

BIODIVERSITY DEVELOPMENT ASSESSMENT REPORT WAIVER

ST GEORGE PRIVATE HOSPITAL EXPANSION, 119 – 129 PRINCES HIGHWAY, KOGARAH NSW 2217



CLIENT: Akalan Projects Pty Ltd

DATE: 2 September 2025

PREPARED BY: Bayley Holborow



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- Department of Climate Change, Energy, the Environment and Water (DCCEEW) for access to the Protected Matters Search Tool of the Australian Government
- NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW), for access to the BioNet Atlas of NSW Wildlife.

de Witt Ecology staff involved in this project were:

- Bayley Holborow (Fieldwork, Reporting and GIS)
- Alejandro Barreto (Report Review)

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Glossary

Abbreviation	Meaning
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCD	Biodiversity Conservation Division
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offset Scheme
CBD	Central Business District
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
GHFF	Grey-headed Flying Fox
HBT	Hollow-bearing tree
LGA	Local Government Area
LoO	Likelihood of Occurrence
SSD	State Significant Development
SSI	State Significant Infrastructure
TECs	Threatened Ecological Communities

1. INTRODUCTION

The *Biodiversity Conservation Act 2016* (BC Act) requires that a State Significant Development (SSD) or State Significant Infrastructure (SSI) application must be accompanied by a Biodiversity Development Assessment Report (BDAR) unless the Secretary of the Department of Planning, Industry and Environment (DPIE) and the Chief Executive of the Biodiversity Conservation Division (BCD) determine that the proposed development is not likely to have any significant impact on biodiversity values. This determination is referred to as a BDAR Waiver.

Due to the very limited removal of native vegetation proposed (i.e. a small number of planted trees) within a mostly cleared environment and the fact this proposal is classified as SSD, de Witt Ecology have prepared a BDAR Waiver based on the suitability of this pathway for the project.

The purpose of the BDAR Waiver is to demonstrate that the proposal is unlikely to have any significant impact on biodiversity values within the Study Area.

2. PROPOSAL OVERVIEW

The proposed development is ancillary to the existing St George Private Hospital (SGPH) in Kogarah, NSW. Akalan Projects Pty Ltd is proposing the construction of new facilities and infrastructure within the existing SGPH and an existing carpark within the SGPH site (Figure 1 and Figure 2). The proposed development would encompass Lot 1 DP8864, Lot 2 DP8864, Lot 3 DP8864, Lot 4 DP8864, Lot 5 DP8864, Lot A DP358876, Lot B DP358876 and Lot C DP358876 located at 119 – 129 Princes Highway, Kogarah and Lot 31 DP1147692 at 1 South Street, Kogarah.

The proposal is classified as State Significant Development (SSD). In order to complete proposed works, the removal of existing managed native vegetation, removal of exotic vegetation and the demolition of one existing building and carpark (Subject Land) will be required (Figure 1). Additionally, modification of the existing SGPH building that is currently in use will be undertaken (Figure 2).

This Biodiversity Development Assessment Report (BDAR) Waiver identifies the potential biodiversity impacts of the proposal, being the removal of vegetation and demolition of one building as outlined in the SGPH Masterplan prepared by Ramsay Health Care, which was provided by the proponent (Appendix 4). The modifications to the existing SGPH building and adjacent landscaped vegetation have not been subject to field investigation. Section 4 and 5 provide justification on why further field investigation is not considered warranted in this specific location, based on the low ecological value of this area.

Proposed impact areas outlined as Subject Land in Figure 1 and Figure 2 (i.e. managed native and exotic ornamental gardens, existing buildings and existing carpark) are hereafter referred to as the Subject Land. This report focusses on potential impacts to the Subject Land.

For the purposes of this BDAR Waiver, biodiversity is as defined under Section 1.5 of the *Biodiversity Conservation Act 2016* (BC Act), and 'biodiversity values' includes vegetation integrity, habitat suitability and those values prescribed under Section 1.4 of the Biodiversity Conservation Regulation 2017 (BC Regs 2017).

2.1. PROPONENT NAME AND CONTACT DETAILS

- Proponent Name: Akalan Projects, Pty Ltd.
- Proponent Contact: Raphael Pullin, Project Manager
- Proponent Address: Suite 202, 84 Alexander Street, Crows Nest, NSW 2065
- Project ID: St George Private Hospital

2.2. APPLICATION PREPARATION

Field investigations, reporting and GIS processing was conducted by Bayley Holborow (B.Sc.) and reviewed by Alejandro Barreto (B. Biotech. [Botany]).

Bayley joined de Witt Consulting in 2022, following his graduation from the University of Newcastle, where he demonstrated exceptional academic prowess, earning a place on the College Commendation List for his final two years of study. Within our team, Bayley has been a crucial asset, making significant contributions to numerous ecological projects across New South Wales. His proficiency in the field, expertise in Geographic Information Systems (GIS), and adeptness in report generation have been instrumental in achieving successful project outcomes.

Alejandro is a Principal Ecologist has 12 years' experience across a number of key industry sectors, including urban, solar farm infrastructure, and industrial. He has been involved in a wide range of projects throughout NSW, including ecological assessments, biodiversity assessments (Bio Banking and BAM), floristic surveys, vegetation mapping, targeted threatened flora surveys, reviews of environmental factors, offset strategies, vegetation management plans and monitoring plans. His experience involves ecological investigations including reporting, project management and client liaison. Alejandro is experienced in writing reports, such as Biodiversity Development Assessment Reports (BDAR), flora and fauna assessment reports, vegetation management plans and ecological constraints reports.

2.3. SITE DETAILS

The land ownership and Lot/DP numbers for the Study Area owned by the SGPH are indicated in Table 1.

Table 1: Land ownership, Lot/DP numbers/ addresses and land zoning for the Study Area

Lot/DP	Land Owner	Land Zoning
1/8864	SGPH	SP2 - Infrastructure
2/8864	SGPH	SP2 - Infrastructure
3/8864	SGPH	SP2 - Infrastructure
4/8864	SGPH	SP2 - Infrastructure
5/8864	SGPH	MU1 – Mixed Use
A/358876	SGPH	SP2 - Infrastructure
B/358876	SGPH	SP2 - Infrastructure
C/358876	SGPH	SP2 - Infrastructure
31/1147692	SGPH	SP2 - Infrastructure

The applicable Local Government Area (LGA) is Georges River Council.

2.4. DESCRIPTION OF EXISTING DEVELOPMENT SITE

The Subject Land is located at 119 – 129 Princes Highway and 1 South Street, Kogarah NSW 2217, approximately 3.5 kilometres south-west of Sydney Airport. The Subject Land has an area of approximately 0.57 ha and is occupied by an existing SPGH staff carpark and the SGPH building. The Subject Land adjoins MU1 – Mixed Use development to the north and west, and SP2 – Infrastructure to the south and east.

2.5. PROPOSED DEVELOPMENT

The proposal involves the construction of new facilities and infrastructure within the entire SGPH area, where construction will be performed at 119 – 129 Princes Highway, which will include:

- New Clinical Tower, inclusive of:
 - o Six levels of below ground car parking, creating 251 Car Parking Spaces
 - o Radiation Oncology Centre
 - o Medical Imaging Expansion
 - o Lobby and Dropoff Zone
 - o Kitchen, Pharmacy, Pathology, Café and Back of House accommodation
 - o Link Connection to Hospital Campus via Specialist Suites Building
 - o Hospital Administration accommodation and 24 Bed Inpatient Shell Spaces
 - o 132 Inpatient Rooms over five levels
 - o Shell Space for Future Ward or Clinical Support

Construction will include the removal of managed native and exotic vegetation, and the demolition of one existing building and parking area.

