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ECOLOGICAL
CONSTRAINTS &
OPPORTUNITIES

29 SHERATON CIRCUIT
BOMADERRY NSW

PREPARED FOR
FOUNTAINDALE GROUP



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1.0 INTRODUCTION

Lodge Environmental Pty Ltd were commissioned by Jervis Bay Town Planning to prepare this Ecological Constraints and Opportunities (ECO) Report to provide insight into development opportunities and constraints at 29 Sheraton Circuit, Bomaderry (Lot 32 DP 1050818) (herein referred to as the **Study Area**) (**Figure 1**).

This report describes the native vegetation, any threatened species, populations and communities and associated habitat features which were recorded within the Study Area. This report is based on information obtained through data searches and field survey. The legislative context, methods used, and recommendations are included within this report.

1.1 SITE DESCRIPTION

The Study Area is a 1 ha residential lot containing a dwelling and associated structures; the property is zoned as R5 – Large Lot Residential. The landowners are seeking to reduce the property's minimum lot size in order to subdivide the land into two lots. Vegetation within the Study Area is predominately cleared/exotic, with native vegetation present along the western boundary. The Study Area is bordered by residential properties and the Princes Highway, native vegetation within the immediate surrounding area is limited.

1.2 OBJECTIVES

The purpose of this report is to provide a preliminary understanding of the site's biodiversity values and to identify and assess ecological constraints of relevance for the proposal. It is not the intention of this report to act as an assessment of the impacts on biodiversity to the level required to gain development consent from Council.



Figure 1: Aerial and Proposal Elements

2.0 LEGISLATIVE CONTEXT

2.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The NSW EP&A Act is the principal planning legislation for the state, providing a framework for the overall environmental planning, and development assessment process. Various legislative instruments, such as the BC Act, NSW *Water Management Act 2000* (WM Act) and NSW *Rural Fires Act 2007* (RF Act) are integrated with the EP&A Act and have been reviewed below where relevant. The proposal will be subject to Part 4 of the EP&A Act.

2.2 BIODIVERSITY CONSERVATION ACT 2016

The NSW BC Act aims to slow the decline of threatened species, populations and communities listed under the Act. The BC Act is integrated with the EP&A Act and requires consideration of whether a development (Part 4 of the EP&A Act) is likely to significantly affect threatened species, populations and ecological communities or their habitat.

The schedules of the BC Act lists species, populations and communities as endangered or vulnerable. All developments, land use changes or activities need to be assessed to determine if they will have an unacceptable impact on species, populations or communities listed on these schedules.

The potential impact of proposed development on any threatened species, populations or communities is assessed through application of an Assessment of Significance (AoS) under Section 7.3 of the BC Act at the development application stage. If the impacts on the area are found to be 'significant', a Biodiversity Development Assessment Report (BDAR) would be required as would concurrence from the Chief Executive of the NSW Office of Environment & Heritage (OEH) including application of the Biodiversity Assessment Methodology (BAM) and entering into the Biodiversity Offset Scheme (BOS). A BDAR would also be deemed necessary if any proposed development were to involve clearance of vegetation mapped on the State Biodiversity Values Map (BVM), or involve native vegetation clearance above the thresholds tables within the BC Act (**Table 1**).

The area threshold of currently of relevance to the Study Area would be 0.5 ha or more of native vegetation.

Table 1: Offset scheme thresholds – native vegetation clearance area criteria

Minimum lot size associated with the property	Threshold for clearing, above which the BAM and offsets scheme applies
Less than 1 ha	0.25 ha or more
1 ha, and less than 40 ha	0.5 ha or more
40 ha, and less than 1,000 ha	1 ha or more
1,000 ha or greater	2 ha or more

2.3 ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

The Commonwealth EPBC Act aims to protect and encourage the recovery of threatened species, populations and communities listed under the Act. Under this Act an action will require approval from the Minister for the Environment if the action has, will have, or is likely to have, a significant impact on a Matters of National Environmental Significance (MNES). MNES include listed threatened species and ecological communities, migratory species and wetlands of international importance protected under international agreements. Where applicable, the assessment criteria relevant to this Act must be drawn upon to determine whether there would be a significant impact on these species and hence whether referral to the Federal Environmental Minister is required.

2.4 LOCAL PLANNING INSTRUMENTS

2.4.1 Shoalhaven Local Environmental Plan 2014

The Shoalhaven Local Environmental Plan 2014 is the principle planning instrument for the Shoalhaven LGA. The LEP sets out the planning framework and establishes the requirements for the use and development of land in the LGA. The LEP provides broad direction with regards to what types of development are permitted within specific land use zones.

3.0 METHODS

3.1 DATA AND LITERATURE REVIEW

Data records and relevant literature pertaining to the ecology of the Study Area and surrounding areas were reviewed. The material reviewed included:

- OEH threatened species profile database (OEH 2023)
- Review of the State Biodiversity Values Map (Accessed May 2023)
- Protected Matters Search Tool (Accessed May 2023)
- Plant Community Type Vegetation Mapping (DPE 2022)
- Relevant legislative documents
- Aerial photography
- Online property report

3.2 FIELD SURVEY

To determine applicable Ecological Constraints and Opportunities within the Study Area, the following survey methods were undertaken on 27th April 2023 by ecologists Olivia Gobran and Emma Cooper:

- Identification of plant species and vegetation communities present within the site
- Search for signs of threatened species, observe and record significant flora and fauna – threatened and migratory species, other incidental fauna observations
- Observe and record current disturbance and threats (e.g. weeds, trampling, litter)
- Identifying potential habitat for threatened flora and fauna species/populations (e.g. habitat bearing trees (HBTs), creeks, boulders etc) and record with a handheld GPS
- Recording presence of environmental weeds
- Taking reference photographs of the entire site.

3.3 SURVEY LIMITATIONS

Survey was conducted during autumn and may be outside of the optimal survey period for some flora and fauna species. It is therefore possible that some species may not have been detected due to their seasonal geographic variation. Cryptic species may not have been obvious. Targeted surveys were not conducted during the site visit. A conservative approach was applied in the assumption of the presence of species that could potentially occur within the site area. In this regard, the survey is considered adequate for the purposes of this report.

4.0 DESKTOP REVIEW

4.1 BIODIVERSITY VALUES MAP

The Study Area does not contain any land mapped on the State Biodiversity Values Map (BVM) (**Figure 2**). As such, entrance into the Biodiversity Offset Scheme under the BVM trigger is not applicable.

