therefore, the small amount of vegetation to be removed does not represent a significant extent of habitat.

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

A small area of exotic vegetation within the site would be affected by the proposal. Removal of vegetation would not significantly fragment or isolate vegetation as the site already occurs within a highly fragmented area.

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

A small area of exotic vegetation within the site would be affected by the proposal. The site as a whole does not support any ecological communities, and represents marginal habitat suitability for a small number of threatened species. The suitability of the impacted vegetation within the site is negligible to the survival of any threatened species, given its small extent, its low quality (dominance of exotic species) and the proximity to areas of similar intact, high-quality vegetation.

d) Whether the proposed development or activity is likely to have an adverse effect on any declared Area of Outstanding Biodiversity Value (either directly or indirectly)

No Area of Outstanding Biodiversity Value is present on site or in proximity of it.

e) Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process (KTP)

The development has potential to contribute to the following KTPs:

- ***Anthropogenic climate change***

The proposed development is unlikely to contribute to the processes causing anthropogenic climate change in a significant way. A small area of exotic ground-layer vegetation, which could act as a small carbon sink, is proposed to be removed within an urban area.

- ***Invasion and establishment of aggressive weed species and exotic perennial grasses***

With a large number of weed species already well established on site, further invasion is not considered significant.

- ***Infection of native plants by Phytophthora cinnamomic***

Controls including the disinfection of equipment before entering site should be undertaken to further minimise any risks of infection. Therefore, provided that appropriate hygiene measures are in place, the works undertaken during the proposed development are not considered as likely to contribute to this KTP.

- ***Introduction and establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae***

Controls including the disinfection of equipment before entering site should be undertaken to minimise any risks of infection. Provided such processes are implemented, it is not expected that earthworks undertaken during the construction phase would contribute significantly to this KTP.

10.0 EPBC Act Assessment

A search was conducted in October 2024 for Matters of National Environmental Significance (MNES) as relevant to the *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act). The following MNES are considered in this assessment.

World Heritage Properties:

The site is not a World Heritage area and is not in close proximity to any such area.

National Heritage Places:

The site is not designated as a National Heritage Place.

Wetlands of International Significance (declared Ramsar wetlands):

The Subject Site is not located near any wetlands of international significance:

Great Barrier Reef Marine Park:

The site is not part of, or within close proximity to, the Great Barrier Reef Marine Park.

Commonwealth Marine Areas:

The site is not part of, or within close proximity to, any Commonwealth Marine Area.

Threatened Ecological Communities (TECs):

There are two (2) listed TECs known or assumed to occur within a 5km radius of the Subject Site:

- CEEC – *Natural Temperate Grassland of the South Eastern Highlands;* and,
- CEEC – *White Box-Yellow Box-Blakely's Red Gym Grassy Woodland and Derived Native Grassland.*

Vegetation within the site is not associated within any of the above.

Threatened Species:

A total of 43 threatened fauna or flora listed under the EPBC Act are predicted to occur on, or within 5km of the site. No threatened flora or fauna species listed under the *EPBC Act* have been identified on or in close proximity to the site.

Migratory Species:

There is very little potential for terrestrial migratory species listed in the *EPBC Act* to visit the site on an irregular basis. Therefore, it is considered that the proposal is unlikely to significantly affect the availability of potential habitat for such mobile species, or disrupt migratory patterns.

EPBC Act Assessment Conclusion:

Consideration of the *EPBC Act* revealed that it is highly unlikely that significant impacts on Matters of National Environmental Significance will occur as a result of the proposal. As such a referral is not considered likely to be necessary.

11.0 State Environmental Planning Policy (Biodiversity and Conservation) 2021

State Environmental Planning Policy (Biodiversity and Conservation) 2021 (BC SEPP) commenced on the 6th February 2024, under the Environmental Planning and Assessment Act 1979, and repealing the previous State Environmental Planning Policy (Koala Habitat Protection) 2020 and State Environmental Planning Policy (Koala Habitat Protection) 2021. The aims of Chapter 3 – Koala Habitat Protection 2020 are to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

Chapter 3 – Koala Habitat Protection of SEPP (Biodiversity and Conservation) 2021, are to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

The land which comprises the Subject Site has no approved koala plan of management.

