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Biodiversity Development Assessment Report

Fairfield Showgrounds Masterplan

at

Fairfield Showgrounds

Report prepared by Narla Environmental Pty Ltd

For Fairfield City Council

September 2025



NARLA

environmental

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Report Certification

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As the accredited assessor, I Luke Johnson, certify that the information presented in this report is a true and accurate record of the study findings in the opinion of the authors.



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Glossary

Acronym/ Term	Definition
BAM	The NSW Biodiversity Assessment Method
BAMC	The NSW Biodiversity Assessment Method Calculator
BC Act	New South Wales Biodiversity Conservation Act 2016
BDAR	Biodiversity Development Assessment Report
Biodiversity credit report	The report produced by the Credit Calculator that sets out the number and class of biodiversity credits required to offset the remaining adverse impacts on biodiversity values at a development site, or on land to be biodiversity certified.
Biodiversity Offsets	Management actions that are undertaken to achieve a gain in biodiversity values on areas of land in order to compensate for losses to biodiversity from the impacts of development.
Biodiversity values	The composition, structure and function of ecosystems, including threatened species, populations and ecological communities, and their habitats.
DA	Development Application
DCCEEW	Federal Department of Climate Change, Energy the Environment and Water
DPE	NSW Department of Planning and Environment
DPIE	NSW Department of Planning, Industry and Environment
Ecosystem credit	The class of biodiversity credit that relates to a vegetation type and the threatened species that are reliably predicted by that vegetation type (as a habitat surrogate).
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ha	Hectares
HTE	High Threat Exotic
LGA	Local Government Area
Locality	A 1500m buffer area surrounding the Subject Land
Native Vegetation	Means any of the following types of plants native to New South Wales: (a) trees (including any sapling or shrub), (b) understorey plants, (c) groundcover (being any type of herbaceous vegetation), (d) plants occurring in a wetland.
NDCCEEW	NSW Department of Climate Change, Energy the Environment and Water
NSW	The State of New South Wales
OEH	Office of Environment and Heritage (now DPIE)
PCT	NSW Plant Community Type
Proposal	The development, activity or action proposed.
SAII	Serious and Irreversible Impacts
SBDAR	Streamlined Biodiversity Development Assessment Report
SAII entity	Species and ecological communities that are likely to be the subject of serious and irreversible impacts (SAIIs)
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
Species credit	The class of biodiversity credit that relate to threatened species that cannot be reliably predicted to use an area of land based on habitat surrogates. Species that require species credits are listed in the Threatened Biodiversity Data Collection.
Subject Land	The footprint of the proposed Masterplan.
Subject Property	430 Smithfield Rd, Prairiewood NSW 2176 (Lots 1/-/DP1251493)
Threatened species, populations and ecological communities	Species, populations and ecological communities specified in Schedules 1 and 2 of the BC Act 2016.
VIS Plot	Vegetation Integrity Survey Plot

Executive Summary

Narla Environmental was commissioned by Fairfield City Council ('the applicant') to prepare this Biodiversity Development Assessment Report (BDAR) to accompany a State Significant Development Application (SSDA) for the proposed Redevelopment Masterplan at Fairfield Showgrounds (Lot 1/-/DP1251493), hereafter referred to as the 'Subject Property'.

The BDAR will assess the biodiversity impacts of the proposed development in accordance with the requirements of the Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017. The assessment has been completed in accordance with Appendix C of the Biodiversity Assessment Method (BAM) (DPIE 2020a).

The Proponent is planning the redevelopment of an existing Fairfield Showground. The Masterplan works will be staged and include multiple planning pathways (**Appendix A**). All works within the Development Footprint have been included in this report in order to assess the cumulative impacts of the Masterplan. Demolition of the existing structure is being sought through a separate DA and therefore outside of the scope of this report.

The Subject Land is located in Western Sydney suburb of Prairiewood, within the Fairfield Local Government Area in the Deerubbin Local Aboriginal Land Council (LALC), encompassing an area of approximately 3.09ha. The Subject Property is situated between residential properties to the south and east. Orphan School Creek divides the north of the Showgrounds and Fairfield Golf Course. Scattered patches of bushland occur within the Subject Property and along Orphan School Creek.

The proposed development is expected to impact remnant native canopy vegetation representative of the Plant Community Type (PCT) 3320: Cumberland Shale Plains Woodland, in addition to areas of planted native and exotic vegetation and exotic lawn.

- Four (4) ecosystem credits are required to be offset for the proposed development.

The proposed development is expected to impact 0.7ha of habitat for *Acacia pubescens* including direct removal of 41 individuals.

- (9) nine species credits are required to be offset for the proposed development.

In order to avoid and minimise potential impacts of the proposal on local biodiversity values, a series of mitigation and management measures have been identified, which are to be implemented as part of any Construction Environmental Management Plan (CEMP) produced for the site. This includes assigning a Project Ecologist to undertake an extensive pre-clearing survey of vegetation and to supervise the clearing of all vegetation in relation to the proposed development. It is also recommended that a translocation plan for the *Acacia pubescens* individuals and top soil containing any potential seed bank be developed by a suitable qualified horticulturalist.

This BDAR has been prepared in accordance with the Site-specific Secretary's Environmental Assessment Requirements (SEARs), specifically – Biodiversity, which states the following:

- Biodiversity – an assessment of the proposal's biodiversity impacts in accordance with the Biodiversity Conservation Act 2016, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted.

As the development has not been granted a BDAR waiver and is not located on biodiversity certified land, this BDAR has been prepared.

1. Introduction

1.1 Overview

Narla Environmental was commissioned by Fairfield City Council ('the applicant') to prepare this Biodiversity Development Assessment Report (BDAR) to accompany a State Significant Development Application (SSDA) for the proposed Redevelopment Masterplan at Fairfield Showgrounds (Lot 1/-/DP864615), hereafter referred to as the 'Subject Property' (**Figure 1**).

This BDAR is required as the proposed works are part of a SSDA. Section 7.9(2) of the NSW *Biodiversity Conservation Act 2016* (BC Act) stipulates the following:

- *"Any such application is to be accompanied by a biodiversity development assessment report unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values."*

This BDAR will assess the biodiversity impacts of the proposed development in accordance with the requirements of the Biodiversity Conservation Act 2016, Biodiversity Conservation Regulation 2017 and Biodiversity Assessment Method (BAM; DPIE 2020a). The report will also recommend appropriate measures to mitigate any potential ecological impacts in line with the requirements of the Consent Authority.

1.2 Assessment Method Applied

This SBDAR has been prepared as a 'Streamlined assessment module- small area development that requires consent' as it does not exceed the area clearing threshold for small area developments as outlined in the Biodiversity Assessment Method (BAM; DPIE 2020a; **Table 1**). Narla have produced this report in accordance with the requirements of the Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017. The assessment has been completed in accordance with Appendix L of the BAM (DPIE 2020a).

Table 1. Area limits for application of small area development threshold on land not shaded on the biodiversity value map. Dark border indicated clearing threshold relevant to this report.

Minimum lot size associated with the property	Maximum area clearing limit for application of the small area development module
Less than 1ha	≤1ha
Less than 40ha but not less than 1ha	≤2ha
Less than 1000ha but not less than 40ha	≤5ha
1000ha or more	≤10ha

1.3 Project Background

The project is for the construction of a multi-purpose building to be known as the Fairfield Showground Community and Events Centre and used for a recreation facility (indoor), function centre and entertainment facility.

The construction of the project is to be staged with the main project scope being undertaken first and a second stage providing additional back-of-house facilities.

The project is supported by infrastructure upgrades to Fairfield Showground to be delivered under the development without consent planning pathway which has been assessed under separate Review of Environmental Factors (REF) reports (**Appendix A**). All works within the Development Footprint have been included in this report in order to assess the cumulative impacts of the Masterplan.

1.4 The Proposed Development

The proposed Masterplan will be staged:

- Scope of works under State Significant Development Pathway (SSD)
 - Construction of a new community and events centre;
 - The proposed development will include all vegetation removal associated with the SSDA including the removal of twenty-six (26) trees.
- Scope of works under a separate planning proposal
 - Carpark and Internal Road upgrades;
 - Demolition of ancillary buildings;
 - Landscaping; and
 - Construction of a new amenities building.

The proposed Masterplan area will be referred to as the 'Subject Land' (**Figure 2**).

The Subject Land covers an area of approximately 3.09ha, located within the grounds of the current Fairfield Showgrounds. Native and exotic vegetation of all strata were confined to the landscaped areas of the Showgrounds, specifically scattered remnant trees throughout the Subject Land. The assemblage of species and location (e.g. planted streets trees and manicured gardens) indicate that some of the native trees have been historically planted.

1.5 Site Location and Description

The Subject Land is located in Western Sydney suburb of Prairiewood, within the Fairfield Local Government Area (LGA; **Figure 3**) in the Deerubbin Local Aboriginal Land Council (LALC), encompassing an area of approximately 3.09ha. The Subject Property is situated between residential properties to the south and east. Orphan School Creek divides the north of the Showgrounds and Fairfield Golf Course. Scattered patches of bushland occur within the Subject Property and along Orphan School Creek.



Figure 1. Components of the Subject Property

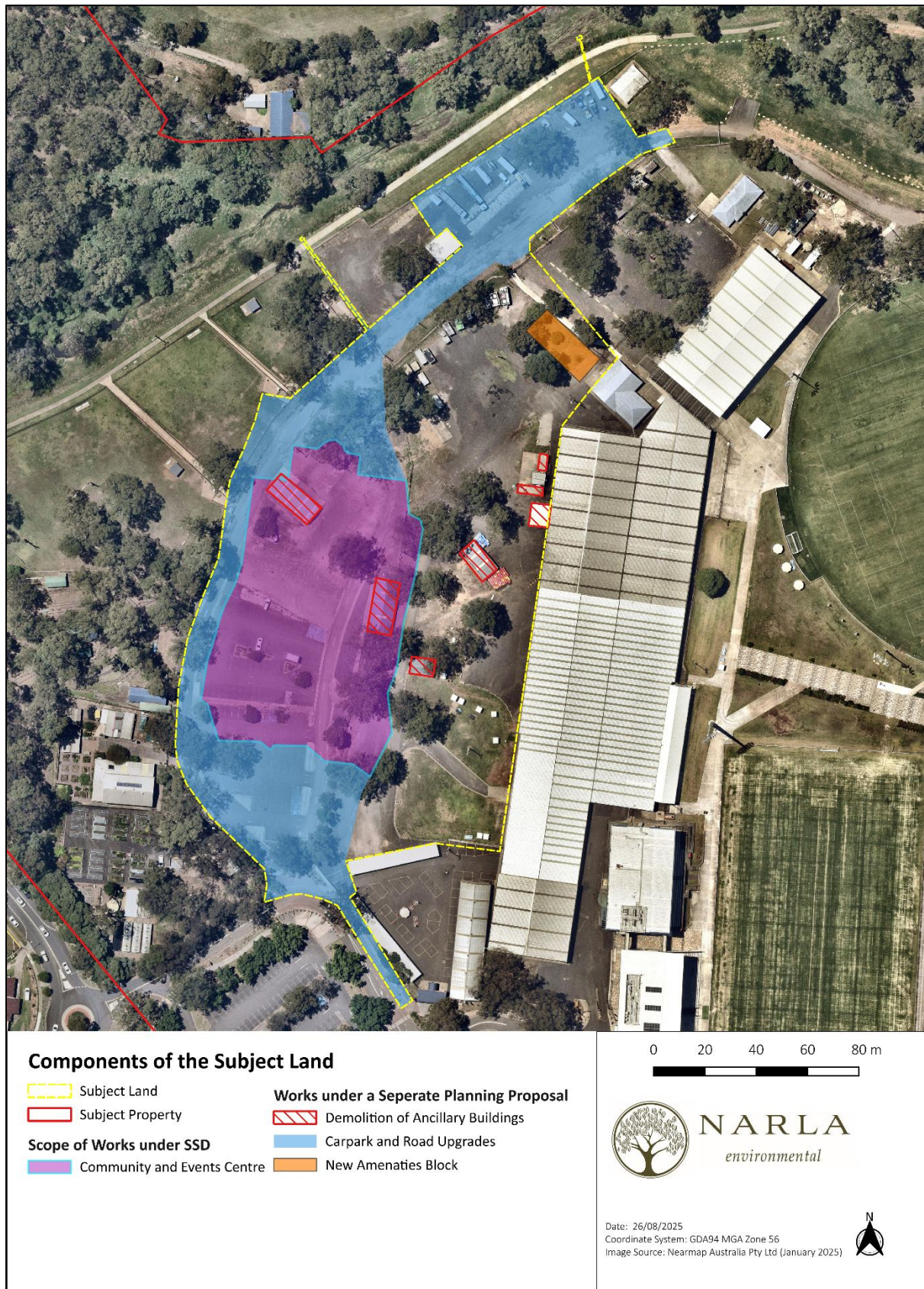


Figure 2. Components of the Subject Land

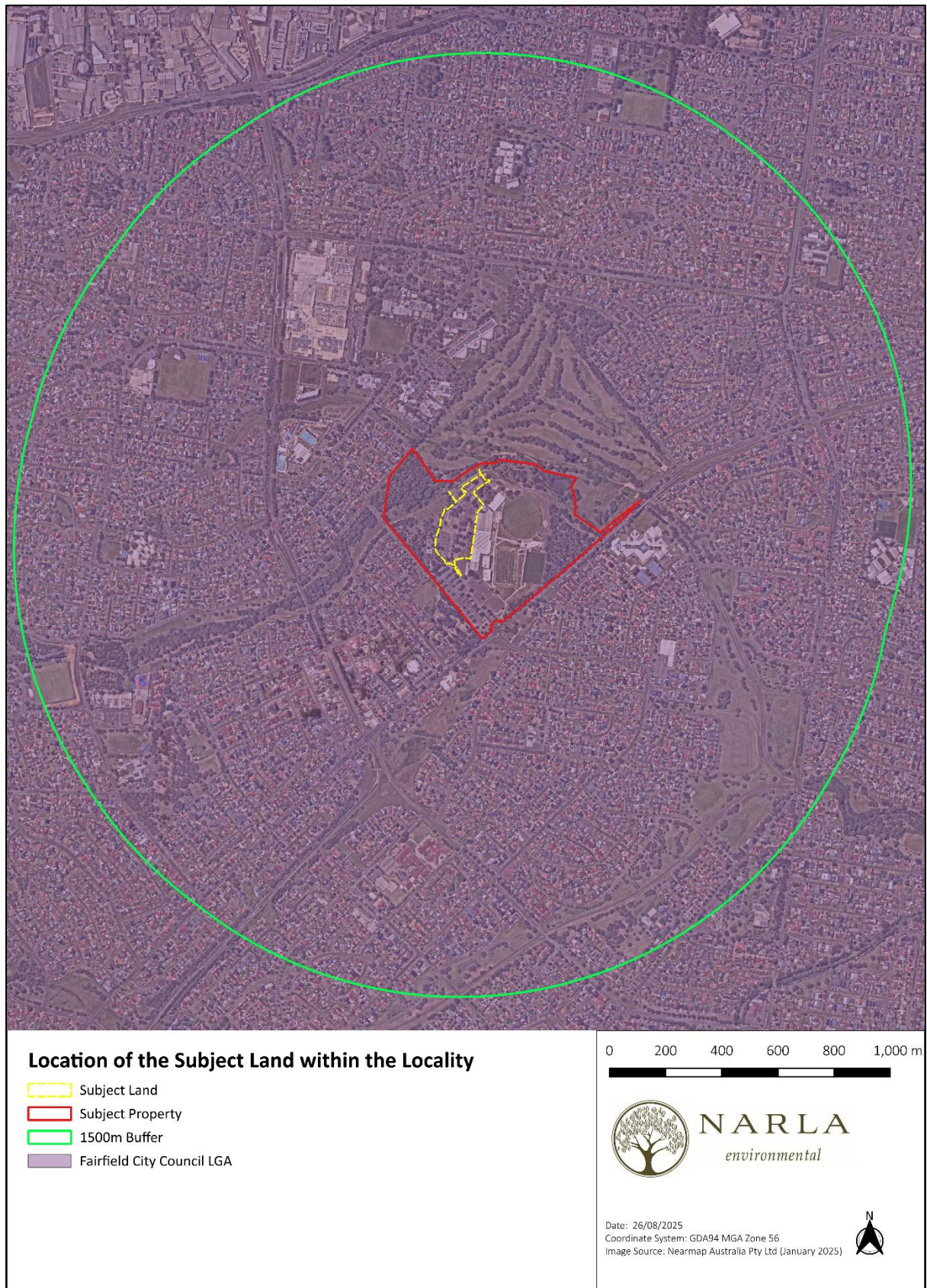


Figure 3. The location of the Subject Land within the locality.

1.6 Sources of Information Used

A thorough literature review was undertaken to gain an insight into the ecology and applicable legislation within the locality and Fairfield LGA, including:

- Relevant State and Commonwealth Databases & Datasets:
 - NSW BioNet. The website of the Atlas of NSW Wildlife (NDCCEEW 2025a);
 - NSW BioNet. Threatened Biodiversity Data Collection (NDCCEEW 2025b);
 - NSW BioNet. Vegetation Classification System (NDCCEEW 2025c);
 - NSW ESspade. Department of Planning and Environment (NDCCEEW 2025d); and
 - NSW Government Spatial Services: Six Maps Clip & Ship (NSW Government Spatial Services 2025)
- Vegetation and Soil Mapping:
 - NSW State Vegetation Type Map (DPE 2022); and
 - Soil Landscapes of the Penrith 1:100 000 Sheet (Bannerman and Hazelton 2011).
- NSW State Guidelines:
 - Biodiversity Development Assessment Method (DPIE 2020a);
 - Guidance to assist a decision-maker to determine a serious and irreversible impact (DPIE 2019a);
 - Biodiversity Assessment Method Calculator Version 1.4.0.00 (NDCCEEW 2025f);
 - Biodiversity Offsets and Agreement Management System (BOAMS);
 - Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method (DPIE 2020b); and
 - Threatened Species Survey and Assessment: Guidelines for developments and activities. Working Draft (DEC 2004)
- Council Documents:
 - Fairfield Local Environmental Plan (FLEP) 2013; and
 - Fairfield Development Control Plan (FDCP) 2013.

Preparation of this BDAR also involved the review of the following accompanying project documents:

- Architectural Package, NBRS, Rev C - 17 July 2025. **Appendix A**;
- Bushfire Assessment Report, Peterson Bushfire – 10 July 2025;
- Environmental Impact Statement DFP Planning Pty Limited - 15 August 2025;
- Landscape Package, NBRS, Rev C - 18 July 2025; and
- Arboricultural Impact Assessment Report, Urban Arbor - August 2025.

These sources were used to gain an understanding of the natural environment and ecology of the Subject Land and its surrounds. Searches using NSW Wildlife Atlas (BioNet) were conducted to identify current threatened flora and fauna records within and surrounding the Subject Land. This data was used to assist in establishing the presence or likelihood of any biodiversity values as occurring on, or adjacent to, the Subject Land, and helped inform our Ecologist on what to look for during the site assessment.

1.7 Aim and Approach

This report has been prepared in accordance with the BAM (DPIE 2020a) and aims to:

- Describe the biodiversity values present within the Subject Land, including the extent of native vegetation, vegetation integrity and the presence of Threatened Ecological Communities (TECs);
- Determine the habitat suitability within the Subject Land for candidate threatened species;

- Prepare an impact assessment in regard to potential impacts of the proposed development on biodiversity values, including potential prescribed impacts and SALLs within the Subject Land; and
- Discuss and recommend efforts to avoid and minimise impacts on biodiversity values.
- Calculate the biodiversity credits (i.e., ecosystem credits and species credits) that measure potential impacts of the development on biodiversity values. This calculation will inform the decision maker as to the number and class of offset credits required to be purchased and retired as a result of the proposed development.