4.2 EXISTING VEGETATION MAPPING

A review of vegetation mapping that covers the Study Area (DPE 2022) identified three vegetation communities within the Study Area (**Figure 3**) – being:

- Not native vegetation
- PCT 3273 South Coast Lowland Shrub-Grass Forest
- PCT 3654 Shoalhaven Lowland Bloodwood Shrub Forest

There are no Threatened Ecological Communities associated with the above PCTs.

4.3 ZONING

The Study Area is zoned as **R5 – Large Lot Residential**

The objectives of this zone are:

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.



Figure 2: Biodiversity Values Mapping

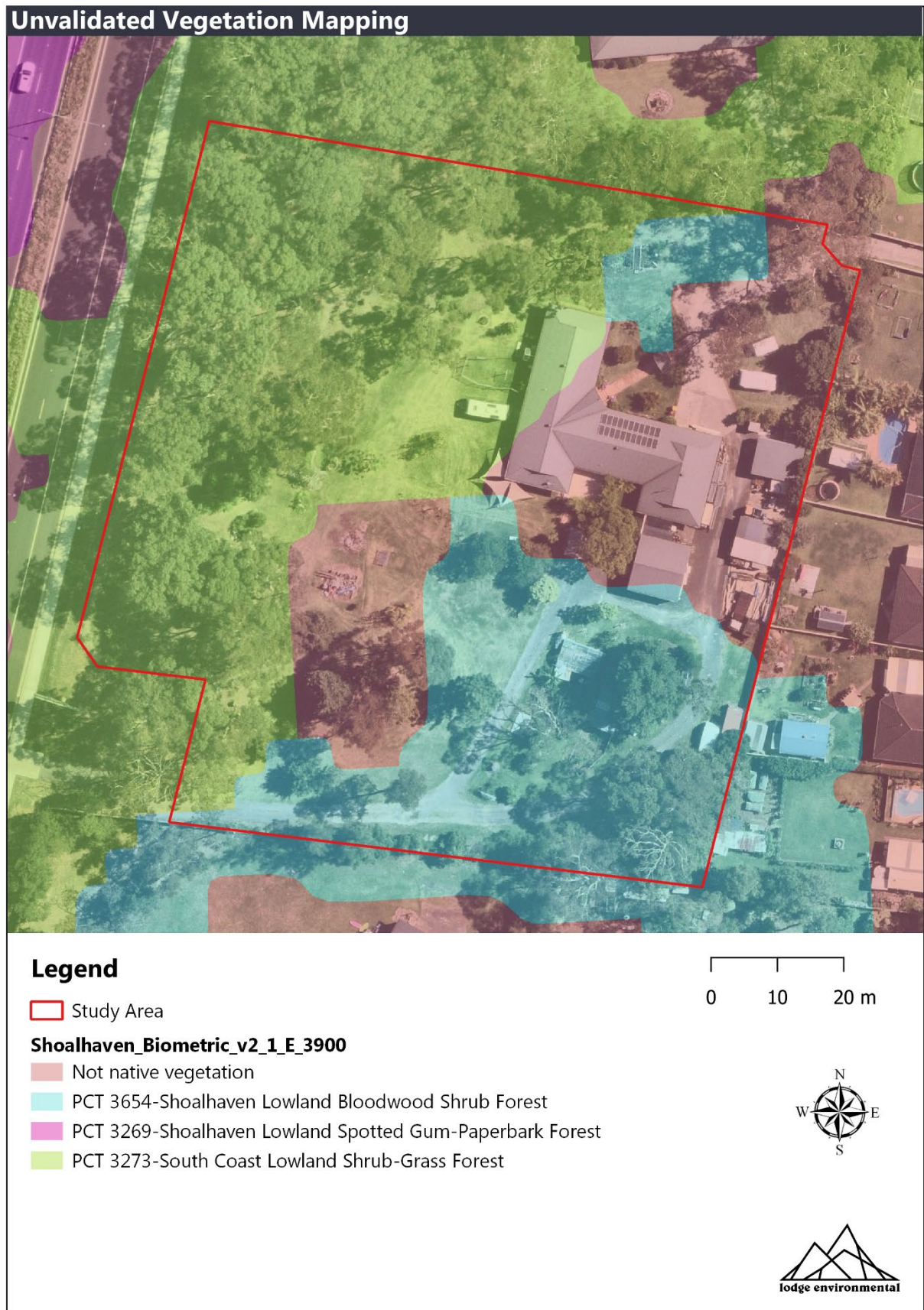


Figure 3: Unvalidated Vegetation Mapping (DPE 2022)

4.4 THREATENED FLORA SPECIES

A review of the DPE and Department of the Environment and Energy (DEE) databases identified 20 threatened plants listed under the BC Act and/or the EPBC Act that have been previously recorded, or are considered to have habitat, within 10 km of the site (**Figure 4**). This initial compilation of potentially occurring species informed the site survey, providing an indication of which species required consideration within the Study Area Prior to field survey, two threatened flora species was identified as having a potential to occur within the Study Area (**Table 2**).

Table 2: Potentially occurring threatened flora

Scientific name	Common name	BC	EPBC
<i>Eucalyptus langleyi</i>	Albatross Mallee	V	V
<i>Hibbertia stricta subsp furcatula</i>		E	-

4.5 THREATENED FAUNA SPECIES

A review of the DPIE and Department of the Environment and Energy (DEE) databases identified 72 threatened fauna species listed under the BC Act and/or the EPBC Act that have been previously recorded, or are considered to have habitat, within 10 km of the site (**Figure 4**). This initial compilation of potentially occurring species informed the site survey, providing an indication of which species required consideration within the Study Area Prior to field survey, five threatened flora species was identified as having a potential to occur within the Study Area (**Table 3**).