According to the BC SEPP 2021, the policy applies if:

3.5 Land to which Chapter applies

(a) that is land to which this Chapter applies, and

(b) that is land in relation to which a development application has been made, and

(c) that, whether or not the development application applies to the whole, or only part, of the land—

(i) has an area of more than 1 hectare, or

(ii) has, together with adjoining land in the same ownership, an area of more than 1 hectare.

The property associated with the Subject Site, has an area of more than 1 hectare, therefore the SEPP applies.

3.6 Step 1—Is the land potential koala habitat?

(1) Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential koala habitat.

(2) The council may be satisfied as to whether or not land is a potential koala habitat only on information obtained by it, or by the applicant, from a person who is qualified and experienced in tree identification.

(3) If the council is satisfied—

(a) that the land is not a potential koala habitat, it is not prevented, because of this Chapter, from granting consent to the development application, or

(b) that the land is a potential koala habitat, it must comply with section 3.7.

As the site does not contain any trees listed under *Schedule 1*, the site does not constitute potential koala habitat. As such, no further assessment under the SEPP is required.

12.0 Upper Lachlan Local Environmental Plan 2010

The LEP conveys local environmental planning provisions in line with the relevant standard environmental planning instrument, under section 3.20 of the Environmental Planning and Assessment Act (the EP&A Act,1979). Specific aims relating to the natural environment, listed under Section 1.2, Clause 2 include:

(b) to encourage the sustainable management, development and conservation of natural resources;

(d) to protect and conserve the environmental and cultural heritage of Upper Lachlan;

(f) to allow development only if it occurs in a manner that minimises risks due to environmental hazards, and minimises risks to important elements of the physical environment, including water quality;

(h) to protect and enhance watercourses, riparian habitats, wetlands and water quality within Upper Lachlan's drinking water catchments so as to enable the achievement of the water quality objectives.

Part 6 (Local provisions) of the LEP contains Section 6.2 – Biodiversity. The objectives of Section 6.2 are outlines in Clause 1, below:

(1) The objective of this clause is to maintain terrestrial and aquatic biodiversity including—

(a) protecting native fauna and flora, and;

(b) protecting the ecological processes necessary for their continued existence, and;

(c) encouraging the recovery of native fauna and flora, and their habitats.

The proposals have been assessed against the remaining clauses (2-4) within Section 6.2, below:

(2) This clause applies to land identified as "sensitive land" on the Natural Resources Sensitivity—Biodiversity Map.

Part of the Subject Site is located within land identified as 'Sensitive Land' on the Natural Resources Sensitivity Map.

(3) Before determining a development application for land to which this clause applies, the consent authority must consider any adverse impact from the proposed development on—

(a) a native ecological community, and

(b) the habitat of any threatened species, populations or ecological community, and

(c) a regionally significant species of fauna and flora or habitat, and

(d) a habitat element providing connectivity.

This Ecological Assessment Report has been prepared to identify and address the matters listed under this Clause. No significant adverse impacts have been identified, however, general recommendations to ameliorate potential localised adverse impacts are provided within **Section 13**.

(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that—

(a) the development is designed, sited and will be managed to avoid any adverse environmental impact, or

(b) if that impact cannot be avoided—the development is designed, sited and will be managed to minimise that impact, or

(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

The development has been sited such that no impacts to native vegetation and no adverse environmental impacts are proposed.

13.0 Recommendations

The following general recommendations are made for consideration to minimise localised impacts on biodiversity in general as a result of the proposed development:

- Prior to construction commencing, exclusion flagging tape and signage will be installed to delineate construction zone from retained vegetation.
- Clearing of any vegetation on site should be undertaken at the direction of a suitably experienced ecologist.
- The ecologist would manage displaced native fauna, either by relocating in suitable retained vegetation adjacent to the site or within the locality, or, if the fauna is injured or immature, by handing over to local Native Fauna Carers or veterinary clinic if required.
- In the event of encountering hollow-bearing trees (noting none were recorded on site), the Ecologist will guide and supervise sectional removal of the hollow ensuring the safety of any potentially present fauna.
- Equipment should be cleaned thoroughly and disinfected before entering and exiting site to prevent weed and disease introduction such as *Phytophthora cinnamomi* (Root-rot fungus), *Puccinia psidii* (Myrtle Rust).
- An Erosion and Sedimentation Control Plan (ESCP) should be prepared for the proposal following guidelines from the “Blue Book” (Landcom, 2004).
- Best practice erosion and sedimentation controls should be put in place to limit offsite movement of materials into the adjacent vegetation.
- Landscape planting should incorporate locally appropriate species.