2. Landscape

2.1 IBRA bioregion and subregion

The Subject Land occurs within the 'Cumberland' Interim Biogeographic Regionalisation for Australia 7 (IBRA7) Subregion, which is part of the 'Sydney Basin' IBRA7 Bioregion (**Figure 4**).

2.2 Mitchell Landscapes

Mitchell (Mitchell 2002) groups ecosystems into meso-ecosystems representing larger natural entities based on topography and geology. The naming of ecosystems and meso-ecosystems was standardised so that each name provided location information and a meaningful descriptive landscape term.

The Subject Land occurs within the 'Georges River Alluvial Plain' Mitchell Landscape Ecosystem (**Figure 5**). This landscape is characterised channel, floodplain and terraces of the Georges River on Quaternary and Tertiary alluvial sediments. Mostly clayey sand and sand with limited gravel on the highest terrace, general elevation 0 to 30m, local relief 10m. Massive uniform or gradational profiles on yellow brown to orange clayey sand. Podzols with well developed double pans on limited areas of deep quartz sand, stony, harsh, yellow, texture-contrast soils on higher terraces. Forest and woodland of cabbage gum (*Eucalyptus amplifolia*), rough-barked apple (*Angophora floribunda*), broad-leaved ironbark (*Eucalyptus fibrosa* ssp. *fibrosa*), scribbly gum (*Eucalyptus sclerophylla*) and narrow-leaved apple (*Angophora bakeri*). Extensive swamp oak (*Casuarina glauca*) along the riverbanks and in low-lying areas often with prickly-leaved tea-tree (*Leptospermum styphelioides*), these extend to brackish estuarine swamps with grey mangrove (*Avicennia marina*) and limited saltmarsh.

2.3 Topography, Geology and Soils

The Subject Land is located on almost completely levelled ground, with elevation ranging between 29m to 34m ASL (Google Earth 2025). The Subject Land is mapped as occurring on the boundary of the South Creek and Blacktown soil landscapes as per Soil Landscapes of the Penrith 1:100,000 Sheet (Bannerman and Hazelton 2011).

The South Creek soil landscape is characterised by often very deep layered sediments over bedrock or relict soils. Where pedogenesis has occurred Structured Plastic Clays or Structured Loams in and immediately adjacent to drainage lines. Red and Yellow Podzolic Soils are most common terraces with small areas of Structured Grey Clays, leached clays and Yellow Solodic Soils.

The Blacktown Soil landscape is characterised by gently undulating rises on Wianamatta Group shales. Local relief to 30 m, slopes usually >5%. Broad rounded crests and ridges with gently inclined slopes. Soils are shallow to moderately deep (>100 cm) hardsetting mottled texture contrast soils, Red and Brown Podzolic Soils on crests grading to Yellow Podzolic Soils on lower slopes and in drainage lines.

2.4 Areas of Geological Significance and Soil Hazards

The Subject Land did not contain any areas of geological significance, such as karsts, caves, cliffs or crevices. The Subject Land is not mapped as occurring on Acid Sulfate Soils.

2.5 Hydrology

One first order stream "Orphan School Creek" in the is located within the northern boundary of the Subject Property. In the wider locality (within the 1500m buffer), only a couple of mapped watercourses were present, ranging from 1st to 3rd order streams (**Figure 6**).

2.6 State Environmental Planning Policy (Resilience and Hazards) 2021: Coastal Management

The Subject Land does not contain any areas of native vegetation identified as 'Coastal Wetlands' or 'Littoral Rainforest' as per chapter 2 of the State Environmental Planning Policy (Resilience and Hazards) 2021: Coastal Management. However, within the broader locality (within the 1500m buffer) there are some areas identified 'Coastal Wetlands' (**Figure 8**).

2.7 Native Vegetation Cover and Connectivity

Native vegetation cover and connectivity have been assessed in accordance with Sections 3.2 and 3.1.3 of the BAM (DPIE 2020a). The native vegetation cover will be used to assess the habitat suitability of the Subject Land for threatened species. Areas of connectivity will determine the extent of habitat that may facilitate the movement of threatened species across their range. A 1500m buffer around the boundary of the Subject Land was calculated to determine the extent of native vegetation and habitat connectivity.

Native vegetation covered approximately 104.5ha within the buffer circle (total area included in calculation = 839.4ha; 12.5%) and was assigned to the >10-30% class. Areas of native vegetation were confirmed using information collected during the site assessment, as well as aerial imagery. Areas not assessed as native vegetation included sports ovals and planted exotic vegetation.

Many areas of native vegetation within the 1500m buffer provide connectivity (albeit patchy) that may facilitate the movement of threatened species. This is primarily made up of parklands, urban street trees and gardens (**Figure 9**).

2.8 Areas of Outstanding Biodiversity Value

No Areas of Outstanding Biodiversity Value occur on the Subject Land or within the surrounding area.

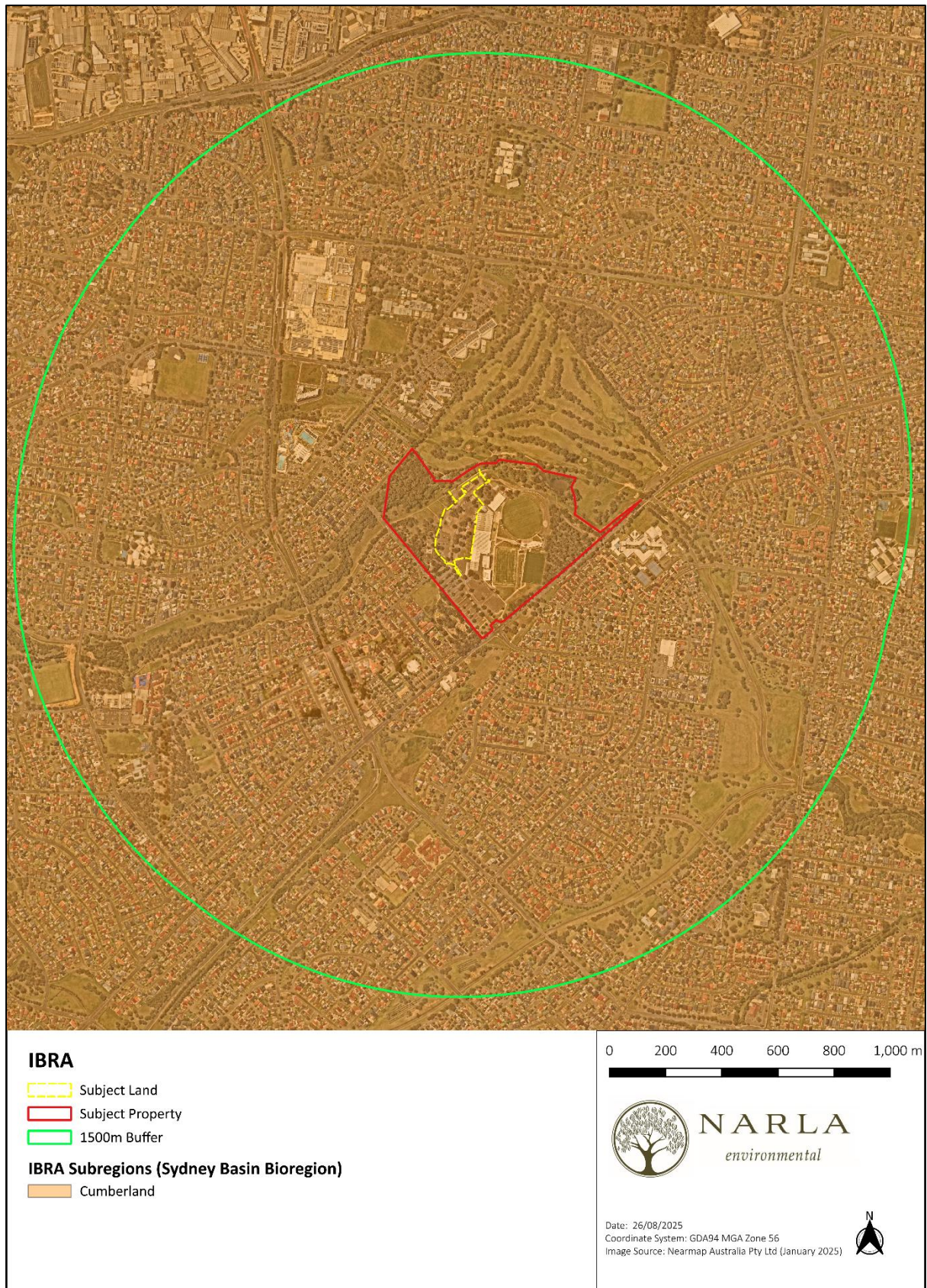


Figure 4. IBRA Bioregion and Subregion of the Subject Property and Subject Land, and within a 1500m buffer.

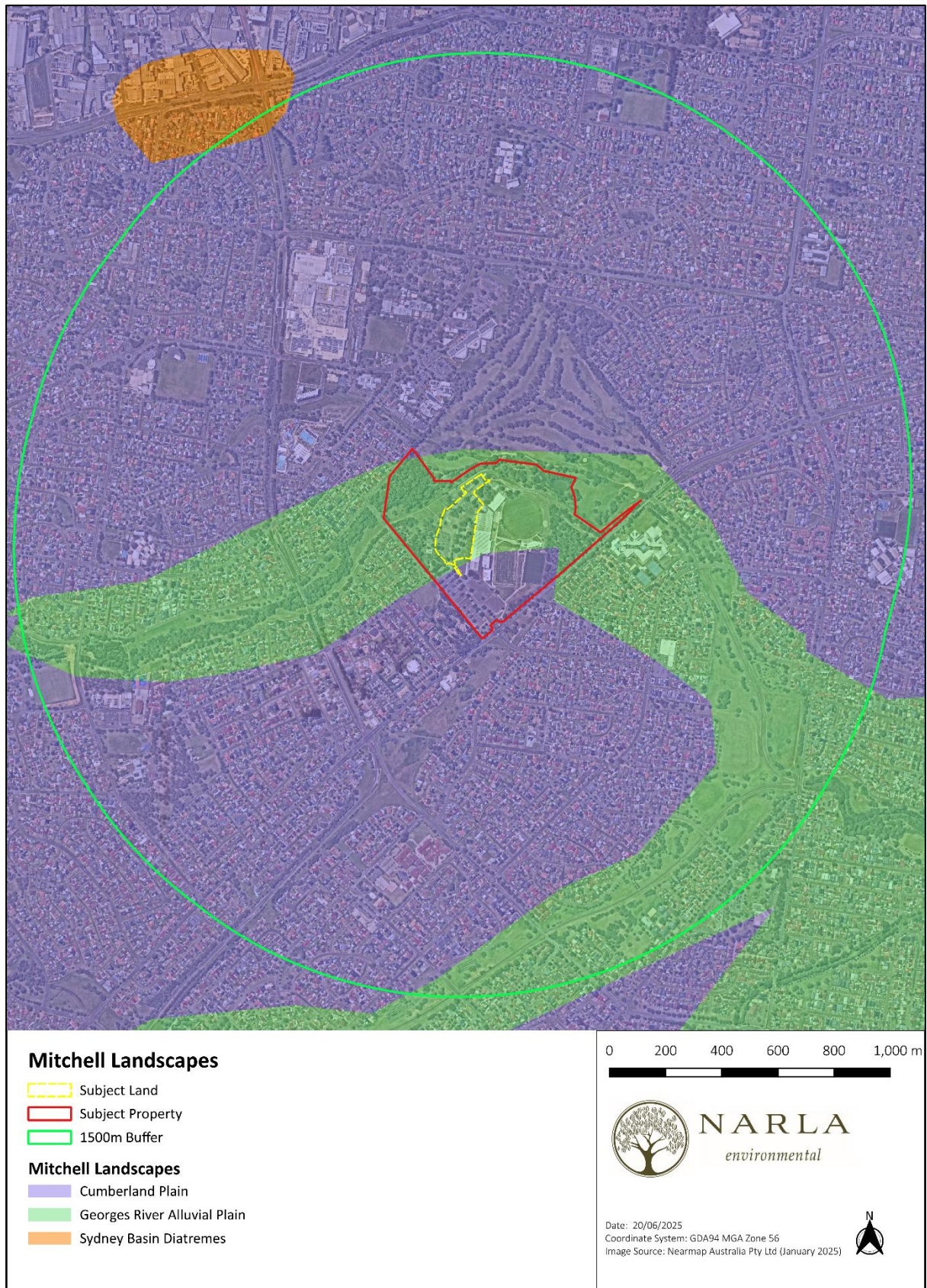


Figure 5. Mitchell Landscapes of the Subject Property and Subject Land, and within a 1500m buffer.

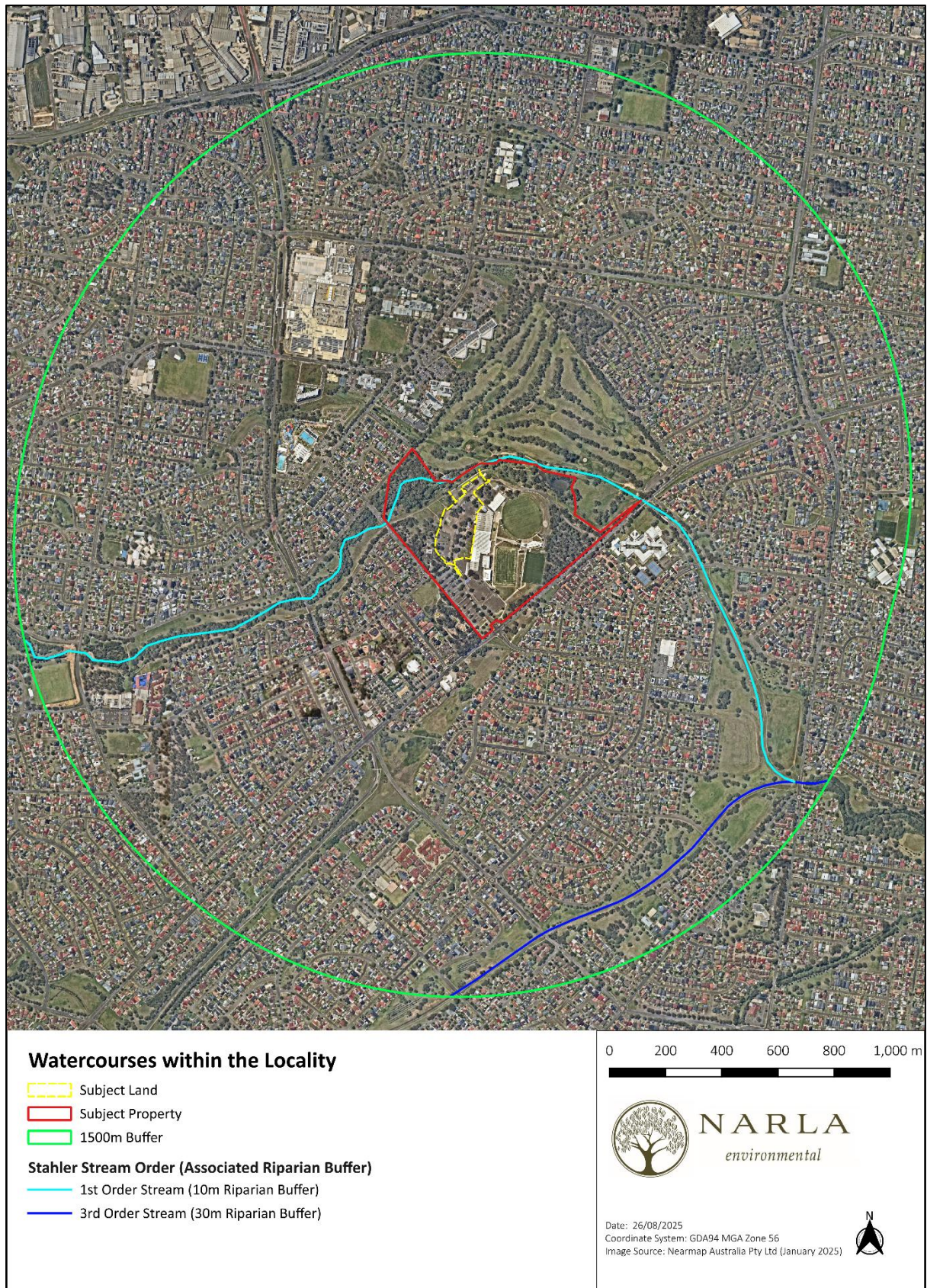


Figure 6. Rivers and streams (with associated riparian buffers) occurring within the 1500m buffer.

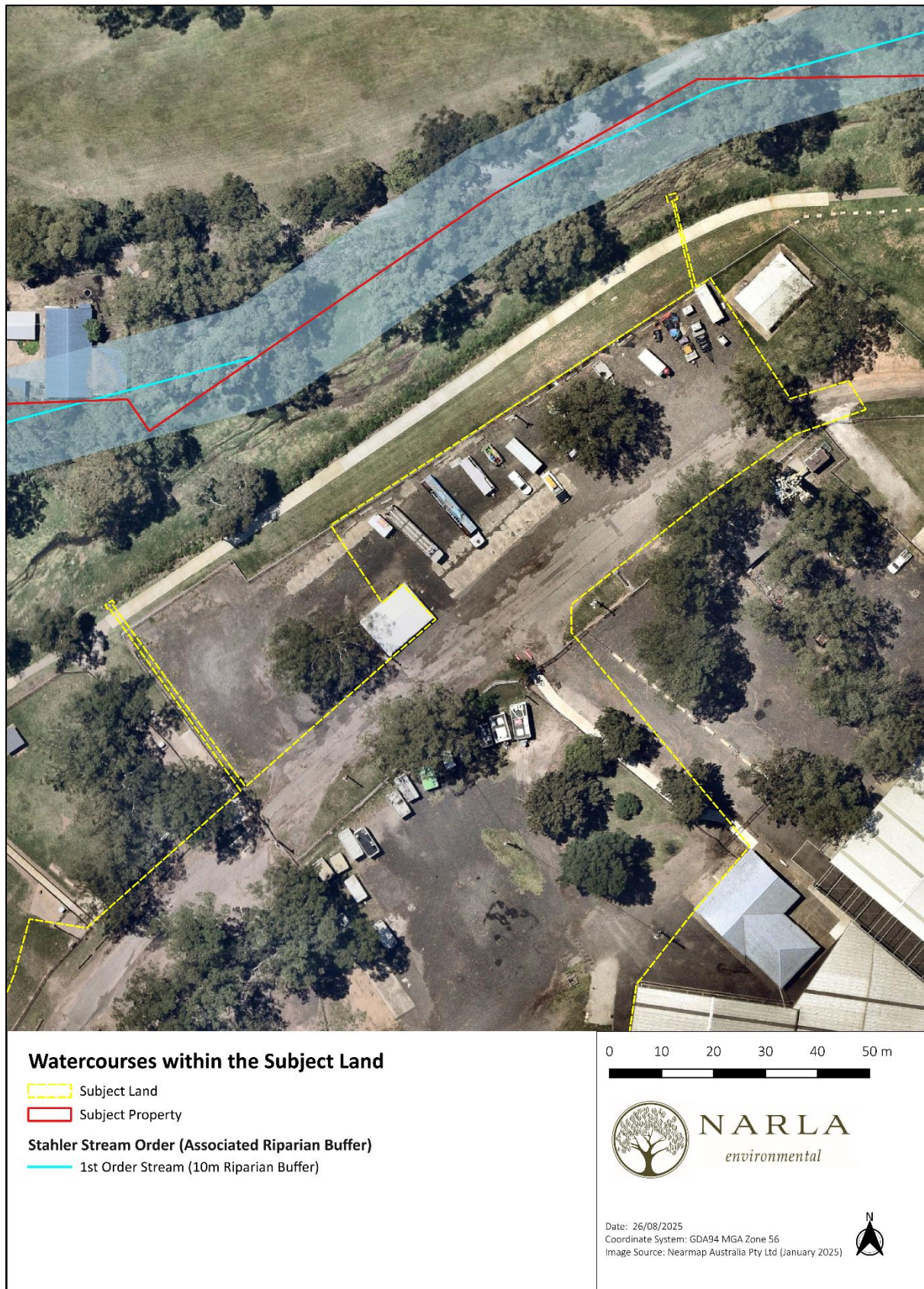


Figure 7. Watercourses within Proximity to the Subject Land.