Further construction will be performed at the SGPH building and its adjacent landscaped vegetation, located at 1 South Street, Kogarah. This area has not been subject to field investigation, and its biodiversity values measured through a desktop analysis only. Regardless the construction activities will include:

- Demolition of existing infrastructure at the existing SGPH building:
 - o Main Hospital Lobby and Coffee Shop
 - o Meeting & Admin Areas
 - o Hospital Reception
 - o Entry Facade and Airlock
 - o Entry Forecourt (partial)
 - o Mech Plant Room (lobby A/C)
 - o Fire Control Room (if permitted)
 - o Pedestrian crossing in the forecourt
- Construction of new infrastructure at the existing SPBH building (post demolition)
 - o New Ambulance Parking

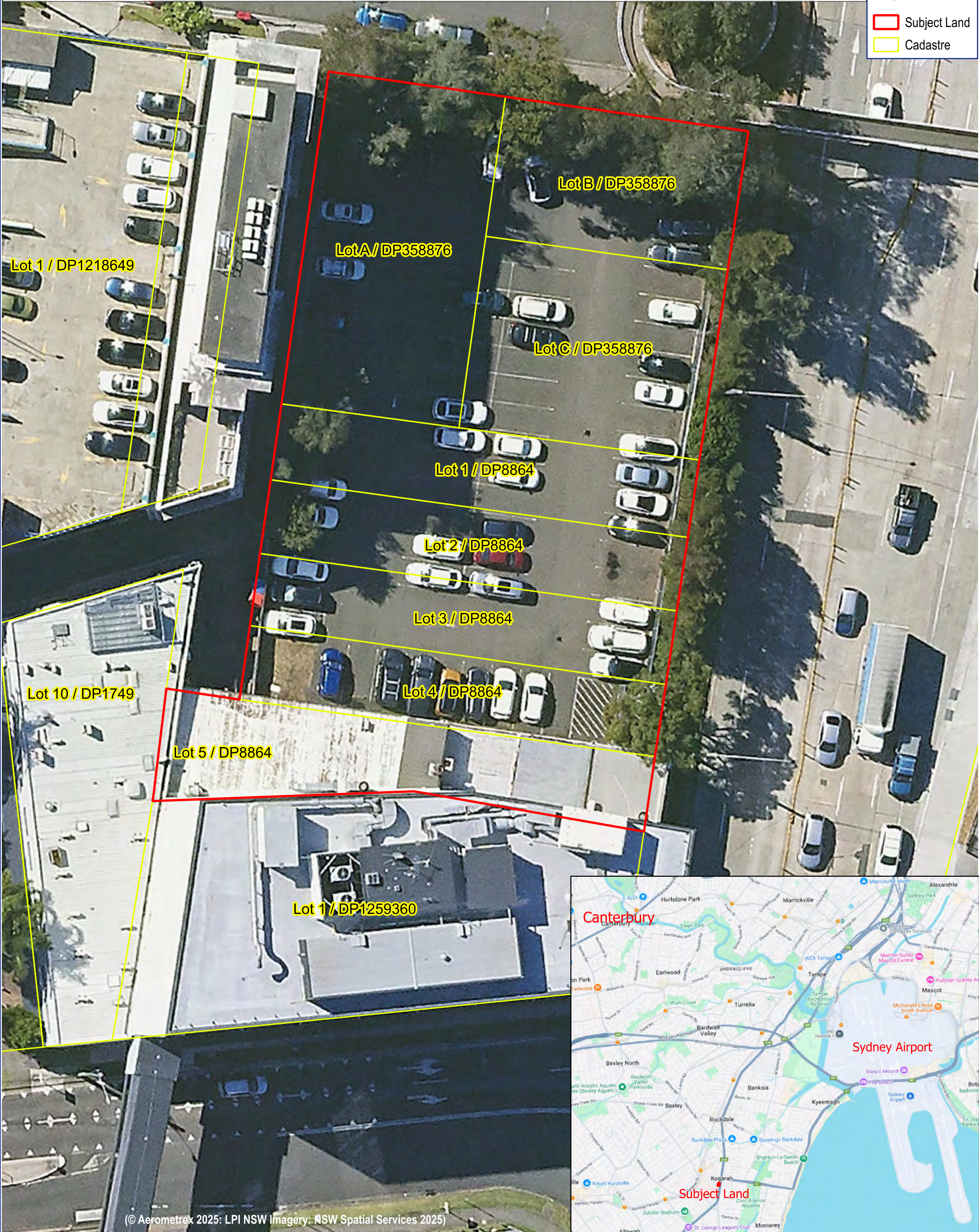
- o New Emergency Department and Dedicated Waiting Area
- o New Entry Facade, Airlock and Roof
- o Upgrade the Main Hospital Lobby, including a new Café
- o New Hospital Admin and Reception
- o New A/C to all proposed scope of works
- o New BOC Gas Cylinder Enclosure
- o Modified Forecourt Landscaping, Paving and Parking
- o New Fire Control Room (if permitted)
- o Relocated Pedestrian crossing in forecourt

It is understood that construction will involve the removal of managed exotic vegetation and modification to the existing SGPH building currently in use.

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LEGEND

- Subject Land
- Cadastre



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FIGURE 1

SITE MAP

JOB ADDRESS: 119 - 129 PRINCES HIGHWAY, KOGARAH NSW

CLIENT: AKALAN PROJECTS PTY LTD

A3 SCALE: 1:300

DRAWN: BH

JOB REF: EC358

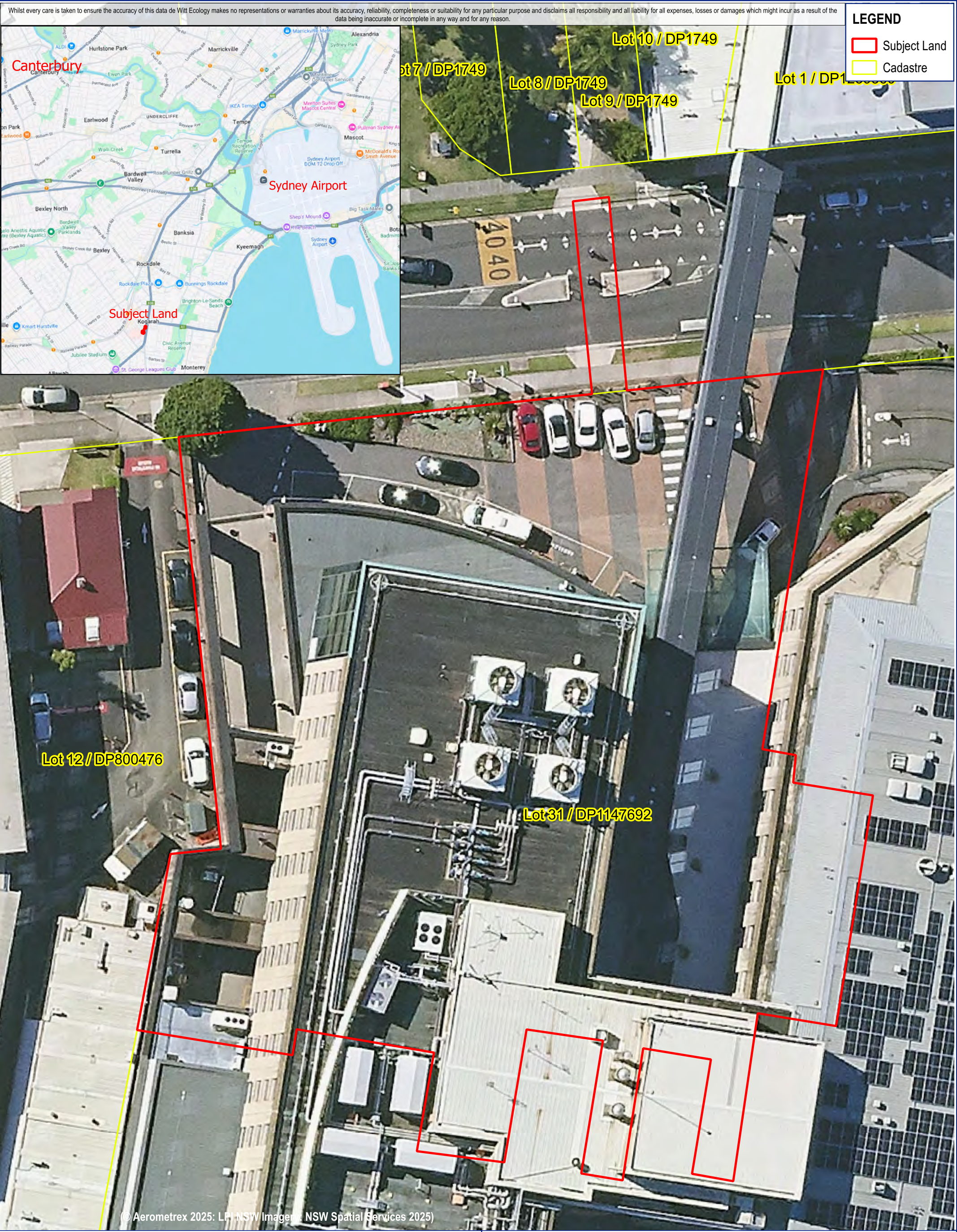
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ISSUE: 02

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FIGURE 2 SITE MAP

JOB ADDRESS: 1 SOUTH STREET, KOGARAH NSW

CLIENT: AKALAN PROJECTS PTY LTD

A3 SCALE: 1:300 **DRAWN:** BH **JOB REF:** EC358

PLAN DATE: 26/08/2025 **CHECKED:** AB **ISSUE:** 02

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LEGEND

- Subject Land
- Vegetation Mapping
- Managed Native Vegetation
- Managed Native and Exotic Vegetation
- Infrastructure