14.0 References

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Appendix A – Flora Species List

The following list includes all species of vascular plants observed on site during fieldwork. It should be noted that such a list cannot be considered comprehensive, but rather indicative of the flora present on the site. It can take many years of flora surveys to record all of the plant species occurring within any area, especially plant species that are only apparent in some seasons such as Orchids.

A number of species cannot always be accurately identified during a brief survey, generally due to a lack of suitable flowering and/or fruiting material. Any such species are identified as accurately as possible, and are indicated in the list as thus:

- specimens that could only be identified to genus level are indicated by the generic name followed by the abbreviation “sp.”, indicating an unidentified species of that genus;
- specimens for which identification of the genus was uncertain are indicated by a question mark (“?”) placed in front of the generic, which is followed by the abbreviation “sp.” and;
- specimens that could be accurately identified to genus level, but could be identified to species level with only a degree of certainty are indicated by a (“?”) placed in front of the epithet.

Authorities for the scientific names are not provided in the list. These follow the references outlined below.

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Names of families and higher taxa follow a modified Cronquist System (1981).

Introduced species are indicated by an asterisk “*”.

Threatened species listed under the *Biodiversity Conservation Act 2016* (BC Act) or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are indicated in **bold font.**

Family	Scientific Name	Common Name
Asteraceae	*Cirsium vulgare*	Spear Thistle
Asteraceae	*Hypochaeris glabra*	Smooth Catsear
Juncaceae	*Juncus spp.*	
Poaceae	*Lolium perenne*	Perennial Ryegrass
Iridaceae	*Romulea rosea*	Onion Grass
Fabaceae	*Trifolium repens*	White clover

Appendix B – Observed Fauna Species List

Observed Fauna

The following list includes fauna species that could be reasonably expected to occur on the Subject Site at some point, given site attributes and location.

Key to Records:

Observed (O), Heard (H), Scat (S), Marking (M), Track (T), Nest (N), Burrow (B)

Scientific Name	Common Name	NSW status	Comm. status	Surveyed Observations
Aves				
Acridotheres tristis	Common Myna	P		O
Dacelo novaeguineae	Laughing Kookaburra	P		O
Grallina cyanoleuca	Magpie Lark	P		O
Gymnorhina tibicen	Australian Magpie	P		OH

Appendix C – Threatened Species Appraisal

Threatened Species Appraisal 100km^2

Scientific Name	Common Name	BC Act status	EPBC Act status	BioNet Records (10km x 10km)	Likelihood of Occurrence		Subject Species (Y/N)
					Species Description	Assessment	
Flora							
Eucalyptus aggregata	Black Gum	V	V	1	Black Gum is found in the NSW Central and Southern Tablelands, with small isolated populations in Victoria and the ACT. In NSW it occurs in the South Eastern Highlands Bioregion and on the western fringe of the Sydney Basin Bioregion. Black Gum has a moderately narrow distribution, occurring mainly in the wetter, cooler and higher parts of the tablelands, for example in the Blayney, Crookwell, Goulburn, Braidwood and Bungendore districts. Grows in the lowest parts of the landscape. Grows on alluvial soils, on cold, poorly-drained flats and hollows adjacent to creeks and small rivers. Often grows with other cold-adapted eucalypts, such as Snow Gum or White Sallee (*Eucalyptus pauciflora*), Manna or Ribbon Gum (*E. viminalis*), Candlebark (*E. rubida*), Black Sallee (*E. stellulata*) and Swamp Gum (*E. ovata*). Black Gum usually occurs in an open woodland formation with a grassy ground layer dominated either by River Tussock (*Poa labillardierei*) or Kangaroo Grass (*Themeda australis*), but with few shrubs. Also occurs as isolated paddock trees in modified native or exotic pastures.	There were no records located on site, with the closest sighting over 6.5km away. No shale-sandstone transition habitat on site, not considered likely to occur.	Y
Aves							
Artamus cyanopterus cyanopterus	Dusky Woodswallow	V		1	The species occurs throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs	Only one (1) record within 10km of the site. Considering the paucity of records	Y