Table 3: Potentially occurring threatened fauna

Scientific name	Common name	BC Act	EPBC Act
Birds			
<i>Callocephalon fimbriatum</i>	Gang-Gang Cockatoo	V	E
<i>Lathamus discolor</i>	Swift Parrot	E	CE
Mammals			
<i>Pteropus poliocephalus</i>	Grey-headed Flying Fox	V	V
<i>Petaurus australis</i>	Yellow-bellied Glider	V	V
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheathtail Bat	V	-

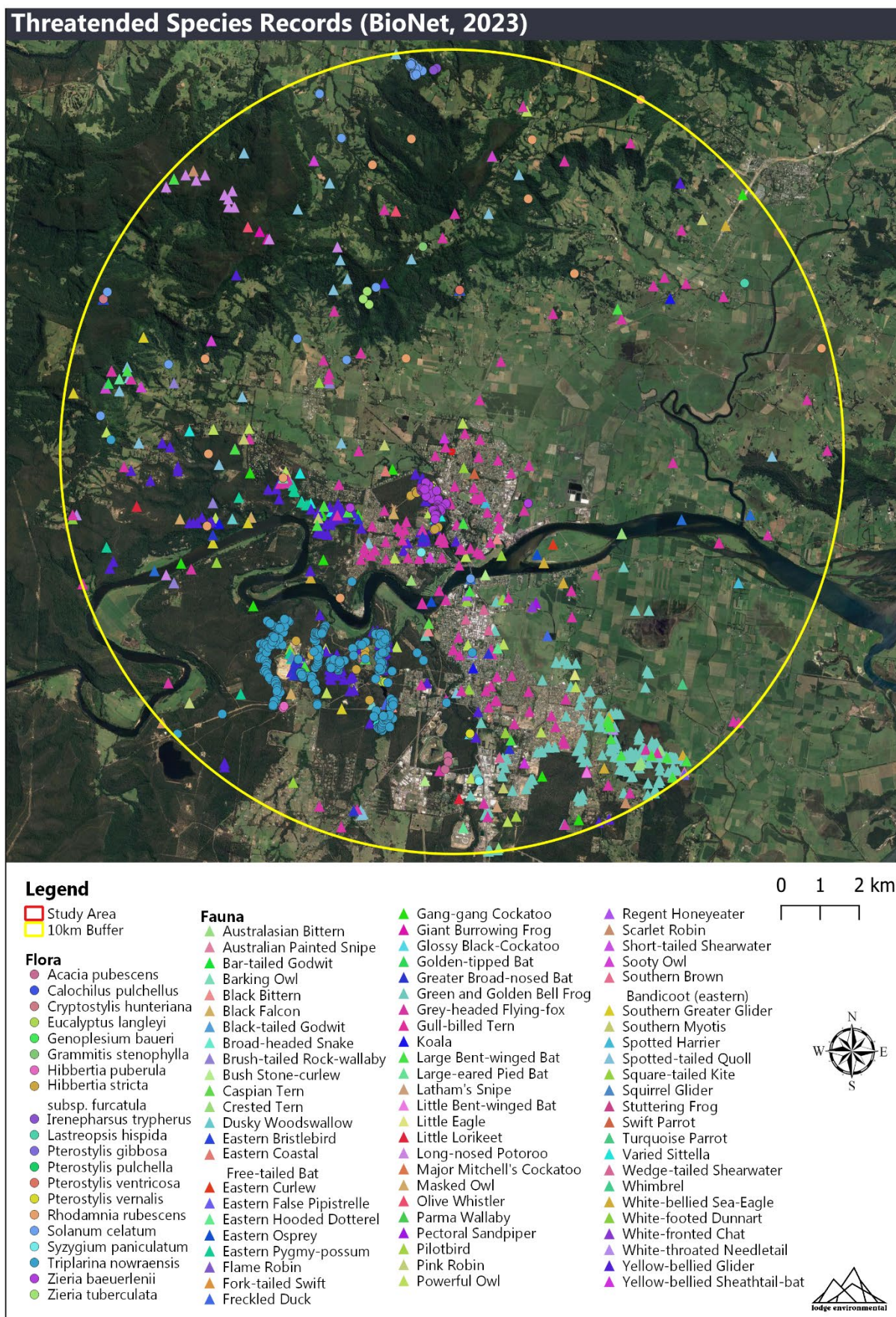


Figure 4: Threatened species recorded within 10km of the Study Area

5.0 FIELD SURVEY RESULTS

5.1 EXISTING ENVIRONMENT AND HABITAT

The Study Area is dominated by exotic garden and maintained lawn, with native vegetation occurring in the western half of the block. Native vegetation within the Study Area contained a high diversity of species across all strata. The Study Area is situated in a predominately residential area and is directly adjacent to the Princes Highway.

Three Habitat Bearing Trees were recorded, one at the Sheraton Circuit entrance of the property and two within the western section of the property. Other notable habitat features included several Red Bloodwoods (*Corymbia gummifera*) within the Study Area. Red Bloodwoods are known to be feed trees for Yellow-bellied Gliders. No evidence of feeding was observed during field survey.

The Study Area is bound by residential properties with small pockets of bushland present within 200m. Therefore, it is likely native vegetation within the Study Area would provide potential foraging habitat for local fauna, however, would not be an important resource.

Recorded habitat features are summarised below (**Table 4**).

Table 4: Habitat features present within the Study Area

Habitat Feature	Description of the feature	Presence of the habitat feature	Number of features within the Study Area
Habitat-bearing tree	Habitat-bearing trees can be alive or dead (stag) and include any additional sheltering, roosting or nesting features that may be relied upon by native fauna, but are not captured within the traditional definition of a Hollow-bearing tree. These features include; Hollows, crevices, cracks, fissured branches, exfoliating bark, nests, dreys and arboreal termite mounds.	Three habitat-bearing trees were recorded within the Study Area (Figure 9) Due to their location, it is unlikely they will require removal	3 features present

5.2 VEGETATION COMMUNITIES

During field survey, 2 vegetation zones, comprising of 1 Plant Community Type (PCT), were recorded and mapped (**Figure 5**) and include:

- PCT 3654- Shoalhaven Lowland Bloodwood Shrub Forest
- No PCT- Exotic/Cleared

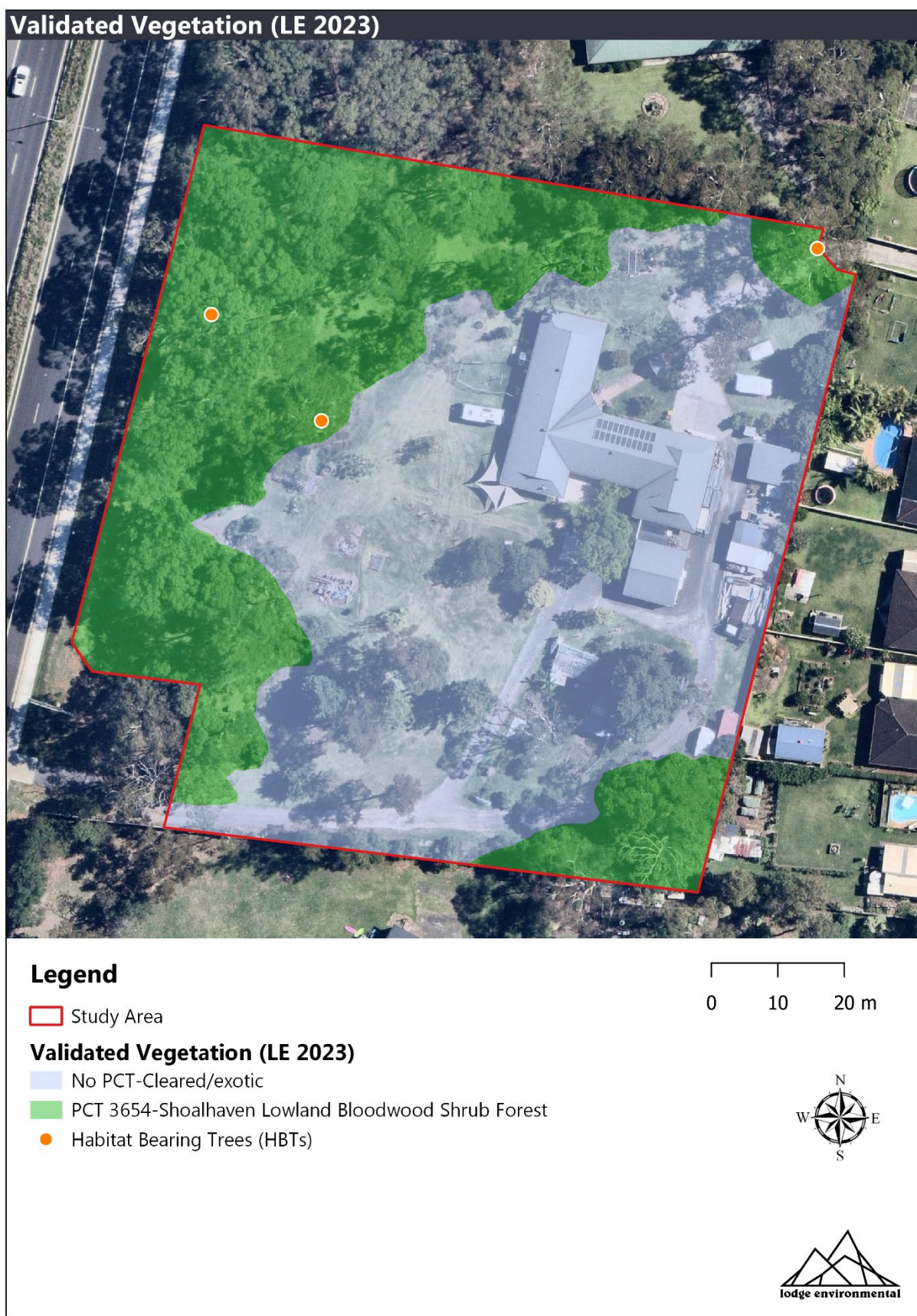


Figure 5: Validated Vegetation Map as assigned by Lodge Environmental (2023)

PCT 3654 – Shoalhaven Lowland Bloodwood Shrub Forest

Native vegetation within the Study Area was validated to be PCT 3654 (Moderate condition). This vegetation community had a large diversity of native species that is likely a combination of plants that naturally grow within the area and planted garden natives. The Study Area is situated in a fairly disturbed area being bordered by the Princes Highway and residential streets.

Dominant canopy species included *Corymbia gummifera* (Red Bloodwood) and *Syncarpia glomulifera* (Turpentine). Other canopy species included *Eucalyptus sclerophylla* (Scribbly gum), *Eucalyptus globoidea* (White Stringybark) and *Allocasuarina littoralis* (Black Sheoak).

The mid stratum consisted of a high diversity of native species including *Acacia terminalis* (Sunshine Wattle), *Lambertia formosa* (Mountain Devil), *Banksia spinulosa* (Hairpin Banksia) and *Bossiaea heterophylla* (Variable Bossiaea).

The ground stratum in this vegetation zone also consisted of a high diversity of native species. Common species included *Pteridium esculentum* (Bracken), *Entolasia stricta* (Wiry Panic), *Lomandra multiflora* (Many-flowered Mat-rush), *Eragrostis brownii* (Browns Love Grass) and *Hibbertia scandens* (Climbing Guinea Flower). Some exotic species were scattered in disturbed areas.

There are currently no Threatened Ecological Communities associated with this community.

Table 5 contains details that were considered in assigning this PCT to native vegetation within the Study Area.

Table 5: PCT 3654- Shoalhaven Lowland Bloodwood Shrub Forest

PCT 3654 – Shoalhaven Lowland Bloodwood Shrub Forest	
PCT ID	3654 – Shoalhaven Lowland Bloodwood Shrub Forest
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
Vegetation class	South East Dry Sclerophyll Forests
Description (Bionet Vegetation Classification)	A tall to very tall dry shrubby sclerophyll open forest with a ground cover of grasses, graminoids and ferns mainly situated on Nowra sandstone lowlands and foothills in the Shoalhaven region between Kangaroo Valley, Nowra and Bawley Point. The tree canopy almost always includes <i>Corymbia gummifera</i> , commonly with <i>Syncarpia glomulifera</i> and may also include a wide variety of other eucalypt species. These may be associated with one or more of <i>Eucalyptus pilularis</i> , <i>Eucalyptus punctata</i> , <i>Eucalyptus sclerophylla</i> , <i>Corymbia maculata</i> or one or more species from the stringybark eucalypt group, of which <i>Eucalyptus globoidea</i> is most frequent. The mid-stratum very frequently includes several layers with a sparse taller canopy of <i>Syncarpia glomulifera</i> and <i>Allocasuarina littoralis</i> . A mid-dense shrub layer almost always includes <i>Banksia spinulosa</i> with <i>Lomatia silaifolia</i> with <i>Persoonia linearis</i> less frequent. Other common species include <i>Hakea sericea</i> , <i>Acacia terminalis</i> and occasional individuals of <i>Leptospermum trinervium</i> , <i>Persoonia levis</i> and <i>Lambertia formosa</i> . The ground layer is characterised by combinations of grasses and graminoid species, almost always including <i>Entolasia stricta</i> , and very frequently other grasses such as <i>Microlaena stipoides</i> and occasionally <i>Themeda triandra</i> . <i>Dianella caerulea</i> , <i>Lepidosperma laterale</i> and <i>Lomandra multiflora</i> are also common along with ferns <i>Pteridium esculentum</i> and <i>Lindsaea linearis</i> . Found on a range of aspects however mostly on low relief Permian sediments,