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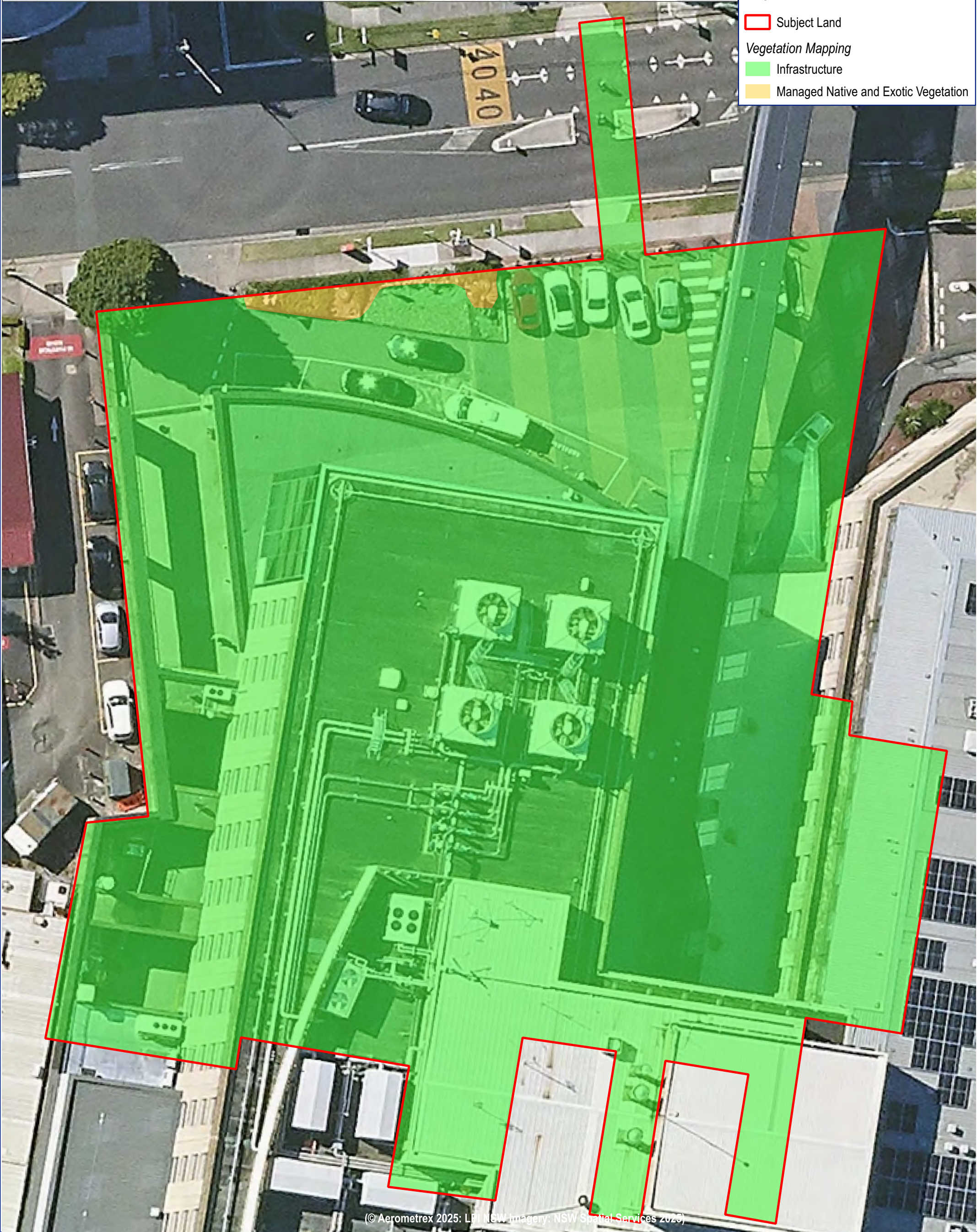
FIGURE 3 ECOLOGICAL VALUES			
JOB ADDRESS:	119 - 129 PRINCES HIGHWAY, KOGARAH NSW		
CLIENT:	AKALAN PROJECTS PTY LTD		
A3 SCALE:	1:250	DRAWN:	BH
PLAN DATE:	24/07/2025	CHECKED:	AB
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LEGEND

- Subject Land
- Vegetation Mapping
- Infrastructure
- Managed Native and Exotic Vegetation



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FIGURE 4 ECOLOGICAL VALUES

JOB ADDRESS:	1 SOUTH STREET, KOGARAH NSW		
CLIENT:	AKALAN PROJECTS PTY LTD		
A3 SCALE:	1:250	DRAWN:	BH
PLAN DATE:	26/08/2025	CHECKED:	AB
		JOB REF:	EC358
		ISSUE:	02

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3. METHODOLOGY

3.1. DESKTOP ASSESSMENT

Initial desktop investigations were conducted using the NSW Wildlife Atlas data search tool and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters search tool to identify threatened flora, fauna and ecological communities with the potential to occur within a 10 km buffer of the Subject Land.

A preliminary Likelihood of Occurrence (LoO) assessment was prepared for species identified through these database searches and was updated following field survey validation (i.e. habitat assessments). The field validated LoO assessment identifies species with a 'moderate or greater likelihood of occurring' (Appendix 1 and 2).

A threatened species Test of Significance (as required under Section 7.3 of the BC Act) and/or an EPBC Act Assessment of Significance was prepared for species identified as requiring further assessment. Initially there was one threatened species considered to have a 'moderate or greater likelihood of occurrence' within the Subject Land, the site assessment revealed suitable habitat was generally absent from the Subject Land, excluding these species from further assessment.

Field survey data, site plan and landscape concept plans were reviewed in combination with aerial imagery to analyse the extent of potential native vegetation cover.

For the study area located at 1 South Street, Kogarah (Figure 4), this assessment is based solely on desktop analysis using client-provided imagery (Aerometrex; see Appendix 3 – Plate 9), MetroMap aerial imagery, and Google Street View.

3.2. FIELD SURVEYS

A Site inspection was carried out by de Witt Ecologist, Bayley Holborow on 15th April 2025 with the purpose of identifying if any of the trees proposed for removal contained hollows or any other significant habitat features e.g. nests. Existing dwellings and infrastructure were assessed to determine the presence of suitable habitat for microbat species (i.e. openings to roof cavities). Mid-storey and groundcover vegetation was also assessed during the field survey to determine any ecological values of these areas. Site inspections also focused on the potential incidence of threatened flora, fauna and/or ecological communities listed under the BC Act and EPBC Act. Opportunistic sightings and secondary indications of fauna were also recorded.

4. RESULTS

4.1. DESKTOP ASSESSMENT

Desktop assessments identified 115 fauna species, and 38 flora species listed as threatened or migratory under the BC Act and/or EPBC Act as occurring or potentially occurring within the locality. A full list of these species with their likelihood of occurrence is listed in Appendix 1 and 2.

The desktop LoO assessment identified one species with a moderate or greater likelihood of occurrence with the Study Area. Albeit the site assessment found that suitable habitat for these species was generally absent from the Study Area. Therefore, no further assessment under the BC Act (as per Section 7.3 of the BC Act) was required. Species with a moderate or greater likelihood of occurrence, along with justification for excluding these species for further assessment is outlined in Table 2.

Table 2: Threatened species with a moderate or higher likelihood of occurrence

Scientific Name	BC Act	EPBC Act	Justification
<i>Pteropus poliocephalus</i> (Grey-headed Flying-fox)	V	V	The Grey-headed Flying-fox is a canopy-feeding frugivore and nectarivore of rainforests, open forests, woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km. 859 records of the species occur within the locality, with the closest being 50 m to the south of the Subject Land. Although records occur within the locality, the site assessment indicated the Subject Land was within a highly modified landscape, with limited suitable habitat.

Desktop analysis of the Study Area located at 1 South Street, Kogarah indicated limited biodiversity values, with the SGPH building and adjacent managed native and exotic vegetation to be impacted experiencing high amounts of both pedestrian and vehicular activity. The exotic vegetation to be impacted is suspected to include a small individual Cycad spp. and a small area of *Trachelospermum asiaticum* (Asiatic Star Jasmine). This area is suspected to represent poor quality habitat for threatened flora and fauna species identified to occur within the locality. Due to the current functional nature of the building on site, coupled with the high amount of human activity, it is suspected that microbat habitat would be minimal.

4.2. FIELD SURVEYS

The site assessment determined the Subject Land was comprised of managed native and exotic vegetation with one building and parking infrastructure (Figure 3). The vegetation observed throughout the Study Area did not appear to offer any significant habitat features (i.e. hollows), use by native fauna would likely be restricted to foraging habitat. Although native flora species were present, vegetation observed throughout the Study Area appeared to be either landscape or irregular residential ornamental plantings, with no intact remnant native vegetation observed within the Study Area (Appendix 3)

One existing building towards the southern extent of the Study Area was assessed to determine if it provided suitable habitat for threatened microbat species. These dwellings did not appear to contain suitable roosting habitat for microbat species (i.e. no obvious openings into roof cavities) (Appendix 3) and appeared to be in use. No stick nests or other habitat features were observed within the study area.

5. IMPACTS ON BIODIVERSITY VALUES

Impacts on biodiversity values are addressed in the following section of this Report, as detailed in Table 6 below.