Scientific Name	Common Name	BC Act status	EPBC Act status	BioNet Records (10km x 10km)	Likelihood of Occurrence		Subject Species (Y/N)
					Species Description	Assessment	
					on the western slopes of the Great Dividing Range. Primarily inhabit dry, open eucalypt forests and woodlands, including mallee associations, with an open or sparse understorey of eucalypt saplings, acacias and other shrubs, and ground-cover of grasses or sedges and fallen woody debris. It has also been recorded in shrublands, heathlands and very occasionally in moist forest or rainforest. Also found in farmland, usually at the edges of forest or woodland.	and degraded habitat it is not considered likely to occur. Species was not observed on site during surveys.	

Table Key - Status (BC Act & EPBC Act): CE: Critically Endangered, E: Endangered, V: Vulnerable (#) – Indicates number of Atlas Records within 10km of the Subject Site

Appendix D – BOSET report

Department of Planning and Environment

Biodiversity Values Map and Threshold Report

This report is generated using the Biodiversity Values Map and Threshold (BMAT) tool. The BMAT tool is used by proponents to supply evidence to your local council to determine whether or not a Biodiversity Development Assessment Report (BDAR) is required under the Biodiversity Conservation Regulation 2017 (Cl. 7.2 & 7.3).

The report provides results for the proposed development footprint area identified by the user and displayed within the blue boundary on the map.

There are two pathways for determining whether a BDAR is required for the proposed development:

1. Is there Biodiversity Values Mapping?
2. Is the 'clearing of native vegetation area threshold' exceeded?

Biodiversity Values Map and Threshold Report

Date of Report Generation		11/10/2024 4:30 PM
1. Biodiversity Values (BV) Map - Results Summary (Biodiversity Conservation Regulation Section 7.3)		
1.1	**Does the development Footprint intersect with BV mapping?**	no
1.2	Was ALL BV Mapping within the development footprinted added in the last 90 days? (dark purple mapping only, no light purple mapping present)	no
1.3	**Date of expiry of dark purple 90 day mapping**	N/A
1.4	**Is the Biodiversity Values Map threshold exceeded?**	no
2. Area Clearing Threshold - Results Summary (Biodiversity Conservation Regulation Section 7.2)		
2.1	**Size of the development or clearing footprint**	62,528.8 sqm
2.2	**Native Vegetation Area Clearing Estimate (NVACE)** (within development/clearing footprint)	1,466.2 sqm
2.3	**Method for determining Minimum Lot Size**	LEP
2.4	**Minimum Lot Size** (10,000sqm = 1ha)	20,000 sqm
2.5	**Area Clearing Threshold** (10,000sqm = 1ha)	5,000 sqm
2.6	**Does the estimate exceed the Area Clearing Threshold?** (NVACE results are an estimate and can be reviewed using the Guidance)	no

REPORT RESULT: Is the Biodiversity Offset Scheme (BOS) Threshold exceeded for the proposed development footprint area? (Your local council will determine if a BDAR is required)	**no**

What do I do with this report?

• If the result above indicates the BOS Threshold has been exceeded, your local council may require a Biodiversity Development Assessment Report with your development application. Seek further advice from Council. An accredited assessor can apply the Biodiversity Assessment Method and prepare a BDAR for you. For a list of accredited assessors go to: https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor.

• If the result above indicates the BOS Threshold has not been exceeded, you may not require a Biodiversity Development Assessment Report. This BMAT report can be provided to Council to support your development application. Council can advise how the area clearing threshold results should be considered. Council will review these results and make a determination if a BDAR is required. Council may ask you to review the area clearing threshold results. You may also be required to assess whether the development is '"likely to significantly affect threatened species" as determined under the test in Section 7.3 of the *Biodiversity Conservation Act 2016*.

• If a BDAR is not required by Council, you may still require a permit to clear vegetation from your local council.