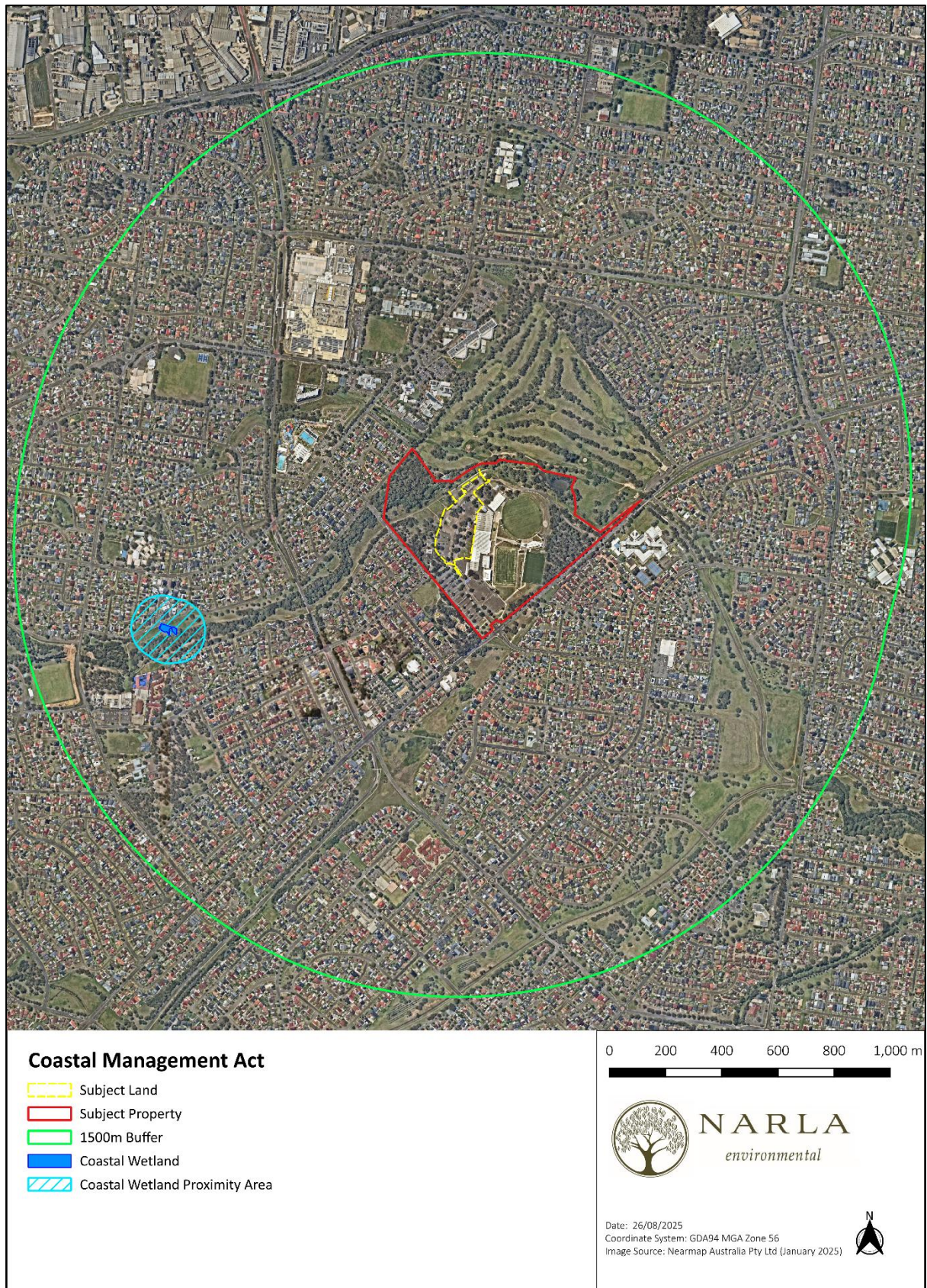


Figure 8. Areas mapped under chapter 4 (Coastal Management) of the State Environmental Planning Policy (Resilience and Hazards) 2021.



Figure 9. The extent of native vegetation and habitat connectivity occurring within the 1500m buffer.

3. Native Vegetation

3.1 Plant Community Type (PCT) Identified within the Subject Land

3.1.1 Historically Mapped Vegetation

Historical mapping by DPE (2022) indicates the presence of two plant community types (PCT) as well as 'not classified vegetation' within the Subject Land (**Figure 11**):

- 3448: Castlereagh Ironbark Forest; and
- 3320: Cumberland Shale Plains Woodland.

3.1.2 Plant Community Type Selection Process

Field surveys conducted by Narla confirmed that one (1) dominant native vegetation community occurred within the Subject Land, with the remainder of native and exotic vegetation classified as 'Miscellaneous (Urban Landscaping)'.

Vegetation Community Type

The following selection criteria were used in the PCT Filter Tool to develop the PCT shortlist:

- IBRA Bioregion: Sydney Basin
- IBRA Subregion: Cumberland
- Dominant Species: *Eucalyptus fibrosa* (Broad Leaved Ironbark), *Eucalyptus moluccana* (Greybox) and *Eucalyptus tereticornis* (Forest Red Gum).

This process delivered a selection of six (6) PCT's that occur within the Cumberland IBRA Subregion (and Sydney Basin Bioregion) and that contained 3 out of 3 of the observed dominant species (i.e., the highest potential of occurring within the Subject Land). The following six (6) candidate PCTs that contained consistent native species within the Subject Land were considered:

- PCT 3262: Sydney Turpentine Ironbark Forest;
- PCT 3320: Cumberland Shale Plains Woodland;
- PCT 3321: Cumberland Shale-Sandstone Ironbark Forest;
- PCT 3448: Castlereagh Ironbark Forest;
- PCT 4025: Cumberland Red Gum Riverflat Forest; and
- PCT 4058: Sydney Hinterland Red Gum Riverflat Forest.

The geographical distribution, geology and landscape position characterised by each shortlisted PCT was then compared against the location, geology and landscape of the Subject Land. It was found that the Subject Land was located in the right distribution and contained the appropriate landscape attributes and geology for two (2) candidate PCTs. The steps taken to justify the presence of the best-fit PCT within the Subject Land are detailed in (**Table 2**).

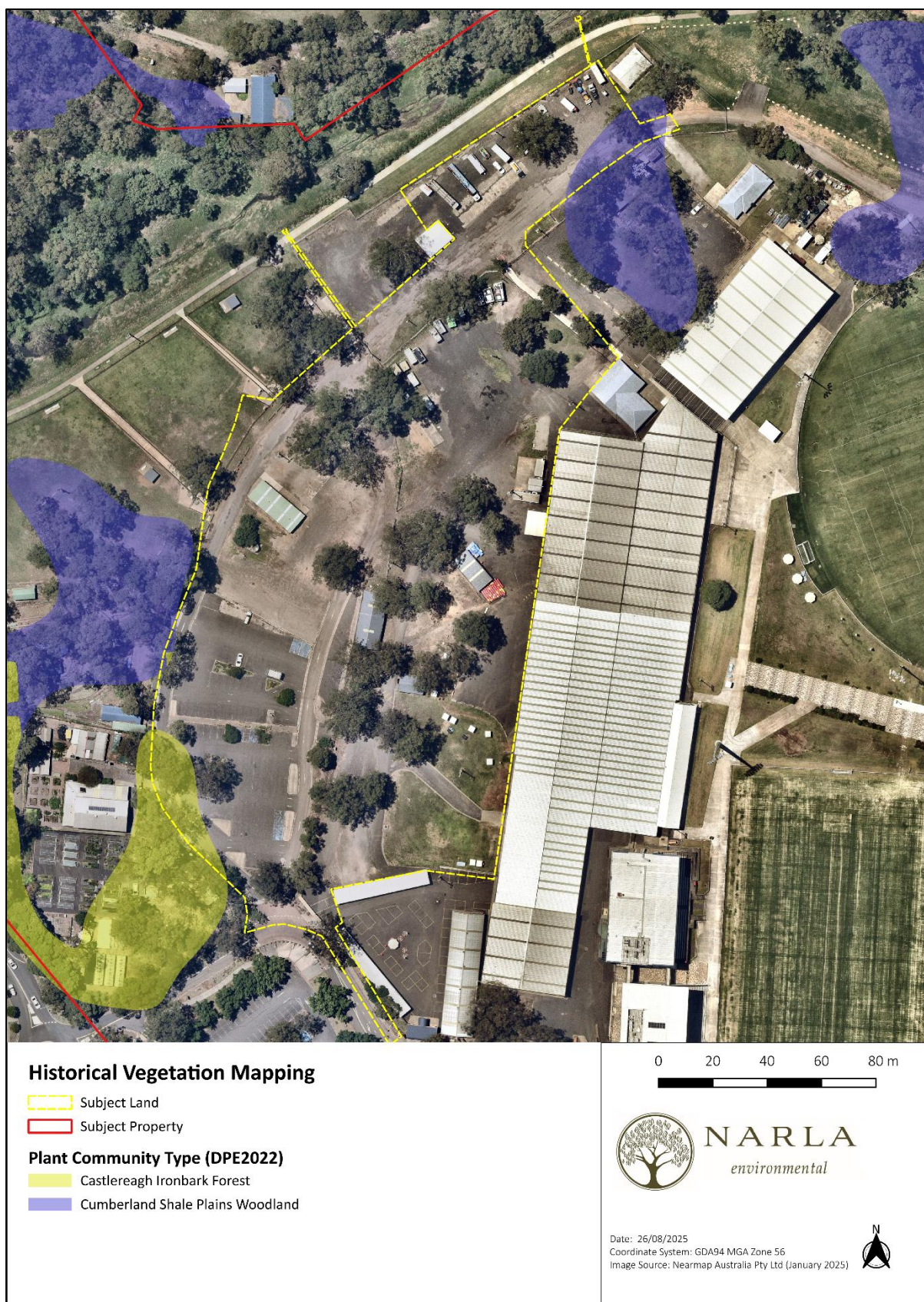


Figure 10. Historically Mapped Vegetation Communities within the Subject Land

Figure 11. Historical Vegetation Mapping

Table 2. Output from the PCT Filter Tool (DCCEEW 2025c) and subsequent shortlisting of dominant PCTs. Green shading indicates the selected best fit dominant PCT.

Plant Community Type (PCT)	Subject Land within known distribution/ landscape position.	No. of Floristic Matches	<i>Eucalyptus fibrosa</i>	<i>Eucalyptus molunccana</i>	<i>Eucalyptus tereticornis</i>
PCT 3262: Sydney Turpentine Ironbark Forest	No. This PCT occurs found on shale or sheltered shale-sandstone soils mainly in the northern suburbs of Sydney and lower Blue Mountains. Only a small number of remnants remain on the Wianamatta Group shales of the eastern Cumberland Plain between Villawood and Bankstown. The Subject Land occurs outside of the known distribution for this PCT and elevation for this PCT.	3	✓	✓	✓
PCT 3320: Cumberland Shale Plains Woodland	Yes. This PCT occurs on the undulating shale plains of western Sydney. The canopy frequently includes <i>Eucalyptus tereticornis</i> and <i>Eucalyptus moluccana</i> with ironbarks (<i>Eucalyptus crebra</i> and <i>Eucalyptus fibrosa</i>) occasionally present however prominent in localised areas. The Subject Land occurs within the known distribution for this PCT and elevation for this PCT.	3	✓	✓	✓
PCT 3321: Cumberland Shale-Sandstone Ironbark Forest	No. This PCT is found on the fringes of the Cumberland Plain in the Sydney Basin. It is one of a suite of forests that are associated with the subtle intergrade between clay-rich shale soil and the coarse sandy substrates of the sandstone plateau. This PCT occurs in a warm, moist climate on the western edge of the Woronora Plateau, on the rim of the Nepean and Georges rivers, along the edge of the Lapstone Monocline and in Hawkesbury and The Hills local government areas. The Subject Land does not occur on the fringe of the Cumberland Plain.	3	✓	✓	✓

Plant Community Type (PCT)	Subject Land within known distribution/ landscape position.	No. of Floristic Matches	<i>Eucalyptus fibrosa</i>	<i>Eucalyptus molunccana</i>	<i>Eucalyptus tereticornis</i>
PCT 3448: Castlereagh Ironbark Forest	Yes. This PCT is associated with the subtle intergrade between clay-rich shale soil and the sandier substrates. It typically occurs in a moist, warm climate at elevations below 150 metres asl, though it may reach 400 metres asl in the southern most part of its range. The Subject Land does occur on the correct soil integration and below 150m asl.	3	✓	✓	✓
PCT 4025: Cumberland Red Gum Riverflat Forest	No. This PCT occurs on the alluvial flats alongside streams that drain the Cumberland Plain or more rarely the broad alluvial flats of the Hawkesbury and Nepean River systems to the west of Sydney. It typically occurs in a warm, moist climate at low elevation with a mean of 60 metres asl, however may occur up to 320 metres in southern parts of the Cumberland Plain. Whilst the Subject Land does occur on the boundary of alluvial soils associated with the Orphan School Creek. The site predominantly occurs on the black town soil landscape which is not alluvial.	3	✓	✓	✓
PCT 4058: Sydney Hinterland Red Gum Riverflat Forest	No. This PCT is found on alluvial flats of streams in the Sydney and Central Coast hinterland. It is known from the Nattai, Wollondilly, lower Coxs and Butchers Creek catchments, on streams draining sandstone in western Sydney, and along Wollombi Brook. A common feature of these catchments is the mix of quartz and clay-rich substrates which contribute a sandy component to the alluvium. This PCT typically occurs at elevations below 200 metres asl in a warm, moist climate. The Subject land does not occur within the known distribution for this PCT.	3	✓	✓	✓

Table 3. PCT selection criteria. Green indicates the selected PCT.

Candidate PCT	Characteristics (NDCCEW 2024d)	Justification
3320: Cumberland Shale Plains Woodland	A tall sclerophyll open forest or woodland with a sparse mid-stratum of soft-leaved shrubs and small trees with a grassy ground cover on the undulating Wianamatta Group shale plains of western Sydney. The canopy very frequently includes <i>Eucalyptus tereticornis</i> and <i>Eucalyptus moluccana</i> , with ironbarks (<i>Eucalyptus crebra</i> and <i>Eucalyptus fibrosa</i>) occasionally present and sometimes prominent in localised areas. The sparse shrub to small tree layer very frequently includes <i>Bursaria spinosa</i> and one or more species of Acacia, of which <i>Acacia parramattensis</i> , <i>Acacia decurrens</i> and <i>Acacia falcata</i> are the most frequent and abundant. Presence of these Acacia species helps to distinguish this PCT from the related PCT 3319 on rises of the southern Cumberland Plain which typically includes <i>Acacia implexa</i> . The mid-dense ground layer typically includes grasses, forbs, twiners and hardy small ferns. <i>Microlaena stipoides</i> is almost always present and <i>Themeda triandra</i> , <i>Dichondra repens</i> , <i>Brunoniella australis</i> , <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> , <i>Desmodium varians</i> , <i>Aristida vagans</i> and <i>Glycine tabacina</i> are very frequent. This is the most widespread PCT on the Cumberland Plain, occupying much of the plain between Bankstown and the Hawkesbury and Nepean rivers. It typically occurs in a warm, moist climate below 120 metres asl however can occur up to 200 metres asl on the undulating terrain between Douglas Park and Campbelltown to the east of the Nepean River. A northern outlier occurs near Maroota on a small remnant on a narrow shale ridge. While widespread on the main part of the plain, this PCT primarily occurs in small, often disturbed patches within a rural or urban matrix. In the hilly country to the west of the Nepean River, this PCT is replaced by PCT 3319. On thinner shales above sandstone around the periphery of the Cumberland Plain, it grades into PCT 3321. Ironbarks are very frequent and <i>Eucalyptus punctata</i> is common in the canopy of PCT 3321, and <i>Eucalyptus moluccana</i> and <i>Eucalyptus tereticornis</i> are both rare.	This PCT has been assigned as the 'best fit' for the Subject Land as the geology, landscape position and floristic composition best matched what was present within the vegetation within the Subject Land.
3448: Castlereagh Ironbark Forest	A tall sclerophyll open forest with a dense mid-stratum of <i>Melaleuca</i> and a patchy ground layer of grasses and graminoids or a dense thicket of <i>Melaleuca</i> with emergent eucalypts found on the Cumberland Plain to the west of Sydney. It is one of a suite of forests associated with the subtle intergrade between clay-rich shale soil and sandier substrates. The canopy almost always includes ironbark eucalypts (primarily <i>Eucalyptus fibrosa</i>), occasionally accompanied by stringybark eucalypts (<i>Eucalyptus sparsifolia</i> , <i>Eucalyptus oblonga</i> , or <i>Eucalyptus globoidea</i>). The dense shrub to small tree layer almost always includes <i>Melaleuca</i> and <i>Acacia</i> , of which <i>Melaleuca decora</i> and <i>Acacia falcata</i> are the most frequent. The smaller shrubs <i>Bursaria spinosa</i> and <i>Daviesia ulicifolia</i> are both common. The ground layer is a sparse cover of graminoids, forbs,	Narla has determined this is not the correct PCT for the Subject Land. <i>Melaleuca</i> spp. are characteristic species of this PCT and are listed as almost always present however they are absent albeit one planted individual <i>M. stiphloides</i> within the Subject Land. It was found that the species composition

Candidate PCT	Characteristics (NDCCEEW 2024d)	Justification
	twiners, and a hardy fern. <i>Entolasia stricta</i> is almost always present, while <i>Aristida vagans</i>, <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>, <i>Microlaena stipoides</i>, <i>Dianella revoluta</i>, <i>Lomandra multiflora</i> subsp. <i>multiflora</i>, <i>Lepidosperma laterale</i>, and <i>Opercularia diphylla</i> are very frequent. The ground layer may be depauperate in locations where the dense mid-stratum excludes light and suppresses plant growth. This PCT is associated with moderately fertile soils derived from Tertiary alluvial deposits, shale and ironstone gravels, and residual soils derived from shale or from sandstone with enrichment from nearby shales. It is extensive around Castlereagh, Holsworthy, and the catchment of the Cooks River, where <i>Melaleuca</i> thickets are prevalent, possibly the result of human-induced changes to the original forest structure. There are smaller occurrences at Kemps Creek and near the shale-sandstone interface in Wollondilly Shire. This PCT has been extensively cleared and often occurs in small, fragmented patches. It typically occurs in a moist, warm climate at elevations below 150 metres asl, though it may reach 400 metres asl in the southernmost part of its range. The occurrences at higher elevation on the southern and western edge of the Cumberland Plain represent an extended interpretation of this PCT compared to previous studies. This PCT has considerable floristic and habitat overlap with PCT 3321, with much gradation between these PCTs in the northern Holsworthy area. PCT 3321 differs in that <i>Eucalyptus punctata</i> and <i>Persoonia linearis</i> are more frequent, <i>Melaleuca</i> are rare, and it is found on thin shales near the sandstone interface. At the sandier end of the shale-sandstone interface, this PCT grades into PCTs 3616 and 3619. Trees and shrubs that are more frequent in PCT 3616 include <i>Eucalyptus punctata</i>, <i>Persoonia linearis</i>, <i>Leptospermum trinervium</i>, <i>Lissanthe strigosa</i>, and <i>Acacia linifolia</i>. <i>Corymbia gummifera</i> is very frequent in PCT 3619, which also includes sandstone heath species such as <i>Banksia spinulosa</i>, <i>Persoonia levis</i>, and <i>Lambertia formosa</i>, and only occasional soft grasses such as <i>Microlaena stipoides</i> and <i>Aristida vagans</i>, which are very frequent in this PCT. With a greater shale influence, this PCT grades into PCT 3320, which includes <i>Eucalyptus tereticornis</i> and <i>Eucalyptus moluccana</i> in its canopy and a more diverse suite of soft-leaved grasses and forbs.	present within the Subject was better accounted for by PCT 3320.