Table 6: Impacts on biodiversity values from the proposed disturbances

Biodiversity Value	Meaning	Relevance	Section addressed
Vegetation abundance	Occurrence and abundance of vegetation at a particular site	N/A	5.1
Vegetation integrity	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state	N/A	5.2
Habitat suitability	Degree to which the habitat needs of threatened species are present at a particular site	N/A	5.3
Threatened species abundance	Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site	N/A	5.3
Habitat connectivity	Degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range	N/A	5.4
Threatened species movement	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	N/A	5.4
Flight path integrity	Degree to which the flight paths of protected animals over a particular site are free from interference	N/A	5.5
Water sustainability	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.	N/A	5.6

5.1. OCCURRENCE AND ABUNDANCE OF VEGETATION WITHIN THE STUDY AREA

This section relates to Section 1.4(b) of the BC Regs 2017.

The Subject Land lies within a heavily disturbed landscape and is comprised of managed native and exotic vegetation (Figure 3, Figure 4 – Appendix 3). Vegetation appears to consist of planted native and exotic vegetation, including Swamp Sheoak (*Casuarina glauca*), Sydney Blue Gum (*Eucalyptus saligna*), *Eucalyptus saligna* x *botryoides*, Weeping Bottlebrush (*Callistemon viminalis*) and Common Box (*Buxus sempervirens*), and does not feature a ground storey. Impact on vegetation is limited to a narrow strip bordering the northern, eastern and western extents of the Subject Land, with the site largely consisting of man-made infrastructure including one building and a carpark. There was no intact remnant native vegetation observed within the Study Area.

Field surveys did not detect any TECs within and adjacent to the Subject Land.

The Subject Land is in a highly fragmented landscape, which was been heavily influenced by man-made disturbances. Both native and exotic vegetation within the Subject Land is likely to have been planted and appears to be clearly managed. As such, the likelihood of impacts on native flora and fauna as a result of the proposal are considered to be negligible.

5.2. VEGETATION INTEGRITY

This section relates to Section 1.5(2)(a) of the BC Act.

The composition, structure, and function of vegetation within the Subject Land and adjacent areas has been subject to a history of disturbance and urbanisation, greatly altering it from a natural state (Appendix 3, Plates 1 – 4, Plate 6).

The Subject Land has been subject to land degradation including, but not limited to:

- Land clearing and fragmentation consistent with high density populated urban centre; and

- Surface water flow obstruction and alteration.

Managed Native and Exotic Vegetation		
PCT (DPE 2024)	Native & Exotic Vegetation	
PCT ID	N/A	
Condition	Poor	
Structure	The tree canopy of vegetation frequently includes planted <i>Casuarina glauca</i> (Swamp Sheoak) individuals, with several immature individuals growing alongside. Infrequent eucalypts include <i>Eucalyptus saligna</i> (Sydney Blue Gum) and <i>Eucalyptus saligna x botryoides</i> . There is a noticeably low species diversity across the site, with a largely absent groundcover.	
Over storey	Planted native species dominate the overstorey, however these are limited to a small number of species including <i>Casuarina glauca</i> (Swamp Sheoak), <i>Eucalyptus saligna</i> (Sydney Blue Gum) and <i>Eucalyptus saligna x botryoides</i> .	
Mid storey	Planted native and exotic vegetation dominate the mid storey. These species include <i>Buxus sempervirens</i> (Common Box), <i>Callistemon viminalis</i> (Weeping Bottlebrush) and hedged <i>Casuarina glauca</i> (Swamp Sheoak).	
Groundcover	The groundcover was largely absent from the entirety of the site. Two species were recorded in low densities, including <i>Agapanthus spp.</i> and <i>Dianella caerulea var producta</i> .	

As a result, the vegetation within the Subject Land now exists as managed native and exotic vegetation lacking any form of a substantial ground layer. Overall, the vegetation integrity is considered to be low.

5.3. HABITAT SUITABILITY AND THREATENED SPECIES ABUNDANCE

This section relates to Section 1.5(2)(b) of the BC Act and Section 1.4(a) of the BC Regs respectively.

The field surveys did not detect any threatened flora or fauna within the Subject Land. A habitat assessment of the Subject Land outlined the general absence of suitable vegetation types and structural attributes required to harbour threatened flora and fauna.

Existing dwellings and infrastructure were assessed for suitable microbat habitat. There were no suitable habitat characteristics observed in association with existing dwellings and infrastructure.

Due to the disturbed nature of the Subject Land, the habitat available is considered to offer only low habitat value for flora and fauna.

The Subject Land is void of karsts, cliffs, rocks, and other geological features of significance. As such, there are no anticipated potential impacts on these habitat features.

Impacts of the proposal will be limited to:

- Clearance of native and non-native vegetation,
- Demolition of one existing structure;
- Minor land disturbance during construction; and
- Minor dust emissions during construction.

Project impacts are unlikely to lead to a significant impact on any threatened entity, and therefore entry into the Biodiversity Offsets Scheme (BOS) or a BDAR are not anticipated to be required.

5.4. HABITAT CONNECTIVITY AND THREATENED SPECIES MOVEMENT

This section relates to Section 1.4(c) of the BC Regs.

- The footprint for the proposal lies within a heavily disturbed and predominantly cleared urban area where much of the surrounding area has been subject to urban land practices.
- Vegetation within the Subject Land is separated from nearby vegetation and ecological communities, and offer marginal habitat connectivity through the landscape. Trees on site would be potentially used by highly-mobile threatened species only, and those that do not rely on habitat connectivity to traverse the landscape.

Due to the disturbed nature of the Subject Land and lack of significant connective vegetation through the surrounding landscape, the proposal is not considered to contribute to a loss of habitat connectivity of remnant vegetation or communities or fragment the movement of threatened species across their range.

5.5. FAUNA FLIGHT PATH INTEGRITY

This section relates to Section 1.4(e) of the BC Regs 2017.

Protected species flight paths are not likely to be impacted by the proposal.

Mature planted trees occur within the wider region, and fauna generally travel and migrate through existing connected vegetation of higher potential foraging and roosting habitat value, also minimising predation pressures. The proposed tree removal will occur within an already fragmented and disturbed area. The proposal is not expected to present a significant barrier to the movement of native fauna or impact potential flight path integrity.

Although impacts upon fauna flight path integrity are not anticipated, the following controls should be implemented:

- Construction and tree clearance works to occur during daylight hours to minimise noise disturbance; and
- Dust suppression and sediment transport should be managed appropriately throughout construction duration.

5.6. WATER SUSTAINABILITY

This section relates to Section 1.4(f) of the BC Regs.

Access and movement of natural water will not be altered significantly by the proposal more than what is currently occurring within a disturbed urban setting.

The proposal is not expected to cause significant alteration to existing natural water bodies or hydrological processes that sustain threatened species or TECs.

6. CONCLUSION

The site assessment determined vegetation within the Subject Land was comprised of managed native and exotic vegetation, with minimal ecological value. There was no intact remnant native vegetation observed throughout the Study Area. There was no significant habitat features observed within vegetation to be impacted.

Existing dwellings and infrastructure did not appear to provide habitat for threatened fauna.

The Subject Land is located within a highly disturbed and modified urban environment, with historic vegetation fragmentation. As such, the clearing of managed native and exotic vegetation associated with the proposal construction is not considered likely to contribute to a loss of habitat connectivity of remnant vegetation or communities or interrupt the movement of threatened species across their range.

The infrastructure proposed by the development is not expected to present a barrier to the movement of native fauna or impact potential flight path integrity.

The Subject Land is void of karsts, cliffs, rocks and other geological features of significance. As such, there are no anticipated impacts on these potential habitat features.

Based on the scope of works proposed and its classification as SSD, we believe that this BDAR Waiver provides a fit-for-purpose assessment of potential biodiversity impacts and is worthy of favourable consideration.

7. REFERENCES

DPE. (n.d.). *BioNet Atlas of NSW Wildlife*. Department of Planning and Environment, NSW. Retrieved April 14, 2025, from http://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS/AtlasSearch.aspx

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APPENDICES

APPENDIX 1 – FLORA

The following table includes a list of the threatened flora species that have potential to occur within the Study Area. The list of species is sourced from the NSW BioNet Wildlife Atlas and the Protected Matters Search Tool (DCCEEW; accessed April 2025).

Examples of criteria for determining the likelihood of occurrence for threatened biota as a guide for writing the rationale for likelihood have been listed below.