PCT 3654 – Shoalhaven Lowland Bloodwood Shrub Forest			
	less frequently on foothills. This PCT is common west of Nowra and around St Georges Basin, however becomes patchy and discontinuous on Wandrawandian sediments north of Jervis Bay, where it is replaced by dry open grassy forest PCT 3273. This may be distinguished by a sparser shrub layer, greater diversity of grasses and an absence of <i>Syncarpia glomulifera</i> . It grades into dry shrub forest PCT 3267 with increasing elevation (greater than 100 metres asl) on the Shoalhaven foothills or heathy forest PCT 3588 on shallow sandy soils.		
Condition with Subject Site	Moderate.		
Survey Effort	Random meander		
Extent within Study Area	Approximately 0.39 ha of PCT 3654 in a moderate condition was recorded within the Study Area		
PCT Justification: Characteristic species recorded within the Study Area	Upper Stratum Species: <i>Corymbia gummifera</i> <i>Allocasuarina littoralis</i> <i>Syncarpia glomulifera</i> <i>Eucalyptus globoidea</i> <i>Eucalyptus sclerophylla</i> <i>Glochidion ferdinandi</i> <i>Tristaniopsis laurina</i>	Mid Stratum Species: <i>Banksia spinulosa</i> <i>Persoonia linearis</i> <i>Lambertia formosa</i> <i>Acacia terminalis</i> <i>Persoonia levis</i> <i>Platylobium formosum</i> <i>Bossiaea heterophylla</i> <i>Petrophile pulchella</i> <i>Pittosporum revolutum</i> <i>Elaeocarpus reticulatus</i> <i>Pittosporum undulatum</i> <i>Hakea salicifolia</i> <i>Acacia falcata</i> <i>Ozothamnus diosmifolius</i> <i>Kunzea ericoides</i> <i>Dodonaea triquetra</i> <i>Bursaria spinosa</i> <i>Allocasuarina distyla</i>	Ground Stratum Species: <i>Pteridium esculentum</i> <i>Entolasia stricta</i> <i>Microlaena stipoides</i> <i>Lomandra obliqua</i> <i>Lomandra multiflora</i> <i>Themeda triandra</i> <i>Entolasia marginata</i> <i>Eragrostis brownii</i> <i>Rytidosperma caespitosum</i> <i>Oplismenus aemulus</i> <i>Dianella caerulea</i> <i>Hibbertia scandens</i> <i>Lobelia pedunculata</i> <i>Xanthorrhoea resinosa</i> <i>Pomax umbellata</i> <i>Cryptostylis subulata</i> <i>Parsonsia straminea</i> <i>Cassytha pubescens</i> <i>Dichondra repens</i>
TEC Status	No associated TEC.		
Estimate of percent cleared value of PCT in the major catchment area	19.98%		

PCT 3654 – Shoalhaven Lowland Bloodwood Shrub Forest

Field Survey
Image of PCT



No PCT – Exotic vegetation

Exotic vegetation covers a large portion of the Study Area and consists of maintained garden, lawn, and weedy areas.

Species included *Acer palmatum* (Japanese Maple), *Agapanthus praecox* (Agapanthus), *Dietes grandiflora* (Wild Iris) and *Bouteloua dactyloides* (Buffalo Grass) (**Figure 6**).



Figure 6: Area cleared for gravel road, bordered by exotic weeds and native vegetation.

5.3 FLORA

A total of 152 species were recorded during the site inspection (76 native and 76 exotic). A species list is provided in **Appendix A**.

5.3.1 Threatened Flora Species

There were no threatened flora species identified within the Study Area.

5.4 FAUNA

A total of 13 fauna species were identified within the site. A species list is included in **Appendix B**. Targeted surveys were not conducted as part of this assessment.

5.4.1 Threatened Fauna Species

No threatened fauna was visually detected during the field survey.

The Study Area provided potentially suitable habitat for three threatened species, listed in **Table 6**.

Table 6: Threatened fauna species utilising the Study Area

Scientific name	Common name	BC Act	EPBC Act
Birds			
<i>Lathamus discolor</i>	Swift Parrot	E	CE
Mammals			
<i>Petaurus australis</i>	Yellow-bellied Glider	V	V
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail Bat	V	-

5.4.2 SEPP (Biodiversity and Conservation) 2021

Chapter 4 (Koala Habitat Protection 2021) of SEPP (Biodiversity and Conservation) 2021 aims to encourage the conservation and management of natural vegetation that provides habitat for Koalas, to ensure a permanent, free-living population over their present range and reverse the current trend of Koala population decline.

Based on lot size, land zoning and Local Government Area, a Koala Assessment Report would be required if the Study Area is deemed to be Core Koala Habitat.

Under Chapter 4 of SEPP (Biodiversity and Conservation) 2021, Core Koala Habitat is defined as:

- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or
- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years.

The Study Area does not contain vegetation considered to be highly suitable habitat. As such, the Study Area does not contain Core Koala Habitat and the preparation of a Koala Assessment Report is not required to accompany a future Development Application.

5.4.3 Biodiversity Offset Scheme Entry

Entry into the Biodiversity Offset Scheme (BOS) is triggered by developments, projects and activities that meet certain thresholds for significant impacts on biodiversity. The thresholds are:

- Clearing over the relevant native vegetation clearance threshold, i.e. 0.5 ha for this property.
- Clearance of native vegetation mapped on the Biodiversity Values Map.
- Significant impacts to matters listed under the BC Act as assessed using s7.3 of the BC Act.

Should any future development trigger one of the above listed thresholds, entry into the BOS would be required through the completion of a Biodiversity Development Assessment Report (BDAR).

The Study Area does not currently contain any land that is mapped on the Biodiversity Values Map, therefore this threshold would not be triggered.

Clearance over the native vegetation clearance threshold would also not be triggered, as the clearance threshold for this property (0.5 ha) is higher than the amount of native vegetation recorded on the property (0.39 ha).