3.1.3 Final PCT and Vegetation Zone Selection

Field surveys conducted by Narla confirmed that the dominant PCT was identified within the Subject Land:

- PCT 3320: Cumberland Shale Plains Woodland.

Two (2) vegetation zones were identified within the Subject Land that consisted of differing vegetation types:

- Zone 1: PCT 3320 – Cumberland Shale Plains Woodland (Remnant); and
- Zone 2: Miscellaneous (Urban Landscaping).

These vegetation zones are detailed in **Table 4** and **Table 5**; and displayed in **Figure 12**.

Table 4. Vegetation Zone 1 identified within the Subject Land.

Zone 1: PCT 3320 – Cumberland Shale Plains Woodland (Remnant)	
	
Vegetation class	Coastal Valley Grassy Woodlands
Extent within Subject Land (approximate)	0.70ha
Description in VIS	
A tall sclerophyll open forest to woodland with a sparse mid-stratum of soft-leaved shrubs and small trees with a grassy ground cover on the undulating shale plains of western Sydney. The canopy very frequently includes <i>Eucalyptus tereticornis</i> and <i>Eucalyptus moluccana</i>, with ironbarks (<i>Eucalyptus crebra</i> and <i>Eucalyptus fibrosa</i>) occasionally present however prominent in localised areas. The sparse shrub to small tree layer very frequently includes <i>Bursaria spinosa</i> and one or more species of <i>Acacia</i>, of which <i>Acacia parramattensis</i>, <i>Acacia decurrens</i> and <i>Acacia falcata</i> are the most frequent and abundant. Presence of these <i>Acacia</i> species helps to distinguish this PCT from PCT 3319 which typically includes <i>Acacia implexa</i>. The mid-dense ground layer typically includes	

Zone 1: PCT 3320 – Cumberland Shale Plains Woodland (Remnant)

grasses, forbs, twiners and a hardy fern. *Microlaena stipoides* is almost always present and *Themeda triandra*, *Dichondra repens*, *Brunoniella australis*, *Cheilanthes sieberi* subsp. *sieberi*, *Desmodium varians*, *Aristida vagans* and *Glycine tabacina* are very frequent. This is the most widespread PCT on the Cumberland Plain, occupying much of the plain between Bankstown and the Hawkesbury and Nepean rivers. It typically occurs in a warm, moist climate below 120 metres asl however can occur up to 200 metres asl on the undulating terrain between Douglas Park and Campbelltown to the east of the Nepean River. While widespread, this PCT primarily occurs in small, often disturbed patches within a rural or urban matrix. In the hilly country to the west of the Nepean River, this PCT is replaced by PCT 3319. On thinner shales above sandstone around the periphery of the Cumberland Plain, it grades into PCT 3321. Ironbarks are very frequent and *Eucalyptus punctata* is common in the canopy of PCT 3321, and *Eucalyptus moluccana* and *Eucalyptus tereticornis* are both rare.

Field survey effort	A site assessment was conducted by experienced Narla Ecologist Luke Johnson on the 23 rd April 2025. One (1) 20m x 50m BAM plot was established.
Description of vegetation within the Subject Land	The vegetation within this zone was a mix of remnant canopy species and exotic understory. The canopy included the species <i>Corymbia maculata</i> (Spotted Gum), <i>Eucalyptus fibrosa</i> (Broad Leaved Ironbark), <i>Eucalyptus moluccana</i> (Greybox) and <i>Eucalyptus tereticornis</i> (Sydney Red Gum). The mid/groundstory was restricted to beneath the canopy and confined to landscaped garden beds and carpark verges. The species consisted of exotic species consistent with an urban landscape of low diversity and cover. These species were limited to <i>Cynodon dactylon</i> , <i>Eragrostis curvula</i> , <i>Cyperus gracilis</i> and sporadic occurrences of <i>Dichondra repens</i> . Exotic groundcovers were beginning to sprout, consisting of High Threat Exotics (HTE) including <i>Olea europaea</i> (African Olive), <i>Araujia sericifera</i> and <i>Asparagus aethiopicus</i> (Ground Asparagus).
Structure of vegetation	A moderate canopy cover was evident within the BAM plot, with native trees totalling 44% cover. No native shrubs were recorded within the plot. A very low native groundcover was also present, including 5.1% grass, 0.1% forb, 0% fern and 0% other. High Threat Exotics accounted for 0.5%. No cover of leaf litter was also observed, with no fallen logs recorded. The BAM plot contained a low diversity of tree stem sizes, with tree stems recorded in one (1) DBH classes, with three (3) large tree (>50cm DBH) and no regenerating stems. No hollow-bearing trees were recorded within the BAM plot.
Scientific Reference from VIS (DPE 2022)	Connolly, D., Binns, D., Turner, K., Hager, T., Lyons, M., Magarey, E. (in prep.) A revised classification of Plant Community Types for eastern New South Wales. NSW DPI, Parramatta
TEC Status (BC Act 2016)	Conforms to the BC Act listed CEEC, Cumberland Plain Woodland in the Sydney Basin Bioregion (see Section 0).
TEC Status EPBC Act 1999)	Conforms to the EPBC Act listed CEEC, Cumberland Shale Plains Woodland and Shale-Gravel Transition Forest (see Section 3.1.3.2).
Estimate of percent cleared value of PCT	93%

Table 5. Vegetation Zone 2 Identified within the Subject Land.

Zone 2: Miscellaneous (Urban Landscape)	
	
Vegetation class	N/A
Total area within the Subject Land	0.30ha
Description of vegetation	This vegetation occurs within an area that is being used as an informal carpark. The vegetation is restricted to exotic turf lawn therefore it cannot be reasonably assigned to a PCT. No canopy or mid-story is present and the ground layer was predominately either existing hardstand or an exotic lawn such as <i>Stenotaphrum secundatum</i> .
TEC Status	N/A

3.1.3.1 Listing under the BC Act Cumberland Plain Woodland in the Sydney Basin Bioregion – Critically endangered ecological community.

The planted vegetation mapped as Cumberland Shale Plains Woodland within the Subject Site contained characteristic species of the Critically Endangered Ecological Community (CEEC) Cumberland Plain Woodland in the Sydney Basin Bioregion, as indicated by the Final Determination (NSW Scientific Committee 2009). The mean annual rainfall of this area is typically in the range of 700-900 mm, and is generally lower than that received on more elevated terrain that partially surrounds the Plain. The community typically occurs on flat to undulating or hilly terrain up to about 350 m elevation but may also occur on locally steep sites and at slightly higher elevations. Cumberland Plain Woodland is characterised by the assemblage of species listed in paragraph 3 and typically comprises an open tree canopy, a near-continuous groundcover dominated by grasses and herbs, sometimes with layers of shrubs and/or small trees. Shrubs may sometimes occur in locally dense stands. Less disturbed stands of the community may have a woodland or forest structure. Small trees or saplings may dominate the community in relatively high densities after partial or total clearing, and the groundcover may be relatively sparse, especially where densities of trees or shrubs are high. The community also includes ‘derived’ native grasslands which result from removal of the woody strata from the woodlands and forests.

3.1.3.2 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The native vegetation within the Subject Land does conform to the EPBC Act 1999 listed CEEC, Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest. Although the vegetation within Zone 1 does not meet some of the key diagnostic characteristics as outlined in **Table 6**, it does meet all of the condition thresholds for patches as outlined, and therefore does conform to the CEEC.

Table 6. Key diagnostics characteristics required to meet the EPBC listing status for Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest (Department of the Environment, Water, Heritage and the Arts 2010)

Key Diagnostic Features and Conditional Thresholds	Criteria met?
	Vegetation Zone 1
Distribution is limited to the Sydney Basin Bioregion with most occurrences in the Cumberland Sub-region. This covers a geographic area commonly known as the Cumberland Plain, a rain shadow coastal valley in western Sydney.	Yes, the Subject Land is situated within the Cumberland IBRA Subregion.
The minimum projected foliage cover of canopy trees is 10% or more	Yes.
Is the patch of the ecological community 0.5 ha or greater in size?	Yes.
Of the perennial understorey vegetative cover present, is 50% made up of native species?	Yes, whilst not within the vegetation zone the patch contains areas with understorey.



Figure 12. Narla field validated vegetation mapping and location of BAM plot within the Subject Land.

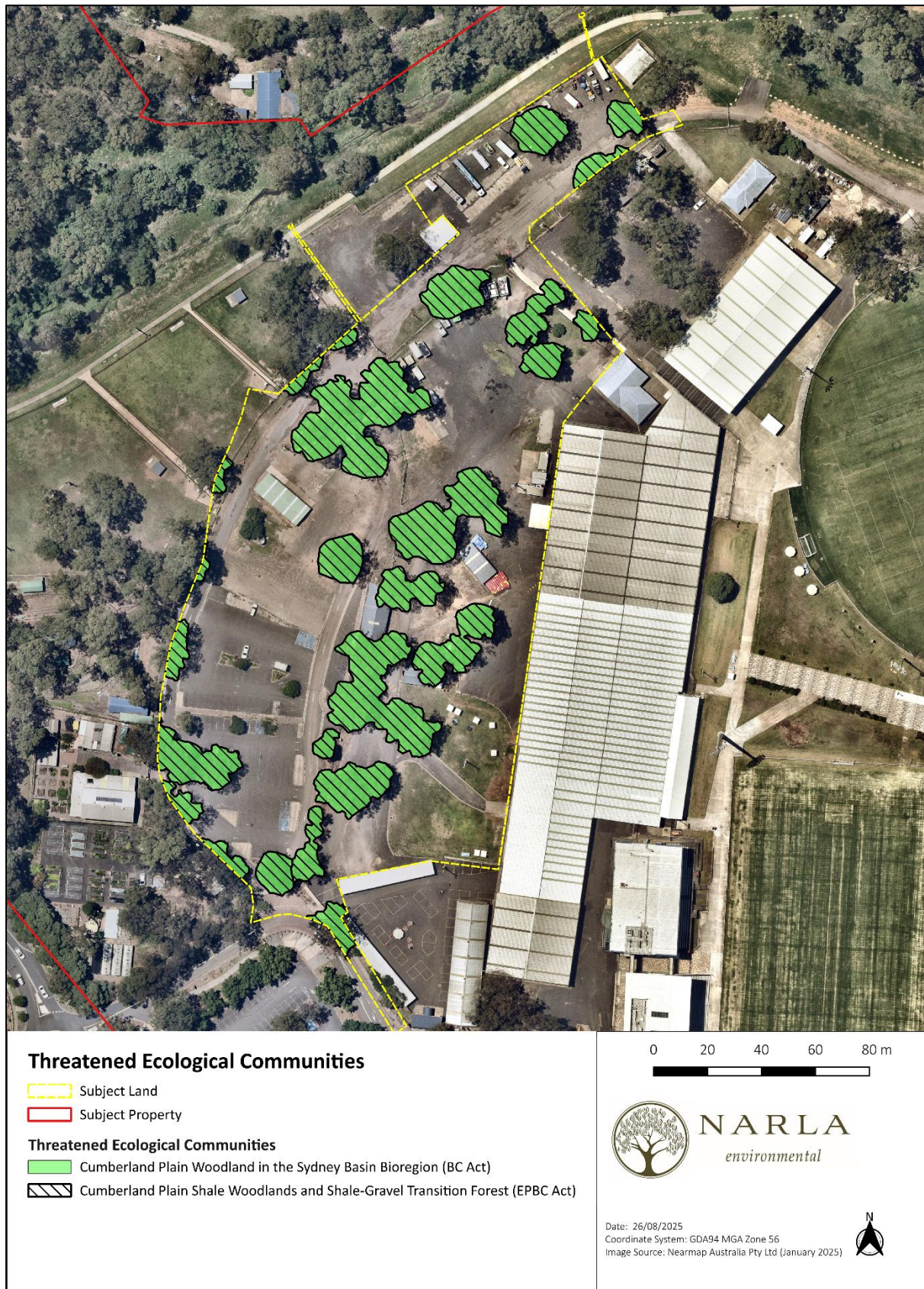


Figure 13. Threatened Ecological Communities within the Subject Land.

3.2 Assessing Patch Size

A patch is defined by the BAM (DPIE 2020a) as an area of native vegetation that occurs on the Subject Land and includes native vegetation that has a gap of less than 100m from the next area of native vegetation (or ≤ 30 m for non-woody ecosystems). A patch may extend onto adjoining land.

For each vegetation zone, the assessor must determine the patch size in hectares and assign it to one of the following classes:

- <5 ha
- $5-<25$ ha
- $25-<100$ ha
- ≥ 100 ha.

The patch size class is used to assess habitat suitability on the Subject Land for threatened species. The assessor may assign more than one patch size class to the vegetation zone if both of the following apply:

- A vegetation zone comprises two or more discontinuous areas of native vegetation, and
- The areas of discontinuous native vegetation have more than one patch size class.

Patch size for Vegetation Zone 1 was determined using information collected during the site assessment, as well as aerial imagery and Google Street View to assess the broader area. The vegetation was classified as woody vegetation, and as such, patch size included areas of woody native vegetation that had a gap of less than 100m from the next area of native vegetation. Patch size for Vegetation Zone 1 is detailed in **Table 7** and **Figure 14**.

According to Section D of the BAM (DPIE 2020a), planted vegetation does not require assessment under Chapter 4 of the BAM, and as such, patch size for Vegetation Zone 2 does not need to be determined.

Table 7. Patch size class for each PCT and associated vegetation zone.

Plant Community Type	Vegetation Zone	Patch Size Class
PCT 3320 (Remnant)	Zone 1	>100 ha

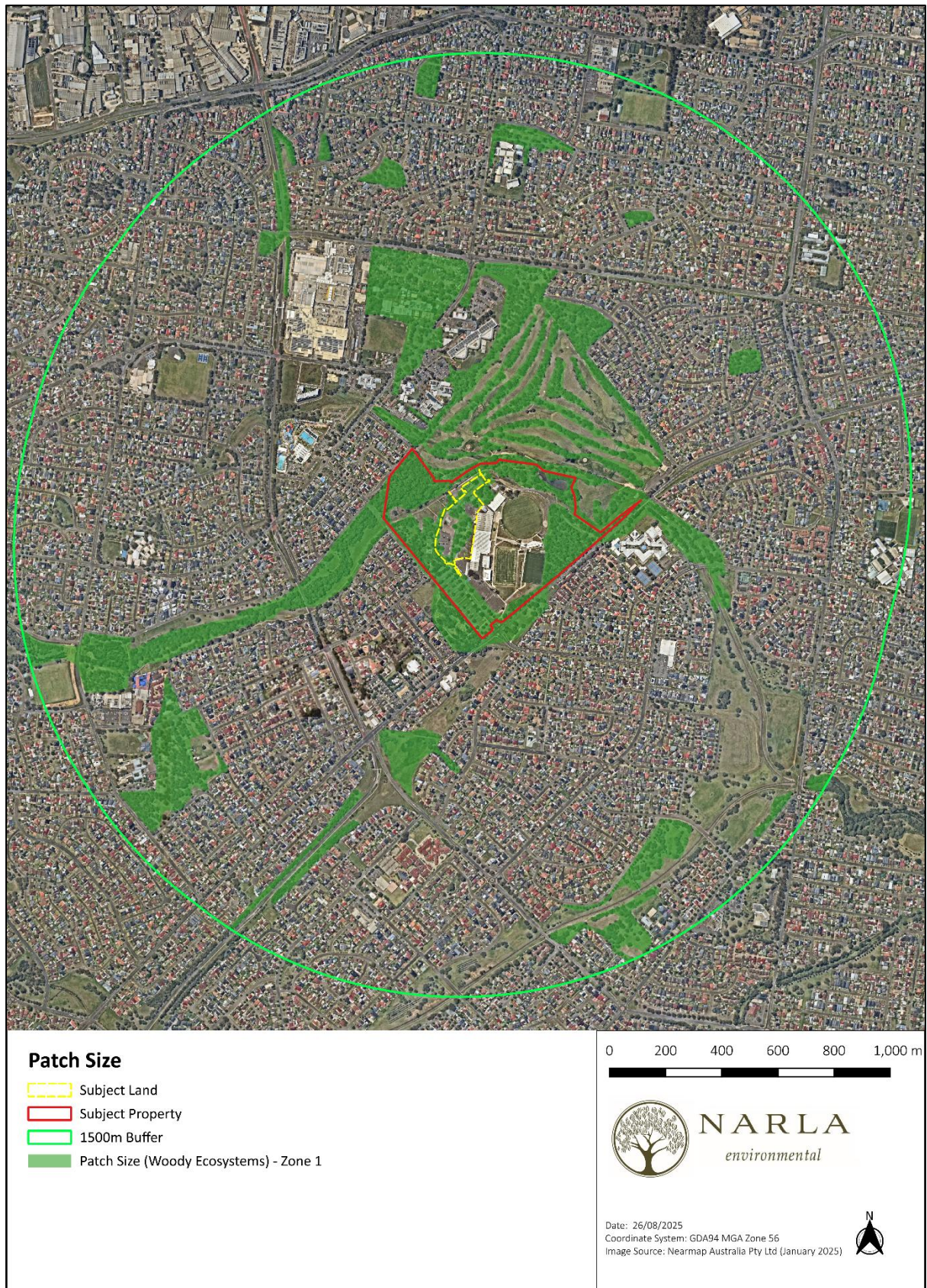


Figure 14. The patch size of Vegetation Zone 1 occurring within the 1500m buffer. The patch does however extend further than the buffer boundary.

3.3 Vegetation Integrity Survey (VIS) Plots

One (1) BAM VIS plot was established within the PCT assigned to the Subject Land. Plot data gathered for each attribute used to assess the function of the vegetation within Subject Land is displayed in **Appendix D**. Vegetation Integrity (VI) Scores represented by existing vegetation within each vegetation zone is detailed in **Table 8**.

In accordance with Section 4.1 of the BAM (DPIE 2020a), non-native vegetation does not require assessment under Chapter 4 of the BAM, and as such, the assessment of vegetation integrity for Vegetation Zone 2 is not required, and no management zone was applied to this vegetation.

3.3.1 Determining future vegetation integrity scores

Most projects will result in complete clearing of vegetation and threatened species habitat within the Development Footprint. In this scenario, the assessor must assess the proposed future value of each of the VI attributes as zero in the BAMC. However, in circumstances where partial clearing of vegetation is proposed and remaining vegetation will be maintained, the assessor may determine that the future value of the relevant VI attributes are greater than zero (DPIE 2020a).

The majority of the remnant canopy within the Subject Land will be retained and protected. Complete removal is only proposed within the Development Footprint for the Community and Events Centre, subsequently the Vegetation Zone has been assessed as the following management zones (**Figure 15**):

- Management Zone 1: PCT 3320 (Remnant) – Complete Clearing; and
- Management Zone 2: PCT 3320 (Remnant) – Retained Managed.