Likelihood of occurrence	Potential criteria
High	- Species/ecological communities recorded in Study Area during current or previous assessment/s. - Aquatic species recorded from connected waterbodies in close proximity to the Study Area during current or previous assessment/s. - Sufficient good quality habitat is present in Study Area or in connected waterbodies in close proximity to the Study Area (aquatic species). - Study Area is within species natural distributional range (if known). - Species has been recorded within 10 kilometres or from the relevant catchment/basin.
Moderate	- Records of terrestrial biota within 10 kilometres of the Study Area or of aquatic species in the relevant basin/neighbouring basin. - Habitat limited in its capacity to support the species due to extent, quality, or isolation.
Low	- No records within 10 kilometres of the Study Area or for aquatic species, the relevant basin/neighbouring basin. - Marginal habitat present (low quality & extent). - Substantial loss of habitat since any previous record(s).
Negligible	- Habitat not present in Study Area. - Habitat for aquatic species not present in connected waterbodies in close proximity to the Study Area. - Habitat present but sufficient targeted survey has been conducted at an optimal time of year and species wasn't recorded.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Acacia bynoeana</i> (Bynoe's Wattle)	E	V	Grows mainly in heath and dry sclerophyll forest in sandy soils. Mainly south of Dora Creek-Morisset area to Berrima and the Illawarra region, west to the Blue Mountains, also recorded from near Kurri Kurri in the Hunter Valley and from Morton National Park.	2	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Acacia prominens</i> (Gosford Wattle, Hurstville and Kogarah Local Government Areas)	EP	-	Occurs at a few sites along the railway line at Penshurst, at Carss Bush Park, Carss Park and there is an unconfirmed siting at Oatley Park, Oatley. Grows in open situations on clayey or sandy soils.	5	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Acacia pubescens</i>	V	V	Concentrated around the Bankstown-Fairfield-Rookwood area and the Pitt Town area, with outliers occurring at Barden Ridge, Oakdale and Mountain Lagoon. Occurs on alluviums, shales and at the intergrade between shales and sandstones. The soils are characteristically gravelly soils, often with ironstone. Grows in open woodland and forest, in a variety of plant communities, including Cooks River-Castlereagh Ironbark forest, Shale-Gravel Transition forest and Cumberland Plain woodland.	4	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Acacia terminalis subsp. Eastern Sydney</i> (Sunshine Wattle)	E	E	Very limited distribution, mainly in near-coastal areas from the northern shores of Sydney Harbour S to Botany Bay, with most records from the Port Jackson area and the eastern suburbs of Sydney. Coastal scrub and dry sclerophyll woodland on sandy soils. Habitat is generally sparse and scattered.	9	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Allocasuarina glareicola</i>	E	E	Primarily restricted to the Richmond (NW Cumberland Plain) district, but with an outlier population found at Voyager Point, Liverpool.	0	Low. Although there are records within the locality, the site is heavily disturbed	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			Grows in Castlereagh woodland on lateritic soil. Found in open woodland with Eucalyptus parramattensis, Eucalyptus fibrosa, Angophora bakeri, Eucalyptus sclerophylla and Melaleuca decora. Common associated understorey species include Melaleuca nodosa, Hakea dactyloides, Hakea sericea, Dillwynia tenuifolia, Micromyrtus minutiflora, Acacia elongata, Acacia brownei, Themeda australis and Xanthorrhoea minor.		and provides only marginal potential habitat for this species.	
<i>Caladenia tessellata</i> (Thick-lip Spider Orchid)	E	V	The Tessellated Spider Orchid is found in grassy sclerophyll woodland on clay loam or sandy soils, though the population near Braidwood is in low woodland with stony soil. Known from the Sydney area (old records), Wyong, Ulladulla and Braidwood in NSW. Populations in Kiama and Queanbeyan are presumed extinct.	2	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Calochilus pulchellus</i> (Pretty Beard Orchid)	E	-	The species has a cryptic nature, with a single leaf present above ground for only a few months and a flowering stem that lasts for a few days or a week. The habitat of the species varies considerably. At Vincentia the species grows in dense low wet heath in wet sand over sandstone. In Booderee National Park it grows in a tall heathy association. In Morton National Park on the Little forest Plateau it occurs in low heath among scattered clumps of emergent eucalypts and Banksia in shallow coarse white sand over sandstone, in a near-escarpment area subject to strong orographic precipitation.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Cryptostylis hunteriana</i> (Leafless Tongue-orchid)	V	V	Does not appear to have well defined habitat preferences and is known from a range of communities, including swamp-heath and woodland. The larger populations typically occur in	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			woodland dominated by Scribbly Gum (<i>Eucalyptus sclerophylla</i>), Silvertop Ash (<i>E. sieberi</i>), Red Bloodwood (<i>Corymbia gummifera</i>) and Black Sheoak (<i>Allocasuarina littoralis</i>); appears to prefer open areas in the understorey of this community and is often found in association with the Large Tongue Orchid (<i>C. subulata</i>) and the Tartan Tongue Orchid (<i>C. erecta</i>).			
<i>Cynanchum elegans</i> (White-flowered Wax Plant)	E	E	On the edge of dry rainforest gullies scrub and scree slopes from the Gloucester district to the Wollongong area and inland to Mt Dangar. Has been recorded as far west as Merriwa in the upper Hunter River valley.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Darwinia biflora</i>	V	V	Recorded in Ku-ring-gai, Hornsby, Baulkham Hills and Ryde local government areas. The northern, southern, eastern and western limits of the range are at Maroota, North Ryde, Cowan and Kellyville, respectively. Occurs on the edges of weathered shale-capped ridges, where these intergrade with Hawkesbury Sandstone. The vegetation structure is usually woodland, open forest or scrub-heath.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Deyeuxia appressa</i>	E	E	A highly restricted NSW endemic known only from two pre-1942 records in the Sydney area (Herne Bay, Saltpan Creek, off the Georges River, south of Bankstown and Killara, near Hornsby). Almost nothing is known about the species' habitat and ecology. Flowers spring to summer and is mesophytic (grows in moist conditions).	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Eucalyptus camfieldii</i>	V	V	Restricted distribution in a narrow band with the most northerly records in the Raymond Terrace Area south to Waterfall. Localised and scattered distribution includes sites at Norah Head	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			(Tuggerah Lakes), Peats Ridge, Mt Colah, Elvina Bay Trail (West Head), Terrey Hills, Killara, North Head, Menai, Wattamolla and a few other sites in Royal National Park. Poor coastal country in shallow sandy soils overlying Hawkesbury sandstone. Coastal heath mostly on exposed sandy ridges. Occurs mostly in small scattered stands near the boundary of tall coastal heaths and low open woodland of the slightly more fertile inland areas.			
<i>Eucalyptus leucoxylon</i> <i>subsp. pruinosa</i> (Boland Yellow Gum)	V	-	Restricted to several small areas between Barham and Euston. In New South Wales, occurs at the bases of sandy rises and on loamy clay flats on the floodplains of the Murray River and its tributaries in the Riverina Bioregion.	1	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Eucalyptus scoparia</i> (Wallangarra White Gum)	E	V	In NSW it is known from only three locations near Tenterfield. Found in open eucalypt forest and woodland on well-drained granite hilltops, slopes and rocky outcrops, typically at high altitudes. At lower elevations can occur in less rocky soils in damp situations.	1	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Genoplesium baueri</i> (Bauer's Midge Orchid)	E	E	Grows in dry sclerophyll forest and moss gardens over sandstone. Flowers February to March. Has been recorded between Ulladulla and Port Stephens. Currently the species is known from just over 200 plants across 13 sites. The species has been recorded in Berowra Valley Regional Park, Royal National Park and Lane Cove National Park and may also occur in the Woronora, O'Hares, Metropolitan and Warragamba Catchments.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Grevillea parviflora</i> <i>subsp. parviflora</i> (Small-flowered Grevillea)	V	V	Grows in sandy or light clay soils usually over thin shales. Occurs in a range of vegetation types from heath and shrubby woodland to open forest. Found over a range of altitudes from flat, low-lying areas to upper slopes and ridge crests. Often occurs in open, slightly disturbed sites such as along tracks.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Leucopogon exolasius</i> (Woronora Beard-heath)	V	V	Grows in woodland on sandstone. Restricted to the Woronora and Grose Rivers and Stokes Creek, Royal National Park.