Significant impacts to matters listed under the BC Act would be determined via an Assessment of Significance (AoS). Necessary AoS would allow for any potential significant impact on a threatened species or community to be determined. However, due to the limited fauna habitat that exists within and surrounding the Study Area it is unlikely any development would result in a significant impact.

6.0 ECOLOGICAL CONSTRAINTS

Ecological values identified through the literature review and field survey were ranked on a scale of high, moderate, and low based on the level of ecological value and legislative protection. The constraint levels and relevant attributes recorded within the Study Area are detailed in **Table 7** and mapped in **Figure 7**.

Table 7: Ecological Constraints within the Study Area

Constraint Level	Description/Activity
High	• Habitat Bearing Tree removal
Moderate	• Removal of native vegetation validated to be PCT 3654 • Removal of potential Yellow-bellied Glider feed trees
Low	• Impacts on pre-existing cleared/exotic land

High Constraints

Three Habitat Bearing Trees (HBTs) were recorded within the Study Area containing features such as small hollows, large hollows and fissured branches. These features are likely to be used by locally occurring fauna including providing potential habitat for threatened fauna. It is recommended that any future development planning take into consideration these features and take all reasonable measures to retain them.

These trees occur outside of suggested future development footprints and therefore it is unlikely they will require removal.

Moderate Constraints

Native vegetation recorded within the Study Area was validated to be PCT 3654 - Shoalhaven Lowland Bloodwood Shrub Forest. This vegetation is considered to be in moderate condition and includes a high diversity of native species. This native vegetation provides habitat and foraging resources for local fauna, therefore should be retained where possible.

Several Red Bloodwoods (*Corymbia gummifera*) were recorded within the Study Area and are considered potential feed trees for Yellow-bellied Gliders. Although no feed marks were observed during field survey, they should be retained where possible.

If APZs are required for future development, it is recommended that vegetation only be removed to meet minimum requirements.

Low Constraints

Areas of vegetation that are currently cleared or in a disturbed state are considered to present low ecological constraints. Any future development will need to consider measures to limit the spread of weeds and other exotic vegetation. Areas of currently cleared vegetation remain the preferred location for any future development.

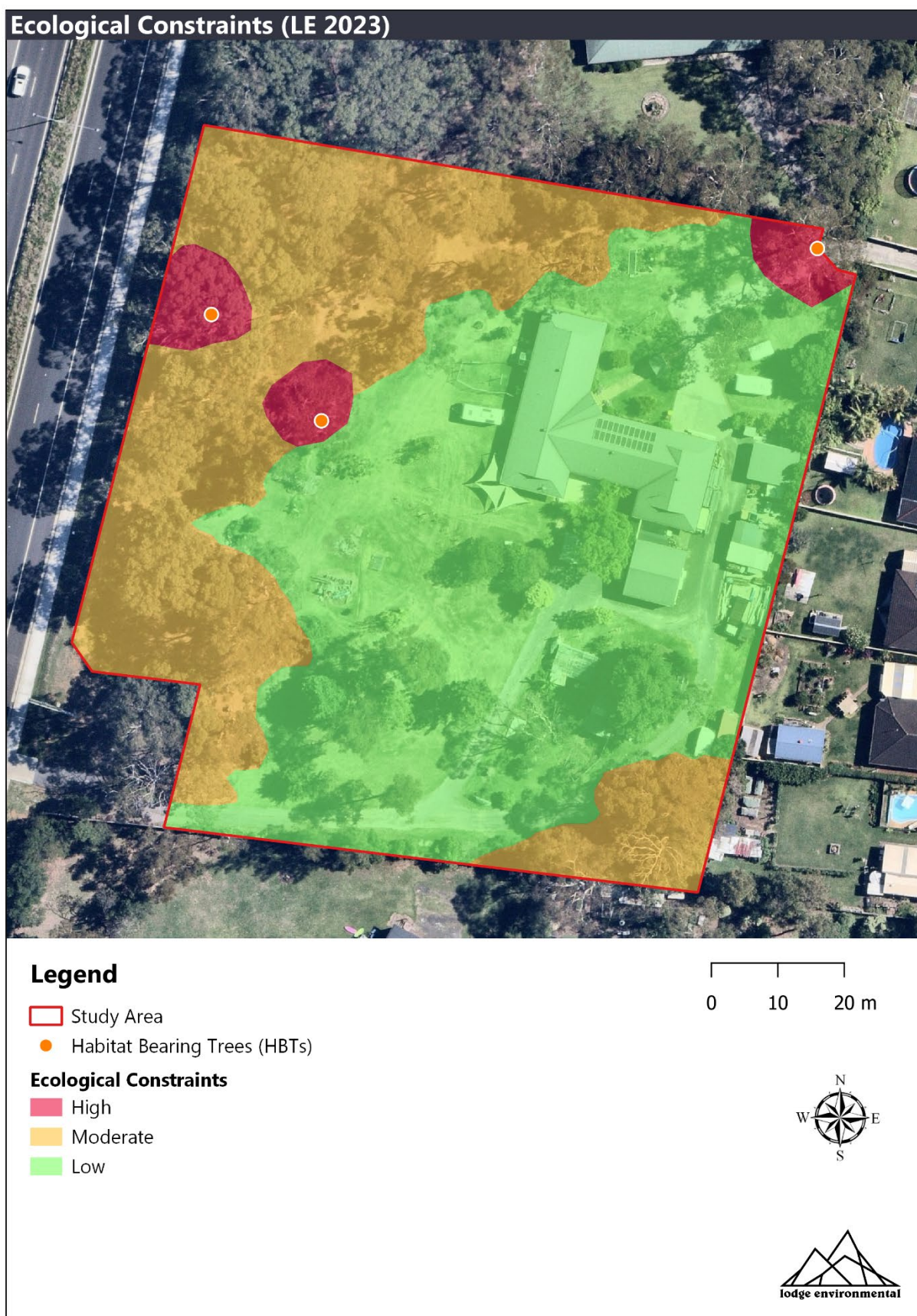


Figure 7: Ecological constraints within the Study Area

7.0 CONCLUSION

Lodge Environmental has conducted a preliminary assessment of the biodiversity values present at 29 Sheraton Circuit, Bomaderry, to determine notable constraints in the context of future development opportunities.