The attributes influencing future vegetation scores within each of these management zones are detailed in **Table 9**.

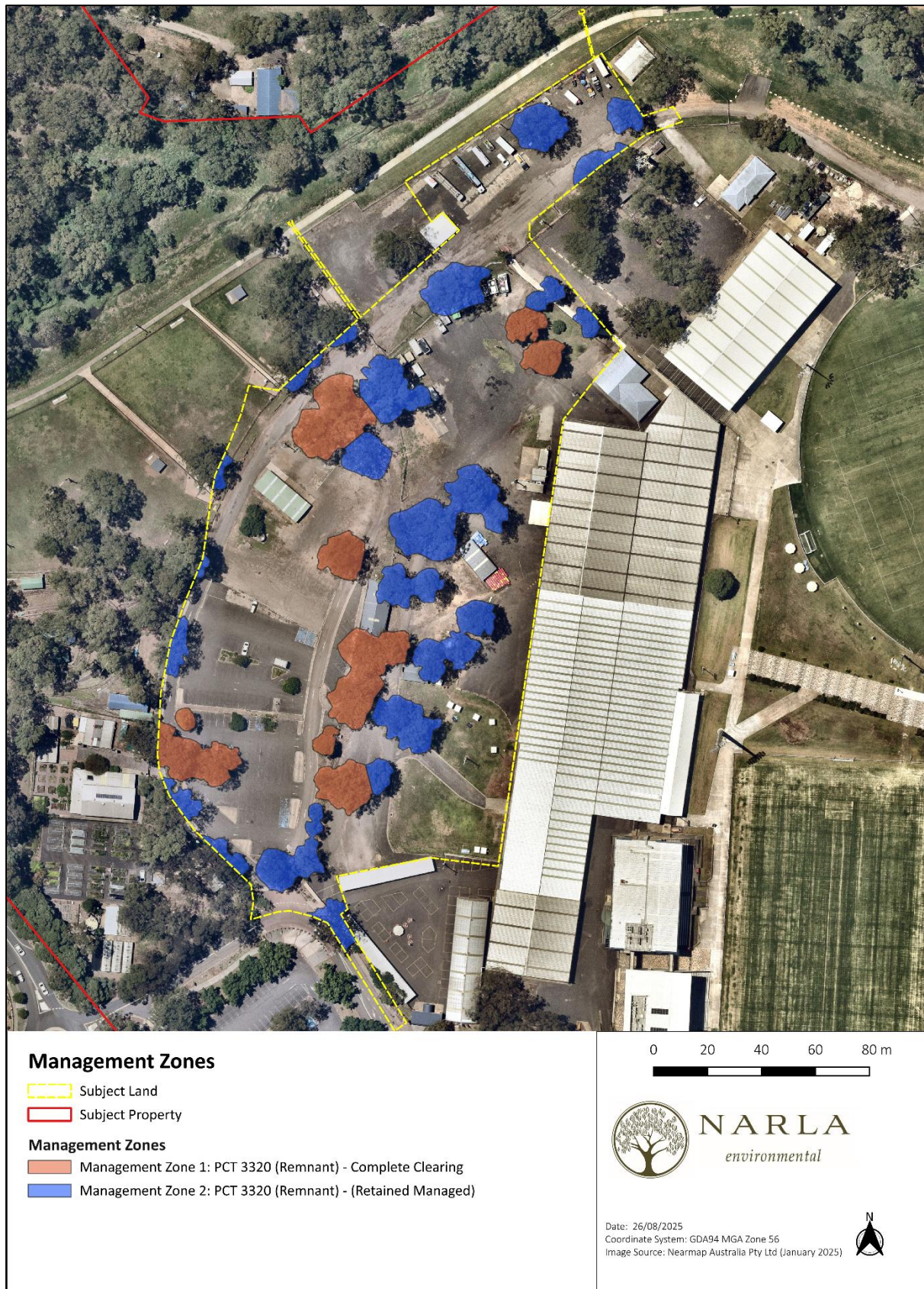


Figure 15 Management zones within the Subject Land

Table 8. Vegetation integrity scores for each identified zone.

PCT 3320 – Cumberland Shale Plains Woodland												
Vegetation Zone	Management Zone	Area (ha)	Survey Effort	Patch Size	Composition Condition Score	Structure Condition Score	Function Condition Score	VI Score	Future VI Score	Change in VI Score	Total VI Loss	Hollow bearing trees
Zone 1: PCT 3320 – Cumberland Shale Plains Woodland (Remnant)	Zone 1 – Complete Clearing	0.25	One 400m ² (20m x 20m) VIS Plot	>100ha	12.2	36.5	35	25	0	-25	-9.1	Absent
	Zone 2 – Retained Managed	0.45							24.7	-0.3		

Table 9. Management Zones within the Subject Land, and relevant vegetation attributes (composition, structure and function) affecting future VI scores.

Vegetation Zone	Management Zone	Changes in current vegetation attributes	Vegetation attributes not changed	Future vegetation scores and justification
Zone 1 – PCT 3320 – Cumberland Shale Plains Woodland (Planted Canopy)	Zone 1: Complete Clearing	All vegetation will be removed	NA	- All vegetation within the development footprint is required for removal to allow for the proposed development of the Community and Events Centre. - Future composition, structure and function score is 0.
	Zone 2: Retained Managed	All vegetation will be retained and continue to be managed as an APZ.	Tree stem count and species composition will remain the same. Grass and forb cover and expected to remain the same. Leaf litter and fallen logs to remain at 0%.	- All vegetation within this area is proposed to be retained and protected. - No vegetation is required for removal to achieve the Bushfire requirements. - Canopy cover has been reduced to 39.9% to be under the 40% requirement of the Bushfire assessment.

4. Threatened Species

4.1 Candidate Ecosystem Credit Species

Ecosystem credit species associated with the Subject Land are listed below in **Table 10**. No species predicted by the BAM calculator as potential ecosystem credits were excluded from the assessment due to habitat constraints.

Table 10. Candidate ecosystem credits predicted to occur within the Subject Land.

Scientific Name	BC Act Status	Excluded from Assessment	Reason for Exclusion from Assessment
<i>Anthochaera phrygia</i> Regent Honeyeater (Foraging)	Critically Endangered	No	-
<i>Artamus cyanopterus cyanopterus</i> Dusky Woodswallow	Vulnerable	No	-
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo (Foraging)	Endangered	No	-
<i>Calyptorhynchus lathami</i> Glossy Black-Cockatoo (Foraging)	Vulnerable	No	-
<i>Chthonicola sagittata</i> Speckled Warbler	Vulnerable	No	-
<i>Circus assimilis</i> Spotted Harrier	Vulnerable	No	-
<i>Climacteris picumnus victoriae</i> Brown Treecreeper (eastern subspecies)	Vulnerable	No	-
<i>Daphoenositta chrysoptera</i> Varied Sittella	Vulnerable	No	-
<i>Dasyurus maculatus</i> Spotted-tailed Quoll	Endangered	No	-
<i>Ephippiorhynchus asiaticus</i> Black-necked Stork	Endangered	Yes	-
<i>Falco subniger</i> Black Falcon	Vulnerable	No	-
<i>Glossopsitta pusilla</i> Little Lorikeet	Vulnerable	No	-
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle (Foraging)	Vulnerable	No	-
<i>Hieraaetus morphnoides</i> Little Eagle (Foraging)	Vulnerable	No	-
<i>Hirundapus caudacutus</i> White-throated Needletail	Vulnerable (EPBC)	No	-
<i>Lathamus discolor</i> Swift Parrot (Foraging)	Endangered	No	Previously recorded within the Subject Property.
<i>Lophoictinia isura</i> Square-tailed Kite (Foraging)	Vulnerable	No	-

Scientific Name	BC Act Status	Excluded from Assessment	Reason for Exclusion from Assessment
<i>Melithreptus gularis gularis</i> Black-chinned Honeyeater (eastern subspecies)	Vulnerable	No	-
<i>Micronomus norfolkensis</i> Eastern Coastal Free-tailed Bat	Vulnerable	No	-
<i>Miniopterus australis</i> Little Bent-winged Bat (Foraging)	Vulnerable	No	-
<i>Miniopterus orianae oceanensis</i> Large Bent-winged bat (Foraging)	Vulnerable	No	-
<i>Neophema pulchella</i> Turquoise Parrot	Vulnerable	No	-
<i>Pandion cristatus</i> Eastern Osprey (Foraging)	Vulnerable	No	-
<i>Petroica boodang</i> Scarlet Robin	Vulnerable	No	-
<i>Petroica phoenicea</i> Flame Robin	Vulnerable	No	-
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox (Foraging)	Vulnerable	No	Previously recorded within the Subject Property.
<i>Saccolaimus flaviventris</i> Yellow-bellied Sheathtail-bat	Vulnerable	No	-
<i>Stagonopleura guttata</i> Diamond Firetail	Vulnerable	No	-
<i>Varanus rosenbergi</i> Rosenberg's Goanna	Vulnerable	No	-

4.2 Historically recorded Threatened Species



Figure 16. Threatened Species previously recorded within the Subject Property

4.3 Candidate Species Credit Species Summary

This section provides a summary of the candidate species credit fauna species for the Subject Land derived from BAMC (DPIE 2021a). A summary of the targeted survey effort applied to each species is provided along with the results of the survey effort, specifically whether or not the species credit needs to be offset through retiring of Biodiversity Offset Credits (Table 11 & Table 12).

Table 11. Candidate Fauna Credit Species predicted to occur within the Subject Land.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Anthochaera phrygia</i> Regent Honeyeater (Breeding)	No, the Subject Land is not included on the map of important areas for Regent Honeyeaters.	No	N/a	Very High – 3	No
<i>Burhinus grallarius</i> Bush Stone-curlew	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Callocephalon fimbriatum</i> Gang-gang Cockatoo (Breeding)	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Calyptorhynchus lathami</i> Glossy Black-Cockatoo (Breeding)	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Cercartetus nanus</i> Eastern Pygmy-possum	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	No. This species is known to occur within two kilometres of rocky areas containing caves, overhangs, escarpments, outcrops, or crevices, or within two kilometres of old mines or tunnels. Such geological features were not observed within or adjacent to the Subject Land. Furthermore, as the Subject Land and surrounds are located within relatively flat terrain with little topographical variation, it is highly unlikely such habitat features would occur within the area surrounding the Subject Land. As such, this species was excluded from the assessment.	No	N/a	Very High - 3	No
<i>Haliaeetus leucogaster</i> White-bellied Sea-Eagle (Breeding)	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Hieraaetus morphnoides</i> Little Eagle (Breeding)	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	Moderate – 1.5	No
<i>Lathamus discolor</i> Swift Parrot (Breeding)	No. Whilst the species has been previously recorded within the Subject Property. The SAI threshold for this species is impacts to vegetation on the important areas map for Swift Parrots. Therefore, this species has been excluded from the assessment for breeding habitat.	No	N/a	Very High - 3	No
<i>Litoria aurea</i> Green and Golden Bell Frog	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Lophoictinia isura</i> Square-tailed Kite (Breeding)	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	Moderate – 1.5	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Meridolum corneovirens</i> Cumberland Plain Land Snail	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Miniopterus australis</i> Little Bent-winged Bat (Breeding)	No. This species is known to breed in caves, tunnels, mines and culverts. Such habitat may be present outside of the Subject Land in the form of a concrete lined stormwater culverts and overpass. None of these features are being impacted by the proposed development; therefore, this species was excluded from the assessment.	No	N/a	Very High - 3	No
<i>Miniopterus orianae oceanensis</i> Large Bent-winged Bat (Breeding)	No. This species is known to breed in caves, tunnels, mines and culverts. Such habitat may be present outside of the Subject Land in the form of a concrete lined stormwater culverts and overpass. None of these features are being impacted by the proposed development; therefore, this species was excluded from the assessment.	No	N/a	Very High - 3	No
<i>Myotis macropus</i> Southern Myotis	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Ninox connivens</i> Barking Owl	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Ninox strenua</i> Powerful Owl	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Pandion cristatus</i> Eastern Osprey (Breeding)	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	Moderate – 1.5	No
<i>Petaurus norfolcensis</i> Squirrel Glider	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Phascolarctos cinereus</i> Koala	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox (Breeding)	No. Whilst the species has been previously recorded within the Subject Property. The species is not an SAI species, and no roosting camps occur within the Subject Land therefore, this species has been excluded from the assessment for breeding habitat.	Yes	No	High – 2	No
<i>Tyto novaehollandiae</i> Masked Owl (Breeding)	No. This species is not a SAI and has been excluded for the assessment.	No	N/a	High – 2	No

Table 12. Candidate Flora Credit Species predicted to occur within the Subject Land.

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Acacia pubescens</i> Downy Wattle	Yes. This species occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravelly soils, often with ironstone. This species has been included as it does occur within the Subject Property. However, the extensive development and clearing in order to prepare the site for the current Showground. Due to the historical development resulting in a highly modified landscape and degraded nature of the Subject Land it is considered unlikely the species would occur within the Subject Land.	Yes	Yes	High – 2	Yes
<i>Deyeuxia appressa</i>	No. This species is a highly restricted NSW endemic known only from two pre-1942 records in the Sydney area. Was first collected in 1930 at Herne Bay, Saltpan Creek, off the Georges River, south of Bankstown. Was then collected in 1941 from Killara, near Hornsby. Has not been collected since and may now be extinct in the wild due to the level of habitat loss and development that has occurred within these areas. As the Subject Land is not located within these areas, this species has not been included within the assessment.	No	N/a	Very High – 3	No
<i>Dillwynia tenuifolia</i> Dillwynia tenuifolia	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Eucalyptus benthamii</i> Camden White Gum	No. This species requires a combination of deep alluvial sands and a flooding regime that permits seedling establishment. Recruitment of juveniles appears to be most successful on bare silt deposits in rivers and streams. The Subject Land underwent extensive excavation and clearing in order to prepare the site for the current showgrounds and carparking. Due to	No	N/a	Very High – 3	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
	the historical development resulting in a highly modified landscape and degraded nature of the Subject Land it is considered unlikely the species would occur. Therefore, this species has been excluded from the assessment.				
<i>Eucalyptus glaucina</i> Slaty Red Gum	No. This species is not a SALL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Grevillea juniperina subsp. juniperina</i> Juniper-leaved Grevillea	No. This species is not a SALL and has been excluded for the assessment.	No	N/a	Moderate – 1.5	No
<i>Hibbertia puberula</i> Hibbertia puberula	No. This species is not a SALL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Marsdenia viridiflora subsp. viridiflora</i> - endangered population	No. This species is not a SALL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Micromyrtus minutiflora</i>	No. This species grows in Castlereagh Scribbly Gum Woodland, Ironbark Forest, Shale/Gravel Transition Forest, open forest on tertiary alluvium and consolidated river sediments. Whilst the Subject Land occurs on tertiary alluvium, the Subject Land underwent extensive excavation and clearing in order to prepare the site for the current facility. Native vegetation within the Subject Land was planted in 1980's and restricted to native canopy species. Due to the historical development resulting in	No	N/a	Very High – 3	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
	a highly modified landscape and degraded nature of the Subject Land it is considered unlikely the species would occur. The vegetation within the subject land lacks a defined native ground and mid-story layer. Therefore, this species has been excluded from the assessment.				
<i>Persoonia nutans</i> Nodding Geebung	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Pimelea curviflora</i> var. <i>curviflora</i> <i>Pimelea curviflora</i> var. <i>curviflora</i>	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Pimelea spicata</i> Spiked Rice-flower	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Pomaderris brunnea</i> Brown Pomaderris	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Pomaderris prunifolia</i> - <i>endangered population</i> <i>Parramatta, Auburn, Strathfield and Bankstown Local Government Areas</i>	No. This species is not a SAll and has been excluded for the assessment.	No	N/a	High – 2	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Pterostylis saxicola</i> Sydney Plains Greenhood	No. This species occurs primarily on the Cumberland Plain along an ecological gradient from clay soils derived from Ashfield Shale to thin accumulations of humus rich sandy soils on Hawkesbury Sandstone sheets and rock shelves. Habitat ranges from grassy woodland on flat to gently sloping landscapes on shale soils, to open-forest on hilly landscapes on transitional soils, and woodland on the rims and steep sides of river valleys on sandstone soils. Due to the historical development resulting in a highly modified landscape and degraded nature of the Subject Land it is considered unlikely the species would occur. The vegetation within the subject land lacks a defined native ground and mid-story layer. Therefore, this species has been excluded from the assessment.	No	N/a	High – 2	No
<i>Pultenaea parviflora</i> Pultenaea parviflora	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Pultenaea pedunculata</i> Matted Bush-pea	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No
<i>Wahlenbergia multicaulis</i> - endangered population Tadgell's Bluebell in the local government areas of Auburn, Bankstown, Baulkham Hills, Canterbury, Hornsby,	No. This species is not a SAIL and has been excluded for the assessment.	No	N/a	High – 2	No

Scientific Name	Included in Assessment?	Targeted Survey conducted?	Present within Subject Land?	Biodiversity Risk Weighting	Biodiversity Offset Credits Required?
<i>Parramatta and Strathfield</i>					

4.4 Targeted Species Credit Surveys

Species credit habitat surveys were undertaken for any species credit species considered likely to have suitable habitat within the Subject Land (**Figure 17**). These surveys were implemented in accordance with Section 5.3 of the BAM and all relevant OEH, DPIE and DPE threatened species survey guidelines.

Habitat surveys were undertaken on the 23rd of April and the 11th of July 2025 by experienced Narla Ecologist, Luke Johnson, within the Subject Land and surroundings. Weather conditions taken from the nearest weather station (Bankstown Airport AWS NSW station 066137) in the lead up and during the field survey are outlined in **Table 13**. No rainfall and moderate temperatures in the week prior to the targeted flora surveys provided suboptimal conditions for the flowering and/or emergence of the targeted flora species.

Table 13. Weather conditions taken from the nearest weather stations (Station number 067105) in the lead up and during the field survey (BOM 2022). Survey date is in bold

Timing/activities	Date	Day	Temperature		Rainfall (mm)
			Min	Max	
Lead up to the survey	16/04/2025	Wednesday	15.5	23.4	0
	17/04/2025	Thursday	15.6	25.2	0
	18/04/2025	Friday	12.7	25.6	0
	19/04/2025	Saturday	12.5	30.7	0
	20/04/2025	Sunday	11.3	30.8	0
	21/04/2025	Monday	14.9	27.2	0
	22/04/2025	Tuesday	12.1	24.3	0
Site Assessment	23/04/2025	Wednesday	17.4	25.1	10.6
Lead up to the survey	4/07/2025	Friday	3.9	18.9	0.2
	5/07/2025	Saturday	2.0	18.1	0
	6/07/2025	Sunday	5.9	22.2	0
	7/07/2025	Monday	6.6	17.9	8.4
	8/07/2025	Tuesday	3.2	16.6	0
	9/07/2025	Wednesday	3.1	20.4	0
	10/07/2025	Thursday	2.6	16.2	0
Targeted Flora Survey	11/07/2025	Friday	6.9	18.8	0

4.4.1 Fauna Species Credit Survey

A total of twenty-two (22) threatened fauna species were identified within the BAMC (NDCCEEW 2025f) as having the potential to occur within the Subject Land. All twenty-two (22) species were excluded from assessment due to the following:

- Species are considered unlikely to occur and no further assessment is required for that species if it is determined that no habitat constraints are present on the entire Subject Land for the threatened species (as per Section 5.2.2 of the BAM, DPIE 2020a); or
- As per Appendix C of the BAM (DPIE 2020a), the Streamlined Assessment Module only requires surveying for SAI species. Therefore, all non-SAI species were excluded from the assessment.