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Maundia triglochinoides</i>	V	-	Grows in swamps, creeks or shallow freshwater 30 - 60 cm deep on heavy clay, low nutrients. Flowering occurs during warmer months. Diaspore is the seed and root tubers, which are probably dispersed by water.	5	Negligible. Although there are records within the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Melaleuca biconvexa</i> (Biconvex Paperbark)	V	V	Grows in damp places, often near streams or low-lying areas on alluvial soils of low slopes or sheltered aspects. Scattered and dispersed populations found in the Jervis Bay area in the south and the Gosford-Wyong area in the north.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Melaleuca deanei</i> (Deane's Paperbark)	V	V	Grows in wet heath on sandstone in coastal districts from Berowra to Nowra.	7	Negligible. Although there are records within the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Persicaria elatior</i>	V	V	This species normally grows in damp places, especially beside streams and lakes. Occasionally in swamp forest or associated with disturbance.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Persoonia hirsuta</i> (Hairy Geebung)	E	E	Distributed from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west. A large area of occurrence, but occurs in small populations, increasing the species's fragmentation in the landscape. Found in sandy soils in dry sclerophyll open forest,	2	Negligible. Although there are records within the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			woodland and heath on sandstone. Usually present as isolated individuals or very small populations. Probably killed by fire (as other <i>Persoonia</i> spp. are) but will regenerate from seed.			
<i>Persoonia nutans</i> (Nodding Geebung)	E	E	Confined to aeolian and alluvial sediments and occurs in a range of sclerophyll forest and woodland vegetation communities, with the majority of individuals occurring within Agnes Banks woodland or Castlereagh Scribbly Gum woodland. Restricted to the Cumberland Plain in western Sydney, between Richmond in the north and Macquarie Fields in the south.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pimelea curviflora</i> var. <i>curviflora</i>	V	V	Confined to the coastal area of Sydney between northern Sydney in the south and Maroota in the north-west. Former range extended south to the Parramatta River and Port Jackson region including Five Dock, Bellevue Hill and Manly. Occurs on shaley-lateritic soils over sandstone and shale-sandstone transition soils on ridgetops and upper slopes amongst woodlands.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pimelea spicata</i> (Spiked Rice-flower)	E	E	Once widespread on the Cumberland Plain, the Spiked Rice-flower occurs in two disjunct areas; the Cumberland Plain (Narellan, Marayong, Prospect Reservoir areas) and the Illawarra (Landsdowne to Shellharbour to northern Kiama). In both the Cumberland Plain and Illawarra environments this species is found on well-structured clay soils. On the inland Cumberland Plain sites it is associated with grey box and Ironbark. In the coastal Illawarra it occurs commonly in Coast Banksia open woodland with a better developed shrub and grass understorey.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Pomaderris brunnea</i> (Brown Pomaderris)	V	V	The species is expected to live for 10 - 20 years, while the minimum time to produce seed is estimated to be 4 - 6 years. Found in a very limited area around the Colo, Nepean and Hawkesbury Rivers, including the Bargo area. It also occurs at Walcha on the New England Tableland and in far eastern Gippsland in Victoria.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Prostanthera densa</i>	V	V	Villous Mintbush is generally grows in sclerophyll forest and shrubland on coastal headlands and near coastal ranges, chiefly on sandstone, and rocky slopes near the sea.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pterostylis saxicola</i> (Sydney Plains Greenhood)	E	E	Restricted to western Sydney between Freemans Reach in the north and Picton in the south. Most commonly found growing in small pockets of shallow soil in depressions on sandstone rock shelves above cliff lines. The vegetation communities above the shelves where <i>Pterostylis saxicola</i> occurs are sclerophyll forest or woodland on shale-sandstone transition soils or shale soils.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pterostylis sp. Botany Bay</i> (Botany Bay Bearded Orchid)	E	E	Restricted to the Sydney region where it is known from a small number of sites within Botany Bay National Park. The species was first collected at Maroubra in 1908, although it has not been recorded at Maroubra since that time. Occupies moist level sites on skeletal sandy soils derived from sandstone. Associated vegetation is coastal heath and occurs in small localised populations, usually in areas within the heath where the canopy allows filtered light to reach the ground.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pultenaea aristata</i>	V	V	Grows in moist, dry sclerophyll woodland to heath on sandstone, specifically the drier areas of Upland Swamps. Restricted to the Woronora Plateau, a	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			small area between Helensburgh, south of Sydney, and Mt Keira above Wollongong.			
<i>Rhizanthella slateri</i> (Eastern Underground Orchid)	V, EP (Great Lakes)	E	Restricted to NSW. It is currently known only from 10 locations, including near Bulahdelah, the Watagan Mountains, the Blue Mountains, Wiseman's Ferry area, Agnes Banks and near Nowra. The population in the Great Lakes area occurs at the known northern limit of the species' range and is disjunct from other known populations of the species. The species grows in eucalypt forest but no informative assessment of the likely preferred habitat for the species is available. It is usually located when the soil is disturbed, and there may well be more locations of the species within its known range.	0	Low. The site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Rhodamnia rubescens</i> (Scrub Turpentine)	CE	-	Found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest usually on volcanic and sedimentary soils. This species is characterised as highly to extremely susceptible to infection by Myrtle Rust. Myrtle Rust affects all plant parts.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Rhodomyrtus psidioides</i> (Native Guava)	CE	-	Pioneer species found in littoral, warm temperate and subtropical rainforest and wet sclerophyll forest often near creeks and drainage lines. This species is characterised being extremely susceptible to infection by Myrtle Rust. Myrtle Rust affects all plant parts.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Senecio spathulatus</i> (Coast Groundsel)	E	-	Coast Groundsel occurs in Nadgee Nature Reserve (Cape Howe) and between Kurnell in Sydney and Myall Lakes National Park (with a possible occurrence at Cudmirrah). In Victoria there are scattered populations from Wilsons	2	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			Promontory to the NSW border. Coast Groundsel grows on primary dunes.			
<i>Syzygium paniculatum</i> (Magenta Lilly Pilly)	E	V	Found only in NSW, in a narrow, linear coastal strip from Bulahdelah to Conjola State forest. On the south coast the species occurs on grey soils over sandstone, restricted mainly to remnant stands of littoral rainforest. On the central coast it occurs on gravels, sands, silts and clays in riverside gallery rainforests and remnant littoral rainforest communities	91	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Tetratheca juncea</i> (Black-eyed Susan)	V	V	Confined to the northern portion of the Sydney Basin bioregion and the southern portion of the North Coast bioregion in the local government areas of Wyong, Lake Macquarie, Newcastle, Port Stephens, Great Lakes and Cessnock. It is usually found in low open forest-woodland with a mixed shrub understorey and grassy groundcover. The majority of populations occur on low nutrient soils associated with the Awaba Soil Landscape. Cryptic species that requires survey in September-October.	10	Low. Although there are records within the locality, the site is heavily disturbed and provides only marginal potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thelymitra kangaloonica</i> (Kangaloon Sun Orchid)	CE	CE	Thelymitra sp. Kangaloon is only known to occur on the southern tablelands of NSW in the Moss Vale - Kangaloon - Fitzroy Falls area at 550-700 m above sea level. It is known to occur at three swamps that are above the Kangaloon Aquifer. It is found in swamps in sedgelands over grey silty grey loam soils	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. Outside the species known altitude range.	Nil. Not recorded during the current field survey.
<i>Thesium australe</i> (Austral Toadflax)	V	V	Grows in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. It is also found in Tasmania and Queensland and in eastern Asia.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description	Records (Last 20 years)	Likelihood of occurrence in Study Area	Impact Assessment
			Occurs in grassland or grassy woodland. Grows on kangaroo grass tussocks but has also been recorded within the exotic coolatai grass.			