Vegetation within the Study Area was predominately cleared/exotic, with native vegetation occurring along the western boundary of the property. Native vegetation within the Study Area was validated to be PCT 3654 - Shoalhaven Lowland Bloodwood Shrub Forest in moderate condition. No threatened flora or fauna were recorded. Targeted surveys were not conducted for threatened species.

It will be necessary to determine the impacts to threatened flora and fauna that may be imposed by future development. A Flora and Fauna Assessment (FFA) will be required to accompany a future Development Application.

Entry into the Biodiversity Offset Scheme is unlikely as the Study Area does not contain any areas mapped on Biodiversity Values Map and any clearance of native vegetation will not exceed the clearance threshold.

High, moderate and low ecological constraints have been identified as part of this report and must be considered for any development plans. Mitigation and control measures that should be considered include:

- Retention of all Habitat Bearing Trees
- Keeping native vegetation where possible
- Prioritising retention of potential Yellow-bellied Glider feed trees

8.0 REFERENCES

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9.0 LIMITATIONS

This report and the associated services performed by Lodge Environmental are in accordance with the scope of services set out in the contract between Lodge Environmental and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to Site.

Lodge Environmental derived the data in this report primarily from visual inspections, and, limited survey and analysis made on the dates indicated. In preparing this report, Lodge Environmental has relied upon, and presumed accurate, certain information provided by government authorities, the Client and others identified herein. The report has been prepared on the basis that while Lodge Environmental believes all the information in it is deemed reliable and accurate at the time of preparing the report, it does not warrant its accuracy or completeness and to the full extent allowed by law excludes liability in contract, tort or otherwise, for any loss or damage sustained by the Client arising from or in connection with the supply or use of the whole or any part of the information in the report through any cause whatsoever.

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It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

Appendices

Appendix A: Flora Species List

Scientific name	Common name	Native	Exotic
<i>Acacia falcata</i>	Hickory wattle	X	
<i>Acacia schinoides</i>		X	
<i>Acacia terminalis</i>		X	
<i>Acanthus mollis</i>	Oyster plant		X
<i>Acer palmatum</i>	Japanese Maple		X
<i>Aechmea arispensis</i>	Bromeliad		X
<i>Agapanthus praecox</i>	Agapanthus		X
<i>Agave attenuata</i>	Agave		X
<i>Ailanthus altissima</i>	Tree of heaven		X
<i>Ajuga reptans</i>	Bugleherb		X
<i>Allocasuarina distyla</i>	Scrub she oak	X	
<i>Allocasuarina littoralis</i>	Black sheoak	X	
<i>Alstroemeria psittacina</i>	Parrot lily		X
<i>Araujia sercifera</i>	Moth vine		X
<i>Asparagus aethiopicus</i>	Ground asparagus		X
<i>Bambusa sp.</i>	Clumping bamboo		X
<i>Banksia spinulosa</i>	Hairpin banksia	X	
<i>Bidens pilosa</i>	Cobblers pegs		X
<i>Billardiera scandens</i>	Apple berry	X	
<i>Bossiaea heterophylla</i>	Variable bossiaea	X	
<i>Bouteloua dactyloides</i>	Buffalo grass		X
<i>Brachychiton acerfolius</i>	Illawarra flame tree	X	
<i>Briza minor</i>	Quaking grass		X
<i>Bursaria spinosa</i>	Sweet bursaria	X	
<i>Callistemon viminalis</i>	Weeping bottlebrush	X	

Scientific name	Common name	Native	Exotic
<i>Camellia sasanqua</i>	Calellia sasanqua		X
<i>Canna indica</i>	Canna lily		X
<i>Cardamine hirsuta</i>	Flickweed		X
<i>Carpobrotus sp.</i>	Pigface	X	
<i>Cassytha pubescens</i>	Devils twine	X	
<i>Cinnamomum camphora</i>	Camphor laurel		X
<i>Clivia miniata</i>	Kaffir Lily		X
<i>Commelina cyanea</i>	Scurvy	X	
<i>Conyza bonariensis</i>	Flaxlead fleabane		X
<i>Coprosma repens</i>	Mirror bush		X
<i>Corymbia gummifera</i>	Red Bloodwood	X	
<i>Cynodon dactylon</i>	Couch	X	
<i>Crassocephalum crepidioides</i>	Thickhead		X
<i>Crassula multicava</i>	Fairy crassula		X
<i>Cryptostylis subulata</i>	Large tongue orchid	X	
<i>Cupaniopsis anacardioides</i>	Tuckeroo	X	
<i>Cyperus papyrus</i>	Paper reed		X
<i>Cypress sp.</i>	Cypress pine		X
<i>Dianella caerulea</i>	Blue flax lily	X	
<i>Dichondra repens</i>	Kidney Weed	X	
<i>Dietes grandiflora</i>	Wild Iris		X
<i>Dodonaea triquetra</i>	Large-leaf hop-bush	X	
<i>Ehrharta erecta</i>	Panic veldtgrass		X
<i>Elaeocarpus reticulatus</i>	Blueberry ash	X	
<i>Entolasia brownii</i>	Browns Loves Grass	X	
<i>Entolasia marginata</i>	Bordered panic	X	
<i>Entolasia stricta</i>	Wiry panic	X	

Scientific name	Common name	Native	Exotic
<i>Epidendrum ibaguense</i>	Crucifix orchid		X
<i>Eucalyptus globoidea</i>	White Stringybark	X	
<i>Eucalyptus sclerophylla</i>	Scribbly gum	X	
<i>Euphorbia candelabrum</i>	Candelabra tree		X
<i>Euphorbia peplus</i>	Petty spurge		X
<i>Ficus coronata</i>	Sandpaper fig	X	
<i>Ficus sp</i>	Fig tree		X
<i>Fraxinus sp</i>	Ash		X
<i>Gamochaeta spicata</i>	Spiked cudweed		X
<i>Glochidion ferinandi</i>	Cheese tree	X	
<i>Glycine clandestina</i>	Twining glycine	X	
<i>Glycine tabacina</i>	Love creeper	X	
<i>Grevillea lanigera</i>	Woolly grevillea	X	
<i>Grevillea 'Poorinda Royal Mantle'</i>	Grevillea	X	
<i>Grevillea robusta</i>	Silky Oak	X	
<i>Grevillea longifolia</i>	Fern-leaf grevillea	X	
<i>Hakea salicifolia</i>	Willow-leaved Hakea	X	
<i>Hardenbergia violacea</i>	False sarsaparilla	X	
<i>Hibbertia scandens</i>	Climbing guinea flower	X	
<i>Homalanthus populifolius</i>	Bleeding heart tree	X	
<i>Hydrocotyle sibthorpioides</i>	Hydrocotyle	X	
<i>Hymenosporum flavum</i>	Native frangipani	X	
<i>Indigofera australis</i>	Australian indigo	X	
<i>Isopogon anemonifolius</i>	Drumsticks	X	
<i>Jacaranda mimosifolia</i>	Jacaranda		X
<i>Kunzea ambigua</i>	Tick Bush	X	
<i>Lagenophora stipitata</i>	Blue bottle-daisy	X	