4.4.2 Flora Species Credit Survey

Eighteen (18) threatened flora species were identified within the BAMC (DPIE 2023f) as having the potential to occur within the Subject Land. All but one (1) species were excluded from assessment due to the following:

- Species are considered unlikely to occur and no further assessment is required for that species if it is determined that no habitat constraints are present on the entire Subject Land for the threatened species (as per Section 5.2.2 of the BAM, DPIE 2020a); or
- As per Appendix C of the BAM (DPIE 2020a), the Streamlined Assessment Module only requires surveying for SAI species. Therefore, all non-SAI species were excluded from the assessment.

Targeted Surveys were undertaken for *Acacia pubescens* within the Subject Land. The targeted survey was undertaken for this species in accordance with the 'Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method' (DPIE 2020e; **Figure 17**).

4.5 Species Polygons

4.5.1 Confirmed Present

No SAI species were confirmed to be present within the Subject Land.

Incidentally recorded threatened species:

- *Acacia pubescens* (v) - 41 individuals were identified within the Subject Land. A further 13 were located immediately adjacent to the Subject Land within the exiting road reserve. This species is known to occur within disturbed sites. Therefore, the Species Polygon has been assigned to the entire Vegetation Zone 1 (0.7ha; **Figure 18**).

4.5.2 Assumed Present

No SAI species were assumed to be present within the Subject Land.

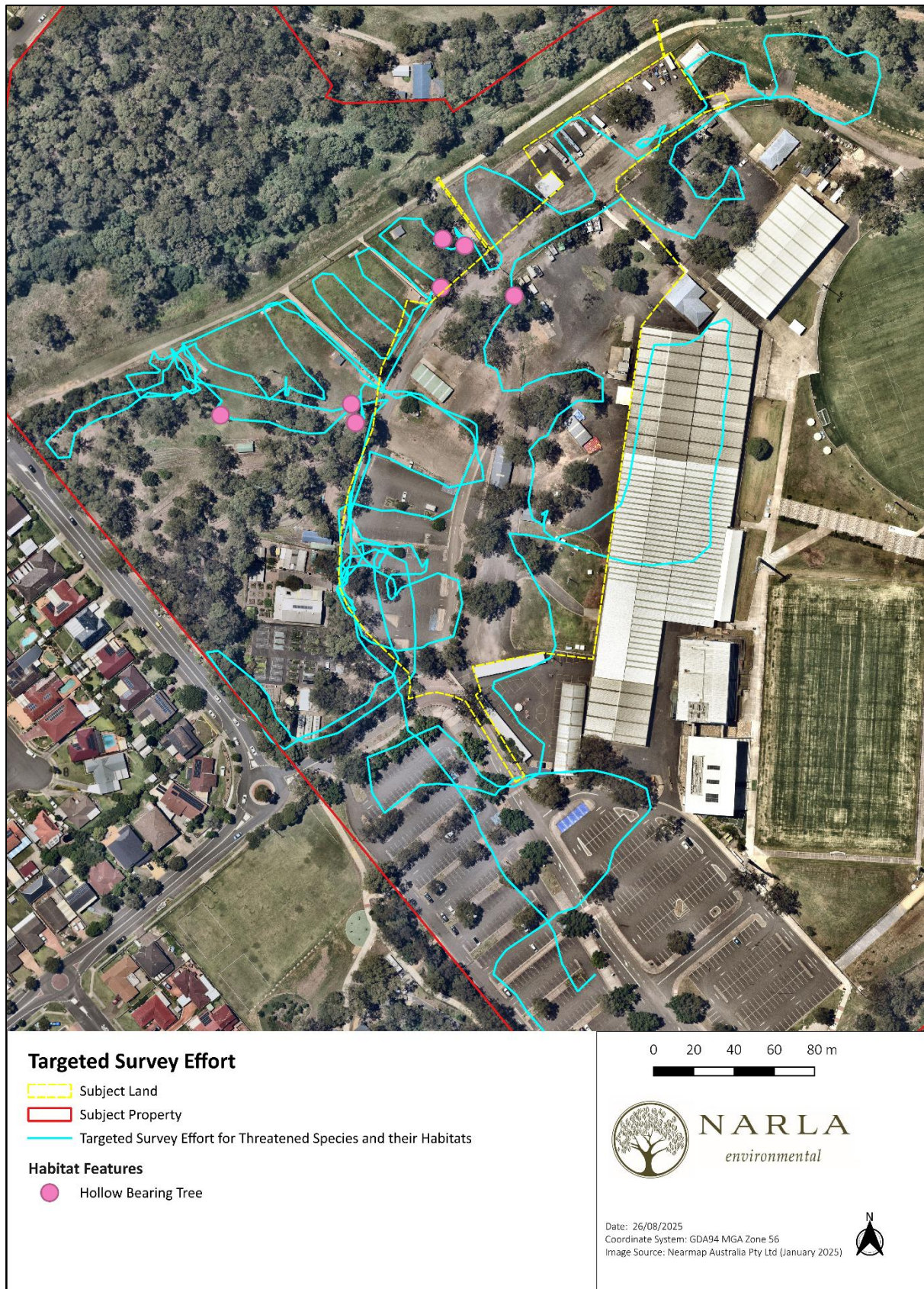


Figure 17 Targeted Survey Effort for Threatened Species and Their Habitat



Figure 18. Species Polygon for *Acacia pubescens*

5. Prescribed Impacts

Certain projects may have impacts on biodiversity values in addition to, or instead of, impacts from clearing vegetation and/or loss of habitat. For many of these impacts, the biodiversity values may be difficult to quantify, replace or offset, making avoiding and minimising impacts critical. Prescribed biodiversity impacts require an assessment of the impacts of the development on the habitat of threatened species or ecological communities. This is discussed in **Table 14**.

Table 14. Prescribed and uncertain impacts associated with the proposed development.

Will there be impacts on any of the following?	Yes/No	If Yes, Address all of the assessment questions from section 6 of the BAM
Habitat of threatened entities including: ▪ karst, caves, crevices, cliffs, rocks and other geological features of significance, or ▪ human-made structures, or ▪ non-native vegetation.	No	There are no karsts, caves, crevices, cliffs and other features of geological significance on or near the Subject Land. Whilst human-made structures do occur within the Subject Land. As previously mentioned, demolition of the existing structures is being sought through a separate Planning approval and therefore outside of the scope of this report. Non-native vegetation was present within the Subject Land in the form of common environmental weeds. No threatened species predicted to occur within the Subject Land are believed to be reliant on this exotic vegetation.
On areas connecting threatened species habitat, such as movement corridors.	No	It is unlikely the proposed development will interrupt connectivity for any threatened species, as extensive areas of habitat connectivity will continue to exist in vegetated areas surrounding the Subject Land.
That affect water quality, water bodies and hydrological processes that sustain threatened entities (including from subsidence or upsidence from underground mining).	No	There are no confirmed threatened species and ecological communities within the Subject Land that are sustained by water bodies and hydrological processes. It is also not expected that the removal of vegetation within the Subject Land will impact upon any groundwater processes within the surrounding landscape.
On threatened and protected animals from turbine strikes from a wind farm.	No	No wind farms are associated with the proposed development.

Will there be impacts on any of the following?	Yes/No	If Yes, Address all of the assessment questions from section 6 of the BAM
On threatened species or fauna that are part of a TEC from vehicle strikes.	No	The Subject Land currently functions as a non-formal carpark and the proposed development is unlikely to significantly increase the risk of vehicle strikes.

6. Avoid, Minimisation, Mitigation and Management of Impacts

6.1 Impact Mitigation and Management Measures

This section details the measures to be implemented before, during and post construction to avoid, minimise, mitigate and manage the impacts of the project (Table 15).

Table 15. Measures to be implemented before, during and after construction to avoid, minimise, mitigate and manage the impacts of the project.

Action	Outcome	Timing	Responsibility
Avoid and Minimise Impact - Project Location and Design	Due to the required cut and fill to facilitate the carpark upgrades retention of the <i>Acacia pubescens</i> is not possible. The location and size of the Community and Event Centre underwent multiple changes prior to the current proposed design. The size of the Event centres was chosen based on the capacity of the facility required in this location. The current design allows for ease of movement throughout the site, parking for community and consideration for construction phasing across the Subject Property.	Pre-construction phase	Proponent
Preparation of a Translocation plan for <i>Acacia pubescens</i>	Prior to the issue of a construction certificate for the SSD. It is recommended to prepare a translocation plan for <i>Acacia pubescens</i> proposed to be removed and any topsoil that may contain viable seed bank. The translocation plan is to be prepared by a suitable qualified horticulturalist.	Pre-construction phase	Proponent
Preparation of a Construction Environmental Management Plan (CEMP)	A CEMP is required for the construction phase of the project, and will be prepared prior to issue of the Construction Certificate. The CEMP would include, as a minimum, industry-standard measures for the management of soil, surface water, weeds and pollutants, as well as site-specific measures, including the procedures outlined below. The proposed mitigation measures would include environmental safeguards for protection of neighbouring properties and nearby waterways in accordance with relevant policy documentation and Government guidelines. In order to address the potential impacts of the proposal on biodiversity, the mitigation and management measures outlined within this table would be implemented as part of the CEMP for the site.	Pre-construction phase	Applicant Construction Contractor

Action	Outcome	Timing	Responsibility
Assigning a Project Arborist	All trees to be retained must be protected in accordance with AS4970-2009, generic details of which are included in section 10. It is recommended that a site-specific Tree Protection Plan (TPP) is prepared in accordance with AS4970 Protection of trees on development site (2009). The TPP should be developed in conjunction with the overall Construction Management Plan for the site, based on finalised design layout and other factors, such as site access routes and storage locations. As the document relies on input by other consultants/contractors to be effective for protecting trees at the site, it is recommended that the TPP is prepared as part of the Construction Certificate lodgement for the development.		
Assigning a Project Ecologist for vegetation clearing	Prior to construction, the applicant should commission the services of a qualified and experienced Ecologist Consultant (minimum 3 years' experience) with a minimum tertiary degree in Science, Conservation, Biology, Ecology, Natural Resource Management, Environmental Science or Environmental Management. The Ecologist must be licensed with a current Department of Primary Industries Animal Research Authority permit and New South Wales Scientific License issued under the BC Act. The Ecologist will be commissioned to: ▪ Undertake an extensive pre-clearing survey, delineating habitat-bearing trees and shrubs to be retained/removed; and ▪ Supervise the clearance of trees and shrubs including exotic vegetation in order to capture, treat and/or relocate any displaced fauna.	Prior to and during vegetation clearance and construction activity	Applicant Project Ecologist
Swift Parrot Seasonal mitigations	This species has been historically recorded foraging within the Subject Property. Vegetation clearing activities should be undertaken outside of the NSW migration season for this species (February – October). Clearing activities scheduled outside of this period overlaps with the breeding period of locally occurring native fauna. Any hollow bearing trees identified during the pre-clearing survey required for removal must be inspected for nesting activity. If nesting activity of a native species is identified within a hollow/nest. The tree is not to be removed until juveniles are old enough to be relocated. It is recommended that targeted surveys be undertaken within the migratory season to ascertain whether the species is utilising the Subject Property on an annual basis.	Prior to and during vegetation clearance and construction activity	Applicant Project Ecologist Construction Contractor

Action	Outcome	Timing	Responsibility
Microbat Pre-demolition inspection of ancillary buildings	A suitable qualified ecologist is required to conduct a pre-demolition inspection of any buildings to be demolished. The inspection will require searches for microbat roosts or evidence of roosting such as urine staining.	Pre-construction phase	Applicant Project Ecologist Construction Contractor
Landscaping	Landscaping efforts within the Subject Property should incorporate locally indigenous species representative of Cumberland Plain Woodland TEC.	Post-construction phase	Applicant Landscape Architect
Erosion and Sedimentation	Appropriate erosion and sediment control must be erected and maintained at all times during construction in order to avoid the potential of incurring indirect impacts on biodiversity values. As a minimum, such measures should comply with the relevant industry guidelines such as 'the Blue Book' (Landcom 2004).	Construction phase	Applicant Construction Contractor
Erection of temporary fencing	Temporary fencing should be erected around all retained native canopy vegetation. In particular the trees located within the development footprint proposed for retention may incur indirect impacts on biodiversity values due to the construction works.	Construction phase	Applicant Construction Contractor
Storage and Stockpiling (Soil and Materials)	Allocate all storage, stockpile and laydown sites away from any native vegetation that is planned to be retained. Where practical avoid importing any soil from outside the site as this can introduce weeds and pathogens to the site in order to avoid the potential of incurring indirect impacts on biodiversity values.	Construction phase	Construction Contractors
Stormwater	Potential impacts relating to stormwater and runoff will be managed during construction and operation phases. The CEMP will guide stormwater management during the construction phase of development.	Post-construction phase	Applicant Construction Contractors/ Architect
Outdoor lighting	Lighting will be in line with AS/NZS 4282:2019 in or to minimise the potential impacts associated with outdoor lighting.	Post-construction phase	Applicant Construction Contractors

7. Assessment of Impacts

7.1 Direct Impacts

The proposed development will result in impacts the following vegetation:

- 0.7ha of PCT 3320: Cumberland Shale Plains Woodland; and
- 0.3ha of Miscellaneous (Urban Landscaping).

7.2 Threatened Ecological Communities

Overall, a total of 0.7ha of remnant canopy conforming to (BC and EPBC) Cumberland Plain Woodland CEEC will be directly impacted by the proposal.

7.3 Prescribed Impacts

There will be no prescribed impacts on threatened entities associated with the proposed development.

7.4 Indirect Impacts

Indirect impacts occur when the proposal or activities relating to the construction or operation of the proposal affect native vegetation, threatened ecological communities and threatened species habitat beyond the Subject Land. Impacts may also result from changes to land-use patterns, such as an increase in vehicular access and human activity on native vegetation, threatened ecological communities and threatened species habitat. The indirect impacts of this proposed development are outlined in **Table 16**.

Table 16. Indirect impacts associated with the proposed development.

Indirect Impact	Nature, Extent and Duration	TEC's/PCTs and/or Threatened Species and Their Habitat Likely to be Impacted	Consequences of the Impacts for the Bioregional Persistence of the Threatened Species, Threatened Ecological Communities and Their Habitats.
(a) inadvertent impacts on adjacent habitat or vegetation	Vegetation and habitat directly adjacent to the Subject Land has the potential to experience ongoing indirect impacts as a result of the proposed development; although unlikely given the disturbed history of the Subject Land. The disturbance caused during construction may increase weed infestations within adjacent vegetation, however there is already a high coverage or weeds within the adjacent vegetation, so the impact is likely to be negligible.	One (1) TEC occurs within the Subject Land – Cumberland Plain Woodland in the Sydney Basin Bioregion. A population of <i>Acacia pubescens</i> occurs within the Subject Property. This patch of vegetation is currently delineated by a permanent fence. There is also the potential that threatened species occur in areas adjacent the Subject Land that may be impacted by a decrease in habitat condition.	While changes to vegetation condition may have a localised impact to threatened species, threatened ecological communities and their habitats, this is not expected to impact on their bioregional persistence.
(b) reduced viability of adjacent habitat due to edge effects	The proposed development and on-going utilisation of the Subject Land may lead to an increase in weed infiltration into adjacent habitat due to enhanced edge effects. However, due to the disturbed nature of vegetation within and surrounding the Subject Land, it is unlikely that this will significantly impact on such areas.	One (1) TEC occurs within the Subject Land – Cumberland Plain Woodland in the Sydney Basin Bioregion. A population of <i>Acacia pubescence</i> occurs within the Subject Property. This patch of vegetation is currently delineated by a permanent fence. Due to the presence of hollow bearing trees, there is also the potential that threatened species occur in areas adjacent to Subject Land. The TEC and threatened species may be impacted	While edge effects may have a localised impact to TECs and threatened species, this is not expected to impact on their bioregional persistence, considering the large habitat connectivity within the surrounding areas.

Indirect Impact	Nature, Extent and Duration	TEC's/PCTs and/or Threatened Species and Their Habitat Likely to be Impacted	Consequences of the Impacts for the Bioregional Persistence of the Threatened Species, Threatened Ecological Communities and Their Habitats.
		by edge effects leading to a reduced viability in habitat.	
(c) reduced viability of adjacent habitat due to noise, dust or light spill	An increase in noise is to be expected during construction. As the Subject Land is located in an industrial area, this is unlikely to have an impact on any species roosting adjacent to the site during the day that are not adapted to such noises. It is not expected that construction would occur throughout the night, and as such would not impact on nocturnal species that may utilise adjacent habitat, or diurnal species that roost in adjacent habitat. The construction may increase dust in adjacent habitat. Dust can impact on a plant's ability to photosynthesise and may increase plant mortality in the adjacent vegetation. It is however not expected that this would have such an impact to decrease the viability of adjacent habitat. It is expected that the use of the area following construction may result in a decrease in the viability of the adjacent habitat due to increases in noise and light associated with the carpark. Light pollution can disrupt nocturnal wildlife behaviour. Affect Flying Fox foraging and roosting patterns.	One (1) TEC occurs within the Subject Land – Cumberland Plain Woodland in the Sydney Basin Bioregion. A population of <i>Acacia pubescence</i> occurs within the Subject Property. This patch of vegetation is currently delineated by a permanent fence. These entities may be impacted by increases in noise and dust spill. There is also potential that threatened species use habitat adjacent to the Subject Land. Threatened species may be impacted by an increase in noise and dust spill into adjacent habitats.	While the construction may have a localised impact to the TEC and threatened species, this is not expected to impact on their bioregional persistence, considering large areas of habitat connectivity allowing their movement away from impacted areas. Furthermore, Lighting will be in line with AS/NZS 4282:2019 in or to minimise the potential impacts associated with outdoor lighting.

Indirect Impact	Nature, Extent and Duration	TEC's/PCTs and/or Threatened Species and Their Habitat Likely to be Impacted	Consequences of the Impacts for the Bioregional Persistence of the Threatened Species, Threatened Ecological Communities and Their Habitats.
(d) transport of weeds and pathogens from the site to adjacent vegetation	As previously discussed, the proposed construction may lead to an increase in weed infiltration into adjacent habitat due to enhanced edge effects. It is possible that weeds will be transported via human or vehicular traffic into surrounding areas during construction, however due to the high presence of weeds already within the Subject Land, this impact is not expected to be significant. Temporary fencing will be erected around retained native vegetation to avoid such indirect impacts occurring during construction.	One (1) TEC occurs within the Subject Land – Cumberland Plain Woodland in the Sydney Basin Bioregion. A population of <i>Acacia pubescence</i> occurs within the Subject Property. This patch of vegetation is currently delineated by a permanent fence. There is also potential that threatened species use habitat adjacent to the Subject Land. The TEC and threatened species may be impacted by weed and pathogen transportation leading to a reduced viability in habitat.	While weeds and pathogens may have a localised impact to TECs and threatened species, this is not expected to impact on their bioregional persistence considering the patchy habitat connectivity within the surrounding areas.
(e) increased risk of starvation, exposure and loss of shade or shelter	It is highly unlikely that any threatened fauna would be exposed to increased risks from starvation, exposure, and loss of shade and shelter as a result of the proposed development. No habitat is to be removed beyond the Subject Land, although disturbances from noise during construction may deem such habitats unsuitable for certain species. However, due to the areas of habitat connectivity within the broader locality, it is unlikely that this impact will be significant as such habitats will continue to provide food resources and shelter for fauna species.	N/A	N/A
(f) loss of breeding habitats	An increase in noise is to be expected during and post-construction. As such, there is potential for disturbance to	There is potential that threatened fauna species use habitat adjacent to	This impact is expected to be localised and will not have an overall impact on

Indirect Impact	Nature, Extent and Duration	TEC's/PCTs and/or Threatened Species and Their Habitat Likely to be Impacted	Consequences of the Impacts for the Bioregional Persistence of the Threatened Species, Threatened Ecological Communities and Their Habitats.
	breeding habitats directly adjacent to the Subject Land. However, due to the large areas of habitat connectivity within the broader locality, it is not expected for this to significantly impact on species inhabiting such areas.	the Subject Land for breeding. Such species may be impacted by an increase in noise into adjacent habitats, which may in turn impact on their breeding habitat.	the bioregional persistence of threatened species.
(g) trampling of threatened flora species	A population of <i>Acacia pubescence</i> occurs within the Subject Property. This patch of vegetation is currently delineated by a permanent fence. Therefore, it is not expected that trampling of threatened species will be associated with this project.	N/A	N/A
(h) inhibition of nitrogen fixation and increased soil salinity	It is unlikely that the inhibition of nitrogen fixation will affect vegetation adjacent to the Subject Land. Increased soil salinity may result due to clearing of vegetation leading to the rising of the water table. However, clearing will be limited to the Subject Land and as such is not expected to affect vegetation directly adjacent to the Subject Land.	N/A	N/A
(i) fertiliser drift	This issue is not likely to affect the vegetation within or surrounding the Subject Land. Although fertiliser may be used during landscape maintenance, no fertiliser drift is expected.	N/A	N/A
(j) rubbish dumping	There is the possibility that rubbish dumping (including littering) in adjacent vegetation increases during construction. The dumping/littering of food resources may provide a food source for fauna. However, this may also encourage invasive species into such habitats. This	There is potential that threatened fauna species use habitat adjacent to the Subject Land. Such species may be impacted by the dumping of rubbish, particularly food resources. This may	This impact is expected to be localised and will not have an overall impact on the bioregional persistence of the TECs or threatened species.