APPENDIX 2 – FAUNA

Appendix 2.1 Fauna species recorded from the Study Area

Below is a list of fauna species recorded from the Study Area during the present assessment and a list of threatened fauna species recorded or predicted to occur within 10 kilometres of the Study Area.

Notes to tables:

Status – EPBC Act: CE – Critically Endangered EN – Endangered VU – Vulnerable	Status – BC Act: E1 – endangered species (Part 1, Schedule 1) E2 – endangered population (Part 2, Schedule 1) E4 – presumed extinct (Part 4, Schedule 1) E4A – critically endangered V – vulnerable (Part 1, Schedule 2)
Status – FM Act: C1 – critically endangered E1 – endangered E2 – endangered E4 – presumed extinct V1 – vulnerable	Status – Non-indigenous species * pest species not native to the area

Table: Vertebrate fauna recorded from the Study Area (current assessment)

Scientific name	Common name	Comm. status	NSW status
<i>Manorina melanocephala</i>	Noisy Miner	-	-

Appendix 2.2 Threatened fauna species likelihood

The following table includes a list of the significant fauna species that have potential to occur within the Study Area. The list of species is sourced from the NSW BioNet Wildlife Atlas and the Protected Matters Search Tool (DCCEEW; accessed April 2025).

Likelihood of occurrence	Potential criteria
High	- Species recorded in Study Area during current or previous assessment/s. - Aquatic species recorded from connected waterbodies in close proximity to the Study Area during current or previous assessment/s. - Sufficient good quality habitat is present in Study Area or in connected waterbodies in close proximity to the Study Area (aquatic species). - Study Area is within species natural distributional range (if known). - Species has been recorded within 10 kilometres or from the relevant catchment/basin.
Moderate	- Records of terrestrial species within 10 kilometres of the Study Area or of aquatic species in the relevant basin/neighbouring basin. - Habitat limited in its capacity to support the species due to extent, quality, or isolation.
Low	- No records within 10 kilometres of the Study Area or for aquatic species, the relevant basin/neighbouring basin. - Marginal habitat present (low quality & extent). - Substantial loss of habitat since any previous record(s).
Negligible	- Habitat not present in Study Area - Habitat for aquatic species not present in connected waterbodies in close proximity to the Study Area. - Habitat present but sufficient targeted survey has been conducted at an optimal time of year and species wasn't recorded.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
Frogs						
<i>Crinia tinnula</i> (Wallum Froglet)	V	-	Wallum Froglets are found in acid paperbark swamps and sedge swamps of the coastal 'wallum' country. Their tadpoles are adapted to acid conditions and may be outcompeted by the Common Froglet. Males call from the base of vegetation in and around the breeding site and are almost impossible to locate. Calling occurs from Autumn to Spring, being most strongly associated with flooding following rainfall. Its range extends from SE QLD to the Kurnell Peninsular of Sydney.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Heleioporus australiacus</i> (Giant Burrowing Frog)	V	V	The Giant Burrowing Frog has been recorded breeding in a range of water bodies associated with more sandy environments of the coast and adjacent ranges from the Sydney Basin south the eastern Victoria. It breeds in hanging swamps, perennial non-flooding creeks and occasionally permanent pools, but permanent water must be present to allow its large tadpoles time to reach metamorphosis.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Litoria aurea</i> (Green and Golden Bell Frog)	E	V	Inhabits a very wide range of water bodies including marshes, dams and streams, particularly those containing emergent vegetation such as bullrushes or spikerushes. It also inhabits numerous types of man-made water bodies including quarries and sand extraction sites. Optimum habitat includes water-bodies that are un-shaded, free of predatory fish such as Plague Minnow, have a grassy area nearby and diurnal sheltering sites available.	1351	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Mixophyes balbus</i> (Stuttering Frog)	E	V	Associated with streams in dry sclerophyll and wet sclerophyll forests and rainforests of more upland areas of the Great Dividing Range of NSW and down into Victoria. Breeding occurs along forest streams with permanent water where eggs are deposited within nests excavated in riffle zones by the females and the tadpoles swim free into the stream when large enough to do so. Outside of breeding, individuals range widely across the forest floor and can be found hundreds of metres from water	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
Birds						
<i>Anseranas semipalmata</i> (Magpie Goose)	V	-	Mainly found in shallow wetlands less than 1 m deep, with a dense growth of rushes or sedges. The Magpie Goose is still relatively common in the Australian northern tropics, but had disappeared from south-east Australia by 1920 due to drainage and overgrazing of reed swamps used for breeding. Since the 1980s	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			there have been an increasing number of records in central and northern NSW. Vagrants can follow food sources to south-eastern NSW.			
<i>Anthochaera phrygia</i> (Regent Honeyeater)	CE	E,M	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. Birds are also found in drier coastal woodlands and forests in some years. The distribution of the species has contracted dramatically in the last 30 years to between north-eastern Victoria and south-eastern Queensland. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. In some years flocks converge on flowering coastal woodlands and forests.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Aphelocephala leucopsis</i> (Southern whiteface)	V	V	Southern whiteface occur across most of mainland Australia south of the tropics, from the north- eastern edge of the Western Australian wheatbelt, east to the Great Dividing Range. Southern whitefaces live in a wide range of open woodlands and shrublands where there is an understorey of grasses or shrubs, or both. These areas are usually in habitats dominated by acacias or eucalypts on ranges, foothills and lowlands, and plains.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Ardenna carneipes</i> (Flesh-footed Shearwater)	V	-	The Flesh-footed Shearwater mainly occurs in the subtropics over continental shelves and slopes and occasionally inshore waters	1	Negligible. Although records occur in the locality, the site is heavily disturbed and	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
					doesn't provide potential habitat for this species.	
<i>Ardenna grisea</i> (Sooty Shearwater)	-	MAR, MIG, V	The Sooty Shearwater is a large, robust sea bird, with a wingspan up to 105 cm and a weight of up to 1 kg. The head, upper body, upper wing and tail of the Sooty Shearwater are uniformly dark brown-grey. It often appears all dark at sea, except for the under-wing. The species' iris is dark brown, as are the legs and feet (sometimes black). There is some level of seasonal variation in colouring; however, there is no difference in colouration between the sexes	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Arenaria interpres</i> (Ruddy Turnstone)	-	V	The Ruddy Turnstone is widespread within Australia during its non-breeding period of the year, including from Tasmania in the south to Darwin in the north and many coastal areas in between. It is found in most coastal regions, with occasional records of inland populations. It strongly prefers rocky shores or beaches where there are large deposits of rotting seaweed. The Ruddy Turnstone's non-breeding distribution is almost cosmopolitan. It is common throughout Australasia and widespread within Australia. It is found in most coastal regions, with occasional records of inland populations	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Artamus cyanopterus cyanopterus</i> (Dusky Woodswallow)	V	-	The Dusky Woodswallow is widespread in eastern, southern and southwestern Australia. In New South Wales it is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. The Dusky Woodswallow	19	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			is often reported in woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very occasionally in moist forests or rainforests. At sites where Dusky Woodswallows are recorded the understorey is typically open with sparse eucalypt saplings, acacias and other shrubs, including heath. The ground cover may consist of grasses, sedges or open ground, often with coarse woody debris (Higgins and Peter 2002). Birds are also often observed in farm land, usually at the edges of forest or woodland or in roadside remnants or wind breaks with dead timber.			
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	E	E	The Australasian Bitterns is widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spikerushes.	6	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Burhinus grallarius</i> (Bush Stone-curlew)	E	-	The Bush Stone-curlew is found throughout Australia except for the central southern coast and inland, the far south-east corner, and Tasmania. Only in northern Australia is it still common however and in the south-east it is either rare or extinct throughout its former range. Inhabits open forests and woodlands with a sparse grassy groundlayer and fallen timber.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			Largely nocturnal, being especially active on moonlit nights.			
<i>Calamanthus fuliginosus</i> (Striated Fieldwren)	E	-	Mainly a bird of ground and understorey vegetation, and can be found in swampy, coastal heathlands, tussocky grasslands, low shrubby vegetation and margins of swamps. heathlands, tussocky grasslands, low shrubby vegetation and margins of swamps. Forages by working through the undergrowth and over the ground, cock-tailed and hopping, feeding on insects and seeds. Often hops to the top of a bush to investigate any disturbance; males sing in territorial advertisement from such vantage points.	3	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Calidris acuminata</i> (Sharp-tailed Sandpiper)	-	V	Freshwater or saltwater wetlands- the muddy edges of lagoons, swamps, lakes, dams, soaks, sewage dams or temporary floodwaters.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Calidris alba</i> (Sanderling)	V	-	Found in coastal areas on low beaches of firm sand, near reefs and inlets, along tidal mudflats and bare open coastal lagoons; individuals are rarely recorded in near-coastal wetlands.	3	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Calidris canutus</i> (Red Knot)	-	V	The Red Knot is common in all the main suitable habitats around the coast of Australia. Very large numbers are regularly recorded in north-west Australia, with 80 Mile Beach and Roebuck Bay being particular strongholds. The only places it is not found in significant numbers are the northern part of the Great Australian Bight in South Australia and Western Australia, and along much of the NSW coast, where wader habitat is rather scarce (excluding the Hunter Estuary). It is widespread along the coast south of Townsville	28	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			and along the coasts of NSW and Victoria. In Australasia the Red Knot mainly inhabit intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs. They are occasionally seen on terrestrial saline wetlands near the coast, such as lakes, lagoons, pools and pans, and recorded on sewage ponds and saltworks, but rarely use freshwater swamps. They rarely use inland lakes or swamps.			