• If all Biodiversity Values mapping within your development footprint was less than 90 days old, i.e. areas are displayed as dark purple on the BV map, a BDAR may not be required if your Development Application is submitted within that 90 day period. Any BV mapping less than 90 days old on this report will expire on the date provided in Line item 1.3 above.

For more detailed advice about actions required, refer to the Interpreting the evaluation report section of the Biodiversity Values Map Threshold Tool User Guide .

Review Options:

• If you believe the Biodiversity Values mapping is incorrect please refer to our BV Map Review webpage for further information.

• If you or Council disagree with the area clearing threshold estimate results from the NVACE in Line Item 2.6 above (i.e. area of Native Vegetation within the Development footprint proposed to be cleared), review the results using the Guide for reviewing area clearing threshold results from the BMAT Tool.

Acknowledgement

I, as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature: _____ Date: _____

(Typing your name in the signature field will be considered as your signature for the purposes of this form)

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Biodiversity Values Map and Threshold Tool

The Biodiversity Values (BV) Map and Threshold Tool identifies land with high biodiversity value, particularly sensitive to impacts from development and clearing.

The BV map forms part of the Biodiversity Offsets Scheme threshold, which is one of the factors for determining whether the Scheme applies to a clearing or development proposal. You have used the Threshold Tool in the map viewer to generate this BV Threshold Report for your nominated area. This report calculates results for your proposed development footprint and indicates whether Council may require you to engage an accredited assessor to prepare a Biodiversity Development Assessment Report (BDAR) for your development.

This report may be used as evidence for development applications submitted to councils. You may also use this report when considering native vegetation clearing under the State Environmental Planning Policy (Biodiversity and Conservation) 2021 - Chapter 2 vegetation in non-rural areas.

What's new? For more information about the latest updates to the Biodiversity Values Map and Threshold Tool go to the updates section on the Biodiversity Values Map webpage.

Map Review: Landholders can request a review of the BV Map where they consider there is an error in the mapping on their property. For more information about the map review process and an application form for a review go to the Biodiversity Values Map Review webpage.

If you need help using this map tool see our Biodiversity Values Map and Threshold Tool User Guide or contact the Map Review Team at map.review@environment.nsw.gov.au or on 1800 001 490.

Biodiversity Values Map

692.3 0 346.16 692.3 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days
- Native Vegetation Area Clearing Estimate (NVACE)
- Development area selected by proponent

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The results provided in this tool are generated using the best available mapping and knowledge of species habitat requirements.

This map is valid as at the date the report was generated. Checking the Biodiversity Values Map viewer for mapping updates is recommended.

Appendix E – Site Photographs

Above: View onto site from Kangaloolah Road.

Below: Grazed and ungrazed exotic grasses.

Above: Subject Site along Kangaloolah Road.

Below: Vegetation in and surrounding the Subject Site.

Appendix F – Author CVs

GEOFF TURNER
Ecologist / GIS Officer

Profile Summary

Geoff is a junior Ecologist and GIS Officer with Anderson Environmental & Planning. Having recently completed an undergraduate degree in environmental science where he garnered experience in environmental science and undertaking ecological fieldwork such as targeted flora and fauna surveys, he has begun to broaden his skills by commencing a Master of Geographic Information Science at the University of Queensland. During his time working as an Ecologist / GIS Officer he has furthered his ecology skills in conducting ecological assessments and surveys, in addition to performing the accompanying geospatial work that both informs the fieldwork and concisely communicates the data. His work with Anderson Environment & Planning has helped consolidate report writing skills first honed as a requirement of his bachelor's degree.

Academic Qualifications

- Master of Geographic Information Science - University of Queensland, Current
- Bachelor of Science (Environmental Science) – University of Sydney, 2023

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- WHS NSW Construction Induction White Card
- First Aid (Provide First Aid HLTAID011)

Professional Experience

Ecologist / GIS Officer — 2024 – Present
Anderson Environment & Planning
Newcastle NSW

Technician (Espresso machines) — 2023 - 2024
Buccheri Group
Melbourne VIC

Farm Hand — 2020 - 2021
Pocket City Farms
Sydney NSW

Relevant Project Experience

Ecological Surveys

- Diurnal bird surveys (Various sites, 2024-onwards).
- Frog surveys for threatened species (Oxford Falls, April 2024).
- Habitat surveys, including tree hollow identification (Various sites, 2024-onwards).
- Nocturnal surveys for nocturnal avian fauna, including stagwatching, spotlighting, quiet listening and call playback (Wyee, 2024).