Indirect Impact	Nature, Extent and Duration	TEC's/PCTs and/or Threatened Species and Their Habitat Likely to be Impacted	Consequences of the Impacts for the Bioregional Persistence of the Threatened Species, Threatened Ecological Communities and Their Habitats.
	impact can be mitigated by the appropriate disposal of rubbish.	result in both positive (food source) and negative impacts (increase in predators) to such species.	
(k) wood collection	It is unlikely that the proposed development will increase wood collection in the vegetation surrounding the Subject Land.	N/A	N/A
(l) bush rock removal and disturbance	This issue is not likely to affect the vegetation surrounding the Subject Land. No bush rock was observed within or adjacent to the Subject Land.	N/A	N/A
(m) increase in predatory species populations	There is potential that predatory species, such as foxes and cats, already inhabit areas within and surrounding the Subject Land. There is the possibility that other indirect impacts, such as an increase in rubbish dumping, may encourage predatory species into the area. However, the development will discourage rubbish dumping as the space becomes controlled and monitored.	There is potential that threatened fauna species use habitat adjacent to the Subject Land. Such species may be impacted by an increase in predatory species populations.	An increase in predatory species adjacent to the Subject Land may have widespread ramifications for any locally occurring threatened species. However, the current large areas of habitat connectivity adjacent to the Subject Land will continue to allow the disbursement of predatory animal species across the wider landscape.
(n) increase in pest animal populations	There is potential that pest animal populations already inhabit areas within and surrounding the Subject Land. There is the possibility that other indirect impacts, such as an increase in rubbish dumping, may encourage an increase in pest animal populations.	There is potential that threatened fauna species use habitat adjacent to the Subject Land. Such species may be impacted by an increase in pest animal populations.	An increase in pest species adjacent to the Subject Land may have widespread ramifications for any locally occurring threatened species. However, the current large areas of habitat connectivity adjacent to the Subject Land will continue to allow the disbursement of pest animal species across the wider landscape.

Indirect Impact	Nature, Extent and Duration	TEC's/PCTs and/or Threatened Species and Their Habitat Likely to be Impacted	Consequences of the Impacts for the Bioregional Persistence of the Threatened Species, Threatened Ecological Communities and Their Habitats.
(o) increased risk of fire	The Subject Land is identified as occurring within bushfire prone land. Whilst an increase in use within the area may increase the risk of fire, an APZ has been proposed to protect the proposed building envelope from adjacent bushfire prone vegetation. It is not expected that this will significantly alter the bushfire risk of vegetation surrounding the Subject Land	N/A	N/A
(p) disturbance to specialist breeding and foraging habitat, e.g., beach nesting for shorebirds.	No specialist breeding and foraging habitat was identified within or adjacent to the Subject Land. Therefore, it is not expected that the proposed development will disturb any specialist breeding and foraging habitat.	N/A	N/A

8. Thresholds for Assessing and Offsetting

8.1 Impacts on Native Vegetation

The following native vegetation within the Subject Land is proposed to be impacted as a result of the proposed development:

- 0.7ha representative of PCT 3320 – Cumberland Shale Plains Woodland (Remnant).

Due to the exotic nature of the vegetation, the purchase and retirement of Biodiversity Offset Credits will not be required for the Vegetation Zone 2 within the Subject Land (**Figure 19**).

8.2 Impacts on Threatened Species

The following threatened species within the Subject Land is proposed to be impacted as a result of the proposed development:

- 0.7ha of habitat for *Acacia pubescens* – 41 Individuals

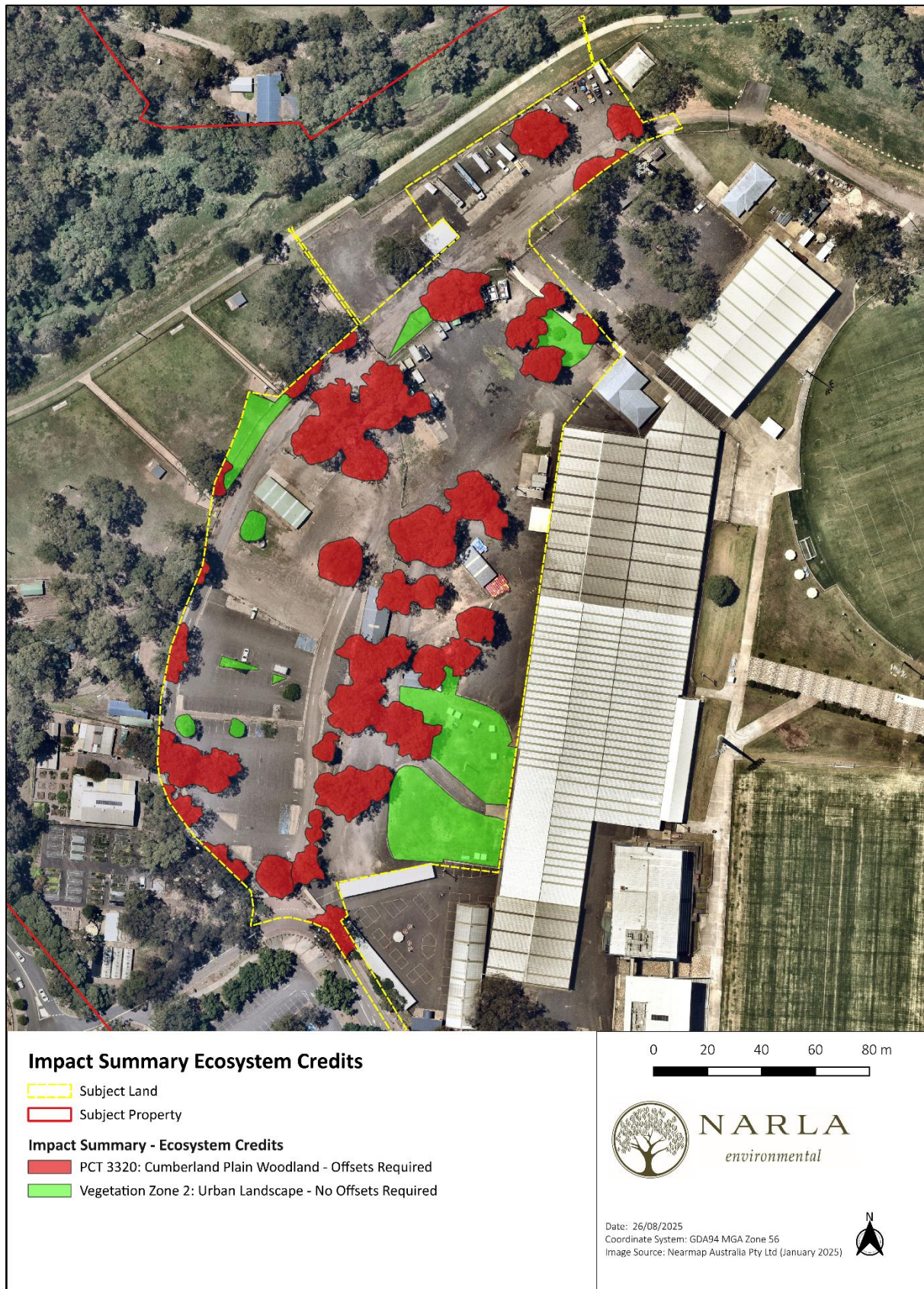


Figure 19. Impacts on native vegetation and offset requirements.

9. Serious and Irreversible Impacts (SAIL's)

9.1 Serious and Irreversible Impacts (SAIL's)

An impact is to be regarded as serious and irreversible if it is likely to contribute significantly to the risk of a threatened species (including endangered populations) or an ecological community becoming extinct based on the following 4 principles set out in clause 6.7 of the Biodiversity Conservation Regulation 2017 (NSW):

1. The impact will cause a further decline of a species or ecological community that is currently observed, estimated, inferred or reasonably suspected to be in a rapid rate of decline.
2. The impact will further reduce the population size of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very small population size.
3. The impact is made on the habitat of the species or ecological community that is currently observed, estimated, inferred or reasonably suspected to have a very limited geographic distribution.
4. The impacted species or ecological community is unlikely to respond to measures to improve its habitat and vegetation integrity and therefore its members are not replaceable.

One (1) threatened ecological community within the Subject Land has been identified as an entity at risk of an SAIL in the Threatened Biodiversity Data Collection (DPE 2025e);

- Cumberland Plain Woodland in the Sydney Basin Bioregion (Principles 1 and 2).

9.1.1 Cumberland Plain Woodland in the Sydney Basin Bioregion

The threshold for consideration of SAIL for Cumberland Plain Woodland in the Sydney Basin Bioregion is currently under development. This means that any impact on the potential habitat for this ecological community could be considered 'serious and irreversible.' Due to the potential sensitivity of this ecological community to any impact, a determination of whether or not the impacts are serious and irreversible is to be undertaken in accordance with Section 9.1 of the BAM (DPIE 2020a). This is outlined in **Table 17**.

Table 17. Additional impact assessment provisions for ecological communities that are associated with a serious and irreversible impact.

Serious and Irreversible Impact (SAIL) Impact assessment provisions for ecological communities: Cumberland Plain Woodland in the Sydney Basin Bioregion (CPW)	
BC Act Status: Critically Endangered	
The action and measures taken to avoid the direct and indirect impact on the potential entity for a SAIL	The proposed development is situated on already managed land dominated by canopy trees over a lawn. The native vegetation removal is minimal in nature and is in low condition. Indirect impacts will be mitigated using the measures outlined in Section 6 .
Current total geographic extent (ha) of the TEC in NSW	The current estimated total geographic extent of CPW as per the State Vegetation Type Mapping in NSW is 55,545ha (DPE 2022).
Estimated reduction in geographic extent of the TEC since 1970	No data is available for the estimated reduction in this TEC since 1970 however it is estimated that there has been a 93% reduction of its extent since European settlement (NSW Threatened Species Scientific Committee, 2009).
Extent of reduction in ecological function, describing the degree of environmental degradation or disruption to biotic processes such as:	The structure of the CPW community has been significantly altered primarily due to land clearing for urban development, agriculture, and infrastructure. This has led to a loss of native vegetation cover, resulting in reduced habitat complexity. The fragmentation of habitat

Serious and Irreversible Impact (SAII) Impact assessment provisions for ecological communities: Cumberland Plain Woodland in the Sydney Basin Bioregion (CPW)	
BC Act Status: Critically Endangered	
Change in community structure; Change in species composition; Disruption of ecological processes; Invasion and establishment of exotic species; Degradation of habitat; and Fragmentation of habitat.	has further disrupted the structural connectivity of this ecosystem, making it difficult for species to move across the landscape for foraging, breeding, and dispersal. Land clearing and the introduction of invasive species have significantly altered the species composition of CPW. Native flora and fauna species have declined due to habitat loss and competition from invasive species. Exotic grasses, shrubs, and trees outcompete native species, leading to a homogenisation of the landscape and a loss of biodiversity. The fragmentation of habitat disrupts ecological processes such as pollination, seed dispersal, and nutrient cycling. The isolation of remnant patches impedes the movement of fauna, affecting their ability to contribute to these processes. Additionally, changes in fire regimes due to urban development and suppression efforts have altered the natural cycle of regeneration, further impacting the ecological dynamics of the woodland. The introduction and establishment of exotic plant and animal species are significant threats to CPW. Invasive species such as African Olive (<i>Olea europaea</i> subsp. <i>cuspidata</i>) and Coolatai Grass (<i>Hyparrhenia hirta</i>) dominate over native species, altering the ecosystem's structure and function. These species not only compete for resources but can also introduce diseases and alter soil chemistry. CPW habitat has been degraded by urban expansion, pollution, and altered hydrology. The removal of vegetation for development not only reduces available habitat but also leads to soil erosion, increased runoff, and reduced water quality. These factors collectively degrade the habitat, making it less suitable for native species. Habitat fragmentation is one of the most significant impacts of urbanisation and land use change on CPW. The division of the landscape into smaller, isolated patches by roads, buildings, and other infrastructure reduces the area of suitable habitat for species and separates populations, limiting genetic exchange and increasing vulnerability to local extinctions. (NSW Threatened Species Scientific Committee, 2009).
Evidence of restricted geographic distribution (Principle 3) based on the TEC's geographic range in NSW: Extent of occurrence (ha); Area of occupancy (ha); Number of threat-defined locations	CPW is found exclusively within the Sydney Basin Bioregion of New South Wales, as delineated by version 7 of the Interim Biogeographic Regionalisation for Australia. This ecological community is characterised by its association with clay soils, which are derived from the geology of the Wianamatta Group, and, less frequently, with alluvial substrates on the Cumberland Plain. This area, located to the west of Sydney's Central Business District, falls within a rainshadow region. According to the State Vegetation Type Mapping NSW, CPW occupies an estimated total area of 55,545.2 ha (DPE 2022). In line with Clause 4.21 of the Biodiversity Conservation Regulation (BC Reg.), the NSW Scientific Committee has published guidelines to interpret listing criteria for species, populations, and ecological communities under the Biodiversity Conservation Act (BC Act).

Serious and Irreversible Impact (SAIL) Impact assessment provisions for ecological communities: Cumberland Plain Woodland in the Sydney Basin Bioregion (CPW)	
BC Act Status: Critically Endangered	
	Specifically, Subclause 4.10f of the BC Reg. mandates an estimation of the number of threat-defined locations that are occupied, in relation to the extent of serious and plausible threats. For the interpretation of Clause 4.10f, the Committee advises the use of thresholds established by the International Union for Conservation of Nature (IUCN). According to the IUCN Red List criteria for ecosystems, the threshold for Critically Endangered entities is defined as one location. Consequently, as CPW is categorised as critically endangered, the criterion of one threat-defined location is applicable.
Area of TEC to be impacted by the proposal (ha)	0.7ha of vegetation confirming to CPW will be impacted by the proposed works.
Area of TEC to be impacted by the proposal as a % of the current geographic extent in NSW (%)	Current extent is estimated at 55,545ha (DPE 2022). The proposed development will impact less than 0.001% of the current geographic extent in NSW.
Direct/indirect impacts likely as a result of the proposal to contribute to loss of flora/fauna species characteristic of the TEC	The proposed development will result in impacts to approximately 0.7ha of CPW. The CPW within the Subject Land was found to be in a low condition, with a VI score of 25 for the site. It is possible for the vegetation surrounding the Subject Land to be indirectly impacted by the proposal, however as discussed in Section 8 these potential impacts are not expected to be significant.
Remaining extent of isolated areas of TEC within 500m (ha)	The impacts to this TEC are restricted to the centre of a disturbed patch around an existing carpark, therefore no isolation is likely to occur as a result of the proposed development. The remaining extent of CPW within a 500m radius of the Subject Land after the proposed development is 18.44ha (DPE 2022).
Average distance between remaining remnants – remnant is retained (m) vs remnant is removed.	As previously mentioned, the area of TEC to be impacted is located on within a disturbed patch, which is not likely to result in any isolation of remaining areas of the TEC as it will continue, as it currently does, to exist around the Subject Land in the broader Subject Property.
Estimated maximum dispersal distance of species associated with the TEC (km)	It is assumed that native species within the TEC have an estimated maximum dispersal distance of 100m for the exchange of genetic material, based on the definition of a “patch” of vegetation within the BAM 2020.
Other information relevant to describing the impact on connectivity and fragmentation, such as the area to perimeter ratio for remaining areas of the TEC as a result of the development	The total area to perimeter ratio of the patches of CPW in a 1500m radius from the Subject Land is currently estimated to be 13.08m² The total area perimeter ratio following the proposed development is estimated to be of the patches CPW in a 1500m radius from the Subject Land is estimated to be 10.08m². This represents an approximate change of >0.001% change in the levels of fragmentation of CPW in the 1500m radius.
Vegetation Integrity Analysis: Composition Score; Structure Score;	Vegetation Zone 1: VIS Score 25 Composition: 12.2 Structure: 36.5

Serious and Irreversible Impact (SII) Impact assessment provisions for ecological communities: Cumberland Plain Woodland in the Sydney Basin Bioregion (CPW)	
BC Act Status: Critically Endangered	
Function Score	Function: 35

10. Biodiversity Offset Credit Requirements

The preferred approach to offset the residual impacts of the proposal is to purchase and retire the appropriate species credits from registered Biodiversity Stewardship Sites that comply with the trading rules of the NSW BOS in accordance with the 'like for like' report generated by the BAM calculator. If such credits are unavailable, credits would be sourced in accordance with the 'variation report' generated by the BAMC.

A payment to the Biodiversity Conservation Trust (BCT) would be considered as a contingency option if a suitable number and type of biodiversity credits cannot be secured.

10.1 Offset Requirement for Ecosystem Credits

A total of four (4) ecosystem credits are required to offset the biodiversity impacts of the proposed development (Table 18).

Table 18. Ecosystem credits required to offset the proposed development

Plant Community Type (PCT)	BC Act Status	Vegetation Zone	Total Area (ha)	Ecosystem Credits Required
3320 - Cumberland Shale Plains Woodland	Critically Endangered	Zone 1 – Low condition	0.7	4
Total Ecosystem Credits				4

10.2 Offset Requirement for Species Credits

A total of nine (9) species credits are required to offset the biodiversity impacts of the proposed development (Table 19).

Table 19. Species credits required to offset the proposed development.

Plant Community Type (PCT)	BC Act Status	Vegetation Zone	Total Area (ha)	Ecosystem Credits Required
Acacia pubescens	Vulnerable	Zone 1 – Low condition	0.7	9
Total Ecosystem Credits				9

11. Other Relevant Legislation and Planning Policies

11.1 State Environmental Planning Policy (Biodiversity and Conservation) 2021 – Chapter 4: Koala Habitat Protection 2021.

This chapter of the SEPP aims 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.

This applies to LGAs that are listed in Schedule 2 'Local government areas' of the SEPP. As the Subject Site is in the Fairfield LGA, which is not included in Schedule 2, this Chapter does not apply to the development.