Scientific name	Common name	Native	Exotic
<i>Lagerstroemia indica</i>	Crepe myrtle		X
<i>Lambertia formosa</i>	Mountain devil	X	
<i>Laurus nobilis</i>	Bay Tree		X
<i>Leptospermum petersonii</i>	Lemon scented tea tree	X	
<i>Ligustrum sinense</i>	Small leaved privet		X
<i>Ligustrum lucidum</i>	Broad-leaf privet		X
<i>Liriope muscari</i>	Lily turf		X
<i>Lobelia purpurascens</i>	White root	X	
<i>Lomandra longifolia 'tanika'</i>	Tanika	X	
<i>Lomandra multiflora</i>	Many-flowered Mat-rush	X	
<i>Lomandra obliqua</i>	Fishbones	X	
<i>Mandevilla sanderi</i>	Brazilian jasmine		X
<i>Melaleuca bracteata</i>	Revolution gold	X	
<i>Melia azedarach</i>	White cedar	X	
<i>Microlaena stipoides</i>	Weeping grass	X	
<i>Modiola caroliniana</i>	Creeping mallow		X
<i>Monstera deliciosa</i>	Swiss cheese plant		X
<i>Morus sp.</i>	Mullberry Tree		X
<i>Myoporum parvifolium</i>	Creeping boobialla	X	
<i>Nandina domestica</i>	Sacred bamboo		X
<i>Nerium oleander</i>	Oldeander		X
<i>Ochna serrulata</i>	Ochna		X
<i>Onopordum acanthium</i>	Scotch thistle		X
<i>Oplismenus aemulus</i>	Basket grass	X	
<i>Oxalis corniculata</i>	Oxalis		X
<i>Ozothamnus diosmifolius</i>	White dogwood	X	
<i>Palargonium sp.</i>	Common geranium		X

Scientific name	Common name	Native	Exotic
<i>Pandorea jasminoides</i>	Bower plant	X	
<i>Panicum simile</i>	Two-coloured panic	X	
<i>Parsonsia straminea</i>	Common silkpod	X	
<i>Paspalum dilatatum</i>	Paspalum		X
<i>Persoonia levis</i>	Broad-leaved geebung	X	
<i>Persoonia linearis</i>	Narrow-leaved geebung	X	
<i>Petrophile punchella</i>	Conesticks	X	
<i>Phyllanthus tenellus</i>	Hen and chicken		X
<i>Pimelea curviflora</i>	Curved rice flower	X	
<i>Pittosporum revolutum</i>	Rough fruit jasmine	X	
<i>Pittosporum undulatum</i>	Sweet pittosporum	X	
<i>Plantago lanceolata</i>	Lambs tounge		X
<i>Platylobium formosum</i>	Handsome flat pea	X	
<i>Pomax umbellata</i>	Pomax	X	
<i>Pteridium esculentum</i>	Bracken	X	
<i>Raphiolepis indica</i>	Indian hawthorn		X
<i>Rosa banksiae</i>	Banks Rose		X
<i>Rubus fruticosus</i>	Blackberry		X
<i>Rumex sagittatus</i>	Turkey rhubarb		X
<i>Rytidosperma caespitosum</i>	Wallaby Grass	X	
<i>Senna pendula</i>	Easter cassia		X
<i>Setaria surgens</i>	Pigeon grass		X
<i>Sida rhombifolia</i>	Paddys lucerne		X
<i>Smilax glauca</i>	Catbriar		X
<i>Solanum jasminoides</i>	Potato vine		X
<i>Solanum mauritianum</i>	Wild tobacco tree		X
<i>Solanum nigrum</i>	Blackberry nightshade		X

Scientific name	Common name	Native	Exotic
<i>Solanum seaforthianum</i>	Brazilian nightshade		X
<i>Sonchus oleraceus</i>	Common sow-thistle		X
<i>Sporobolus fertilis</i>	Giant parramatta grass		X
<i>Stachys arvensis</i>	Stagger weed		X
<i>Syncarpia glomulifera</i>	Turpentine	X	
<i>Syragrus romanzoffiana</i>	Cocos palm		X
<i>Syzygium australe</i>	Brush cherry	X	
<i>Taraxacum officinale</i>	Dandelion		X
<i>Themeda triandra</i>	Kangaroo grass	X	
<i>Tibouchina granulosa</i>	Tibouchina		X
<i>Trachelospermum jasminoides</i>	Star jasmine		X
<i>Triadica sebifera</i>	Chinese tallow tree		X
<i>Tristanopsis laurina</i>	Watergum	X	
<i>Tulbaghia variegated</i>	Society garlic		X
<i>Vicia sativa</i>	Vetch		X
<i>Viola papilionacea</i>	Common blue violet		X
<i>Woolisia pungens</i>	Snow wreath	X	
<i>Xanthorrhoea resinosa</i>	Grass Tree	X	
<i>Zantedeschia aethiopica</i>	Arum lily		X

Appendix B: Fauna Species List

Class Name	Scientific Name	Common Name
Aves	<i>Alisterus scapularis</i>	King Parrot
	<i>Ptilonorhynchus violaceus</i>	Satin Bowerbird
	<i>Strepera graculina</i>	Pied Currawong
	<i>Anthochaera carunculata</i>	Red Wattlebird
	<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet
	<i>Dacelo novaeguineae</i>	Kookaburra
	<i>Meliphaga lewinii</i>	Lewin's Honeyeater
	<i>Gymnorhina tibicen</i>	Australian Magpie
	<i>Vanellus miles</i>	Masked Lapwing
	<i>Grallina cyanoleuca</i>	Magpie-lark
	<i>Manorina melanocephala</i>	Noisy Myna
	<i>Corvus coronoides</i>	Australian Raven
Reptilia	<i>Pseudechis porphyriacus</i>	Red-bellied Black Snake