Ecological Assessment

- Biodiversity assessment methodology (BAM) plots, under supervision of BAM accredited assessor Joelan Sawyer (Narellan, May 2024).
- Bushfire vegetation inspection and assessment in accordance with PBP 2019 (Clarendon, April 2024).

Geospatial Analysis

- Perform Geospatial analysis according to guidelines and legislation for various reports such as Ecological Assessments and Biodiversity Management Plans.
- Design and present complex spatial data for government and industry.

JEREMY BURRILL

Ecologist & Project Manager

Profile Summary

Jeremy works with AEP in the role of Ecologist / Project Manager. He is a graduate of environmental science and management, and has experience in voluntary roles in environmental fields, involving threatened fauna and flora surveying, biodiversity reporting, management plans, consultancy projects and project management. His background in environmental fields with his growing ecological knowledge and management experience is utilised in a diverse array of applications in his current role.

Academic Qualifications

- Bachelor of Environmental Science (Environmental Management and Sustainability) Deakin University (2020)

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- WHS NSW Construction Induction White Card
- First Aid (Provide First Aid HLTAID011)
- Work Safely at Heights

Professional Experience

Ecologist / Project Manager — 2022 – Present
Anderson Environment & Planning
Sydney NSW

Ecologist — 2020 – 2022
Anderson Environment & Planning
Sydney NSW

Relevant Project Experience

Ecological Surveys

- Botanical surveys including Biodiversity Assessment Method (BAM) vegetation plots under supervision of BAM accredited assessors Frances O'Brien and Timothy Mouton across various sites.
- Threatened flora surveys: Bundanoon, Greendale, Edmondson Park, Loftus, Glenning Valley, Wyee, Wadalba, Halloran, Somersby, Mardi, Wallsend, North Kellyville, Loftus and Pleasure Point.
- Threatened Nocturnal Fauna surveys: Bundanoon, Greendale, Edmondson Park, Loftus, Glenning Valley, Wyee, Wadalba, Halloran, Somersby, Mardi, Wallsend, Cattai, Barrington Tops and Somersby.
- Threatened Diurnal Fauna Surveys: Bundanoon, Greendale, Edmondson Park, Loftus, Glenning Valley, Wyee, Wadalba, Halloran, Somersby, Mardi, Wallsend, Cattai, Barrington Tops, Pleasure Point and Somersby.
- Microbat Nocturnal Harp Trapping: Wallsend and Mardi.

- Koala Spot Assessment Technique Surveys: Greendale, Wadalba, Girvan and Somersby.
- Nestbox installation: Glenning Valley and Narellan Vale.
- Habitat surveys including hollow bearing tree identification: Bundanoon, Greendale, Edmondson Park, Wyee, Somersby, Cattai, Barrington Tops and Somersby.
- Vegetation Clearance Surveys and Supervision: Glenning Valley, Wyee, Warnervale, Chain Valley Bay, Narellan Vale and Carramar.

Ecological Assessment

- Biodiversity Development Assessment Report contribution: Greendale, Edmondson Park, Austral, Rouse Hill and Annangrove.
- Ecological Assessment Reports: Minto, Berkeley Vale, Rooty Hill, Warriewood, Macquarie Park, Carramar and Ambarvale.
- Biocertification Assessments: West Wilton, Edmondson Park and Schofields.
- Weed Management Plan: Pheasants Nest and Tahmoor.
- Vegetation/ Biodiversity Management Plans: Woy Woy, Pheasants Nest, Vineyard, Grantham Farm, Warriewood, Loftus and Greendale.
- Riparian Assessment Reports: Schofields, Greendale, Quakers Hill and Ingleside.
- BDAR Waiver Letters: Revesby, Strathfield and Schofields.
- Plant Community Type determination.
- GIS Mapping.

Ecological Monitoring

- Vegetation Monitoring Plots: Pheasants Nest, Warriewood and Werrington.
- Fauna Monitoring/ Nestbox Monitoring: Glenning Valley and Wyee.