11.2 State Environmental Planning Policy (Resilience and Hazards) 2021 – Chapter 2: Coastal Management

This Chapter of the SEPP applies to land within the coastal zone. The coastal zone means the area of land comprised of the following coastal management areas:

- the coastal wetlands and littoral rainforests area;
- the coastal vulnerability area;
- the coastal environment area; or
- the coastal use area.

As the Subject Land does not occur within any of these listed areas, this SEPP does not apply.

12. References

Australian Government Department of the Environment and Energy (2018) Interim Biogeographic Regionalisation for Australia (IBRA), Version 7 (Subregions)

Australian Standard 4970 (2009) Protection of Trees on Development Sites

Bannerman S.M. and Hazelton P.A., 2011, Soil Landscapes of the Penrith 1:100,000 Sheet report, digital reprint, Office of Environment and Heritage, Sydney.

Biodiversity Conservation Act (2016) <https://legislation.nsw.gov.au/#/view/act/2016/63/full>

Biodiversity Conservation Regulation (2017) <https://www.legislation.nsw.gov.au/#/view/regulation/2017/432>

Department of Environmental Conservation (DEC) (2004) Threatened Species Survey and Assessment: Guidelines for developments and activities (working draft), New South Wales Department of Environment and Conservation, Hurstville, NSW.

Department of Planning, Industry and Environment (DPIE) (2019) Guidance to assist a decision-maker to determine a serious and irreversible impact <https://www.environment.nsw.gov.au/-media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf>

Department of Planning, Industry and Environment (DPIE) (2020a) Biodiversity Assessment Method

Department of Planning, Industry and Environment (DPIE) (2020b) Surveying threatened plants and their habitats - NSW survey guide for the Biodiversity Assessment Method

Department of Planning and Environment (DPE) (2022) NSW State Vegetation Type Map

Department of Climate Change, Energy the Environment and Water (NDCCEEW) (2025a) NSW BioNet. The website of the Atlas of NSW Wildlife <http://www.bionet.nsw.gov.au/>

Department of Climate Change, Energy the Environment and Water (NDCCEEW) (2025b) NSW BioNet. Threatened Biodiversity Data Collection

Department of Climate Change, Energy the Environment and Water (NDCCEEW) (2025c) NSW BioNet. Vegetation Classification System

Department of Climate Change, Energy the Environment and Water (NDCCEEW) (2025d) Soil Landscapes <http://espade.environment.nsw.gov.au>

Department of Climate Change, Energy the Environment and Water (NDCCEEW) (2025e) Biodiversity Values Map and Threshold Tool. <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>

Department of Climate Change, Energy the Environment and Water (NDCCEEW) (2025f) Biodiversity Assessment Method Calculator Version 1.4.0.00

Google (2025) Google Earth Pro: 430-482 Smithfield Road, Prairiewood

Landcom (2004) Managing Urban Stormwater: Soils and Construction 'The Blue Book', Volume 1, Fourth Edition, New South Wales Government, ISBN 0-9752030-3-7

Mitchell, P.B (2002) NSW Ecosystems Study: Background and Methodology (Unpublished).

NBRS (2025) Architectural Package (Issue 8)

NSW Government Spatial Services (2025) Six Maps Clip & Ship <https://maps.six.nsw.gov.au/clipnship.html>

PlantNET (2025) The NSW Plant Information Network System, Royal Botanic Gardens and Domain Trust, Sydney.
<http://plantnet.rbgsyd.nsw.gov.au>

Robinson, L. (2003) 'Field Guide to the Native Plants of Sydney', Third Edition, Kangaroo Press

Urban Arbor (2025) Arboricultural Impact Assessment Report

13. Appendices

Appendix A. Fairfield Showground Community and Events Centre - Masterplan (NBRS 2025).

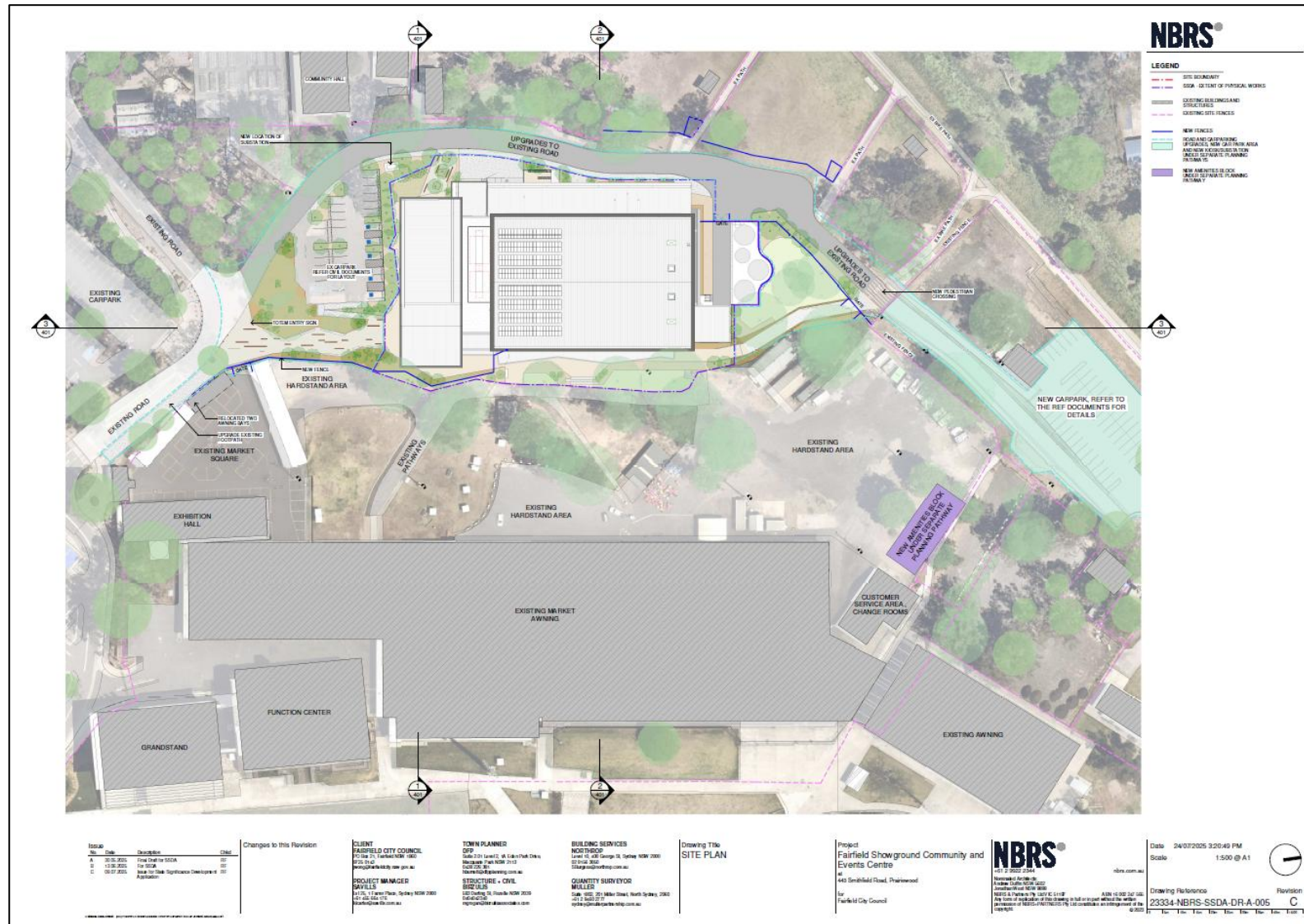
Appendix B. REF Carpark Civil Set (Birzulis Associates 2025)

Appendix C. REF Carpark Lighting Design (Northrop 2025)

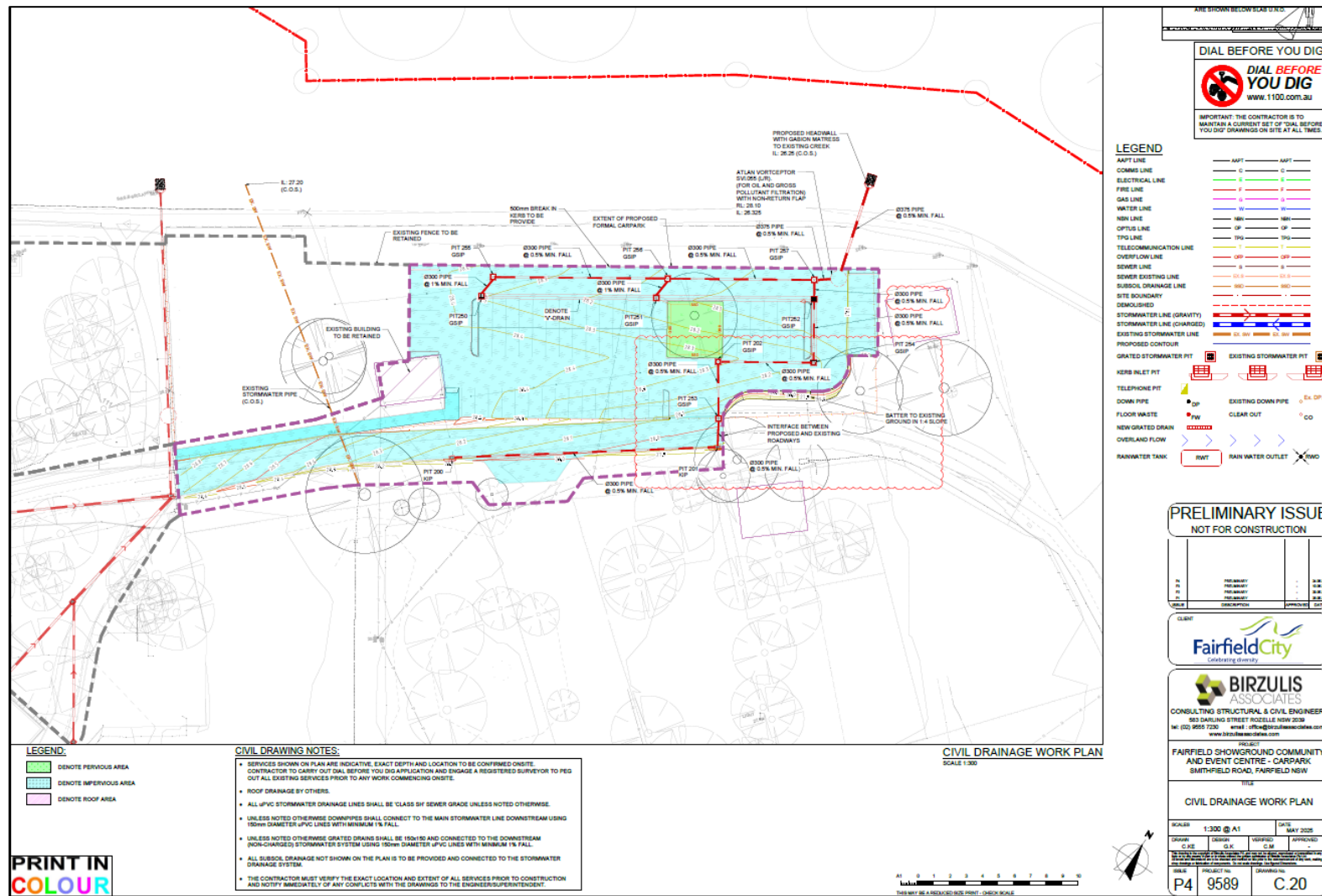
Appendix D. BAM Site - Field Survey Forma (copied directly from Electronic Data Sheet).

Appendix E. BAMC Generated Biodiversity Credit Report.

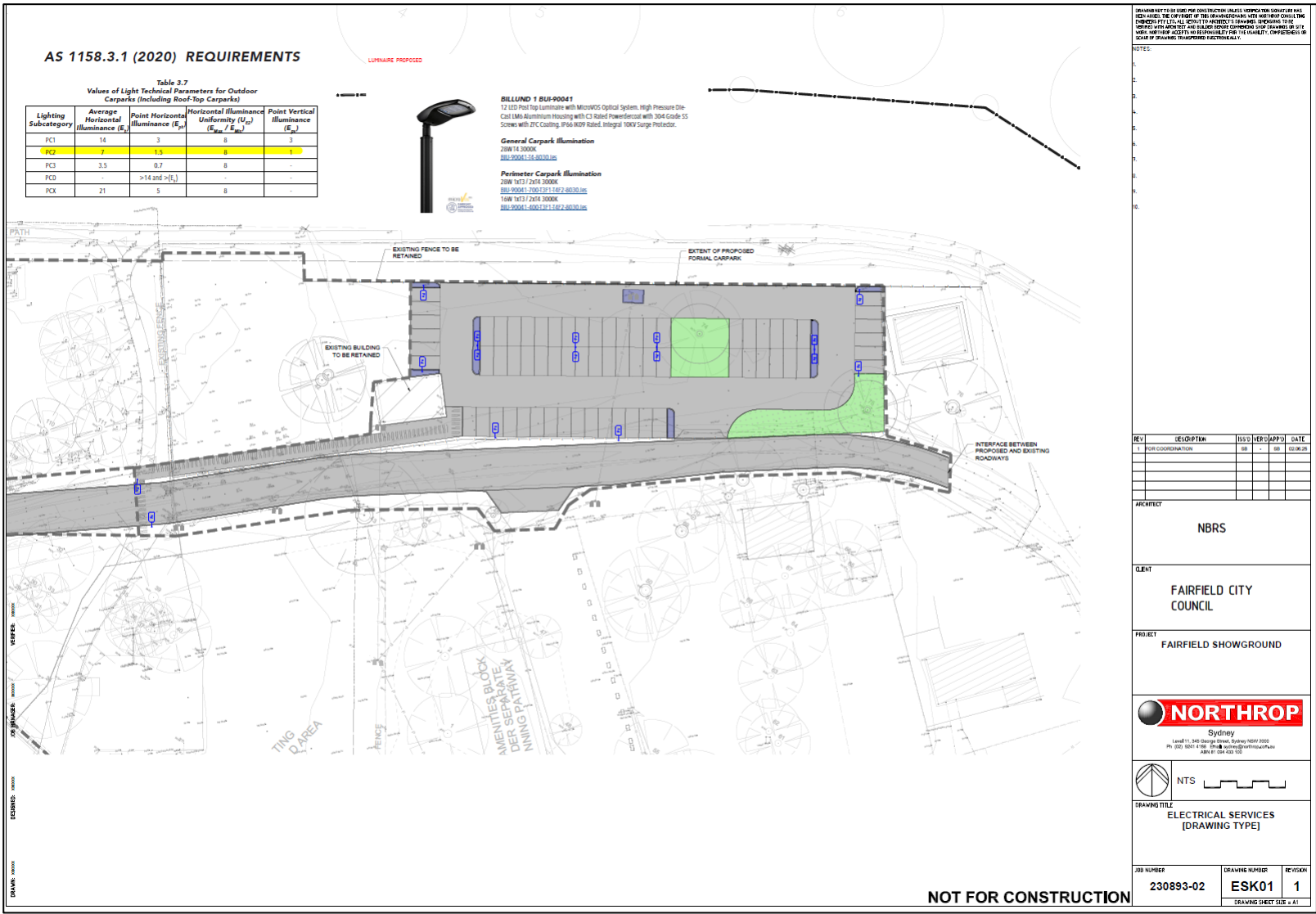
Appendix A. Fairfield Showground Community and Events Centre - Masterplan (NBR5 2025).



Appendix B. REF Carpark Civil Set (Birzulis Associates 2025)



Appendix C. REF Carpark Lighting Design (Northrop 2025)



Appendix D. BAM Site - Field Survey Forma (copied directly from Electronic Data Sheet).

BAM Site – Field Survey Form					
Date:	24.04.25	Plot ID:	1	Photo #:	n/a
Zone:	56	Plot Dimensions:	50x20m	Easting:	305962
Datum:	GDA94	Middle bearing from 0m:	180	Northing:	6250677
PCT:	PCT 3320: Remnant				

Growth Form	Scientific Name	Cover	Abundance
Tree (TG)	<i>Eucalyptus moluccana</i>	30	3
Tree (TG)	<i>Eucalyptus fibrosa</i>	10	1
Grass & grasslike (GG)	<i>Cynodon dactylon</i>	5	50
Tree (TG)	<i>Melia azedarach</i>	2	1
Tree (TG)	<i>Corymbia maculata</i>	2	1
HTE	<i>Stenotaphrum secundatum</i>	0.1	1
HTE	<i>Eragrostis curvula</i>	0.1	1
Grass & grasslike (GG)	<i>Cyperus gracilis</i>	0.1	1
Forb (FG)	<i>Dichondra repens</i>	0.1	1
HTE	<i>Olea europaea</i>	0.1	1
HTE	<i>Araujia sericifera</i>	0.1	1
HTE	<i>Asparagus aethiopicus</i>	0.1	1

DBH	# Tree Stems Count	# Hollow Bearing Trees
80+cm	Present	0
50-79cm	Present	0
30-49cm	Absent	0
20-29cm	Present	0
10-19cm	Absent	0
5-9cm	Absent	0
<5cm	Absent	0

Length of Logs (m)	0
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BAM Attribute (1x1m)	Litter Cover (%)
1 (5m)	0
2 (15m)	0
3 (25m)	0
4 (35m)	0
5 (45m)	0
Average	0

Growth Form	Composition Data (Count of Native Cover)	Structure Data (Sum of Cover)
Tree	4	44
Shrub	0	0

Grass	2	5.1
Forb	1	0.1
Fern	0	0
Other	0	0
High Threat Exotics	5	0.5



BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00058583/BAAS23028/25/00058584	Fairfield Showground Masterplan	05/08/2025
Assessor Name	Assessor Number	BAM Data version *
Luke Johnson	BAAS23028	Current classification (live - default) (82)
Proponent Names	Report Created	BAM Case Status
Daniel Hitchen	05/09/2025	Finalised
Assessment Revision	BOS entry trigger	Assessment Type
1		Major Projects
Date Finalised	* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.	
05/09/2025		

Potential Serious and Irreversible Impacts

Name of threatened ecological community	Listing status	Name of Plant Community Type/ID
Cumberland Plain Woodland in the Sydney Basin Bioregion	Critically Endangered Ecological Community	3320-Cumberland Shale Plains Woodland
Species		
Nil		

Assessment Id

00058583/BAAS23028/25/00058584

Proposal Name

Fairfield Showground Masterplan

Page 1 of 3

BAM Biodiversity Credit Report (Like for like)

Additional Information for Approval

PCT Outside Ibra Added

None added

PCTs With Customized Benchmarks

PCT

No Changes

Predicted Threatened Species Not On Site

Name

No Changes

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

Name of Plant Community Type/ID	Name of threatened ecological community	Area of impact	HBT Cr	No HBT Cr	Total credits to be retired
3320-Cumberland Shale Plains Woodland	Cumberland Plain Woodland in the Sydney Basin Bioregion	0.7	0	4	4

Assessment Id

00058583/BAAS23028/25/00058584

Proposal Name

Fairfield Showground Masterplan

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BAM Biodiversity Credit Report (Like for like)

3320-Cumberland Shale Plains Woodland	Like-for-like credit retirement options					
	Name of offset trading group	Trading group	Zone	HBT	Credits	IBRA region
	Cumberland Plain Woodland in the Sydney Basin Bioregion This includes PCT's: 3319, 3320	-	3320_Remnant	No	4	Cumberland, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Species Credit Summary

Species	Vegetation Zone/s	Area / Count	Credits
Acacia pubescens / Downy Wattle	3320_Remnant	0.7	9.00

Credit Retirement Options

Like-for-like credit retirement options

Acacia pubescens / Downy Wattle	Spp	IBRA subregion
	Acacia pubescens / Downy Wattle	Any in NSW



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