JOELAN SAWYER
Senior Ecologist

Profile Summary

Joelan works with AEP in the Role of Senior Ecologist, Joelan Specialises in botany with experience focused in the Greater Sydney area and along the NSW coastline. He is proficient in performing flora and fauna surveys, plant identification and taxonomy, GIS, and reporting for biodiversity and impact assessments. He also has in-depth knowledge of the NSW legislative pathways, namely the Biodiversity Conservation Act 2016 and the associated Biodiversity Assessment Method (BAM). Joelan is an accredited assessor. Accreditation No. BAAS23016

Academic Qualifications

- Bachelor of Science (Biology), The University of Western Sydney, completed September 2018
- BAM Assessor; accreditation number: BAAS23016.

Training, Licences and Professional Memberships

- NSW Class C Driver's Licence
- WHS NSW Construction Induction White Card
- First Aid (Provide First Aid HLTAID011)

Professional Experience

Senior Ecologist — 2023 – Present
Anderson Environment & Planning
Sydney NSW

Ecologist — 2017 - 2023
Anne Clements & Associates

Nursery Worker / Horticulturalist — 2015 - 2017
Wingham Nursery & Florist

Relevant Project Experience

Ecological Surveys

- Flora
  - Targeted surveys for *Dichanthium setosum* in the Hunter Region;
  - Targeted surveys for *Tetratheca glandulosa* and *Hibbertia procumbens* on the Somersby Plateau;
  - Targeted surveys for *Eucalyptus benthamii*, *Dillwynia tenuifolia* and *Grevilliea juniperina*, Western Sydney;
  - Targeted surveys for *Genoplesium baueri*, and *Grammitis stenophylla* Northern Sydney;
- Fauna
  - Spot Analysis Techniques surveys: Muswellbrook, Gunnedah, Scone, Bermagui, Blue Mountains, Western Sydney;
  - Targeted surveys for Cumberland Plain Land Snail, Western Sydney;

- Targeted surveys for Broad Headed Snake, Cattai;
- Targeted surveys for Striped Legless Lizard and Pink Tailed Legless Lizard, Muswellbrook;
- Targeted surveys for Green and Golden Bell Frog, Eastern Suburbs, Sydney;

- Bushfire
  - Bushfire vegetation inspection and assessment in accordance with PBP 2019, various sites;
- Arboriculture
  - Waste recycling facility, 120 trees assessed, West Gosford;
  - Industrial development, 140 trees assessed, Stanmore Park;
  - Commercial development, 80 trees assessed, Marsden Park;

Ecological Assessment

- BAM assessment for Biodiversity Development Assessment Reports;
  - Sandstone quarry extension, Cattai;
  - Aged care housing, Bermagui;
  - Residential development, Pleasure Point;
  - Solar Farm, Stubbo;
  - Eco cabins, Colo;
  - Farm building and agricultural infrastructure, Richmond;
  - Mountain bike track, Delrio, Webbs Creek;
  - Aged care housing, Mollymook;
  - Hunter Gas Pipeline project, Hunter region;
- Accredited assessor for Landscaping Material Supply Facility Biodiversity Development Assessment Report, Greendale;
- BAM assessment and PCT for Ecological Assessment Reports;
  - Horse stabling development, Clarendon;
  - Great southern walk accommodation, Illawarra Escarpment;
  - Rezoning for Carrathool Shire Council at Merriwagga and Rankin Springs;
  - Biodiversity assessment of various Sydney Water assets, Greater Sydney;
  - Biodiversity assessment of Newcastle Councils bushland assets, Newcastle;
  - Biodiversity assessment of Penrith Councils assets at St Marys industrial area;

Ecological Monitoring

- Vegetation monitoring on VMP lands;
  - St Narsai Assyrian Christian College, Horsley Park;
  - Residential development, Cooranbong;
  - Sandstone Quarry restoration, Red Hill Reserve, Beacon Hill;
- Publications
  - Sawyer, J. (2021). *Achieving resilient biodiversity offsets on reconstructed landforms* [Poster Presentation]. Ecological Society of Australia 2021 “Symposium: Practitioners collaborating to restore and rewild landscapes” Darwin, Australia