<i>Calidris falcinellus</i> (Broad-billed Sandpiper)	V	-	The eastern form of this species breeds in northern Siberia before migrating southwards in winter to Australia. In Australia, Broad-billed Sandpipers overwinter on the northern coast, particularly in the north-west, with birds located occasionally on the southern coast. In NSW, the main site for the species is the Hunter River estuary, with birds occasionally reaching the Shoalhaven estuary. There are few records for inland NSW.	3	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Calidris ferruginea</i> (Curlew Sandpiper)	E	-	The Curlew Sandpiper is distributed around most of the coastline of Australia. It occurs along the entire coast of NSW, particularly in the Hunter Estuary, and sometimes in freshwater wetlands in the Murray-Darling Basin. It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes the inland	196	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Calidris tenuirostris</i> (Great Knot)	V	V	In NSW, the species has been recorded at scattered sites along the coast to about Narooma. It has also been observed inland at Tullakool, Armidale, Gilgandra and Griffith. Occurs within sheltered, coastal habitats containing large, intertidal mudflats or sandflats, including inlets, bays, harbours, estuaries and lagoons. Often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.	18	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Callocephalon fimbriatum</i> (Gang-gang Cockatoo)	V	-	In summer, occupies tall montane forests and woodlands, particularly in heavily timbered and mature wet sclerophyll forests. Also occur in subalpine snow gum woodland and occasionally in temperate or regenerating forest. In winter, occurs at lower altitudes in drier, more open eucalypt forests and woodlands, particularly in box-ironbark assemblages, or in dry forest in coastal areas. It requires tree hollows in which to breed.	3	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Calyptorhynchus banksii banksii</i> (Red-tailed Black-Cockatoo (coastal subspecies))	CE	-	It is thought the most productive habitats for this subspecies were forests and woodlands of fertile riparian flats and floodplains, which were heavily cleared for agriculture and settlements, with remaining patches severely fragmented, and also degraded by logging. In north-eastern NSW, the subspecies has been reported from dry open forest and mixed rainforest-eucalypt forest.	1	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Calyptorhynchus banksii samueli</i> (Red-tailed Black-Cockatoo (inland subspecies))	V	-	Prefer eucalypt forest and woodlands, particularly river red gum and coolabah lined water courses. In the arid zone usually occur mainly near eucalypts along larger watercourses	2	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			and associated Acacia and Casuarina woodlands nearby. Also utilise grasslands, scrublands, wetlands and vegetation on floodplains.		this species. The species may very infrequently forage or flyover the area.	
<i>Calyptrorhynchus lathamii lathamii</i> (Glossy Black-Cockatoo)	V	V	Inhabits forest with low nutrients, characteristically with key Allocasuarina spp. Tends to prefer drier forest types with a middle stratum of Allocasuarina below Eucalyptus or Angophora. Often confined to remnant patches in hills and gullies. Breed in hollows stumps or limbs, either living or dead. Endangered population in the Riverina.	3	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Certhionyx variegatus</i> (Pied Honeyeater)	V	-	Widespread throughout Acacia, mallee and spinifex scrubs of arid and semi-arid Australia. Occasionally occurs further east, on the slopes and plains and the Hunter Valley, typically during periods of drought. Inhabits mulga shrub, mallee, spinifex and eucalypt woodlands, usually when shrubs are flowering; feeds on nectar, predominantly from various species of emu-bushes; also from mistletoes and various other shrubs; also eats saltbush fruit, berries, seed, flowers and insects.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Charadrius leschenaultii</i> (Greater Sand-plover)	V	-	Occur on sheltered sandy, shelly or muddy beaches with large intertidal mudflats or sandbanks, as well as sandy estuarine lagoons. Non-breeding in Australia.	5	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Charadrius mongolus</i> (Lesser Sand-plover)	V	-	Inhabits large intertidal sandflats or mudflats in sheltered bays, harbours and estuaries, and occasionally sandy ocean beaches, coral reefs, wave-cut rock platforms and rocky outcrops. Non-breeding in Australia.	8	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Circus assimilis</i> (Spotted Harrier)	V	-	The Spotted Harrier occurs throughout the Australian mainland, except in densely forested or wooded habitats of the coast, escarpment and ranges, and rarely in Tasmania. Individuals disperse widely in NSW and comprise a single population. Occurs in grassy open woodland including acacia and mallee remnants, inland riparian woodland, grassland and shrub steppe. It is found most commonly in native grassland, but also occurs in agricultural land, foraging over open habitats including edges of inland wetlands.	3	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Climacteris picumnus victoriae</i> (Brown Treecreeper (eastern subspecies))	V	-	Found in eucalypt woodlands (including box-gum woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species; also found in mallee and river red gum forest bordering wetlands with an open understorey of acacias, saltbush, lignum, cumbungi and grasses; usually not found in woodlands with a dense shrub layer; fallen timber is an important habitat component for foraging; also recorded, though less commonly, in similar woodland habitats on the coastal ranges and plains.	0	Low. The site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Daphoenositta chrysoptera</i> (Varied Sittella)	V	-	Inhabits wide variety of dry eucalypt forests and woodlands, usually with either shrubby understorey or grassy ground cover or both, in all climatic zones of Australia. Usually in areas with rough-barked trees, such as stringybarks or	1	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			ironbarks, but also in paperbarks or mature Eucalypts with hollows.			
<i>Dasyornis brachypterus</i> (Eastern Bristlebird)	E	E	Found in coastal woodlands, dense scrub and heathlands, particularly where it borders taller woodlands. Dist. Is very south-eastern australia, woolongong & Sydney with a small arm extending into Yengo National Park. Another polygon covering Lismore and outskirts of Byron Bay.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Diomedea antipodensis</i> (Antipodean Albatross)	V	V	The species ranges across the southern Pacific Ocean, east to the coast of Chile and west to eastern Australia. The Antipodean Albatross breeds biennially in colonies on ridges, slopes and plateaus of isolated subantarctic islands, usually in vegetation such as grass tussocks. This species regularly occurs in small numbers off the NSW south coast from Green Cape to Newcastle during winter where they feed on cuttlefish.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Diomedea epomophora</i> (Southern Royal Albatross)	V	V	Breeding occurs on Adams, Enderby and Auckland Islands (Auckland Islands group), Campbell Island, and on Taiaroa Head (Otago Peninsula, South Island), New Zealand. This otherwise pelagic species is most commonly recorded in New Zealand and South American waters in the non-breeding season, but may circumnavigate all the way around the Southern Ocean	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Diomedea exulans</i> (Wandering Albatross)	E	-	The Wandering Albatross is marine, pelagic and aerial.	4	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Diomedea gibsoni</i> (Gibson's Albatross)	V	-	The species is regularly encountered on trans-Tasman shipping routes and at seas off Sydney, and regularly occurs off the NSW coast usually between Green Cape and Newcastle. This species is known only to breed on the Adams, Disappointment and Auckland Islands in the subantarctic Auckland Island group. Potential forage in NSW waters during the winter is considered significant for the species.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Diomedea sanfordi</i> (Northern Royal Albatross)	E	E	Marine, subtropical to sub-Antarctic oceans; occasionally further south into the Antarctic.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Epthianura albifrons</i> (White-fronted Chat)	V	-	Low vegetation in salty coastal and inland areas and crops. Runs along ground and is found in local flocks in Winter.	149	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Erythrotriorchis radiatus</i> (Red Goshawk)	CE	-	The Red Goshawk occurs in coastal and sub-coastal areas in wooded and forested lands of tropical and warm-temperate Australia.	0	Low. The site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Esacus magnirostris</i> (Beach Stone-curlew)	CE	-	Beach Stone-curlews are found exclusively along the coast, on a wide range of beaches, islands, reefs and in estuaries, and may often be seen at the edges of or near mangroves. They forage in the intertidal zone of beaches and estuaries, on islands, flats, banks and spits of sand, mud, gravel or rock, and among mangroves. Beach Stone-curlews breed above the littoral zone, at the backs of beaches, or on sandbanks and islands, among low vegetation of grass, scattered shrubs or low trees; also among open mangroves.	5	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Falco hypoleucos</i> (Grey Falcon)	E	-	Usually restricted to shrubland, grassland and wooded watercourses of arid and semi-arid regions, although it is occasionally found in open woodlands near the coast. Also occurs near wetlands where surface water attracts prey.	0	Low. The site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Fregetta grallaria</i> (White-bellied Storm-petrel)	V	V	The White-bellied Storm-Petrel occurs across sub-tropical and tropical waters in the Tasman Sea, Coral Sea and, possibly, the central Pacific Ocean. In the non-breeding season, it reaches and forages over near-shore waters along the continental shelf of mainland Australia. It breeds, in Australian territory, on offshore islets and rocks in the Lord Howe Island group. It nests in crevices between large volcanic rocks, and in burrows excavated in banks. Breeding colonies are often situated along dykes. Marine. In Australia breeds only on offshore islands in the Lord Howe Island group.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Gallinago hardwickii</i> (Latham's Snipe)	V	V	Latham's Snipe is a non-breeding migrant to the south east of Australia including Tasmania, passing through the north and New Guinea on passage. Latham's Snipe breed in Japan and on the east Asian mainland. seen in small groups or singly in freshwater wetlands on or near the coast, generally among dense cover. They are found in any vegetation around wetlands, in sedges, grasses, lignum, reeds and rushes and also in saltmarsh and creek edges on migration.	18	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Grantiella picta</i> (Painted Honeyeater)	V	-	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			Great Dividing Range in NSW, Victoria and southern Queensland. During the winter it is more likely to be found in the north of its distribution. Inhabits boree, brigalow and box-gum woodlands and box-ironbark forests.			
<i>Haematopus fuliginosus</i> (Sooty Oystercatcher)	V	-	In NSW the Sooty Oystercatcher occupies rocky headlands, reefs and offshore islands along the entire coast, apparently as a single continuous population.	19	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Haematopus longirostris</i> (Pied Oystercatcher)	E	-	The Pied Oystercatcher inhabits marine littoral habitats, including islands. It occupies muddy, sandy, stony or rocky estuaries, inlets and beaches, particularly intertidal mudflats and sandbanks in large marine bays.	554	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)	V	M	Inhabits coastal and near coastal areas, building large stick nests, and feeding mostly on marine and estuarine fish and aquatic fauna.	72	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Hieraaetus morphnoides</i> (Little Eagle)	V	-	Most abundant in lightly timbered areas with open areas nearby. Often recorded foraging in grasslands, crops, treeless dune fields, and recently logged areas. May nest in farmland, woodland and forest in tall trees.	9	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Hirundapus caudacutus</i> (White-throated Needletail)	-	M	An aerial species found in feeding concentrations over cities, hilltops and timbered ranges.	59	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Ixobrychus flavicollis</i> (Black Bittern)	V	-	Usually found on coastal plains below 200 m. Often found along timbered watercourses, in wetlands with fringing trees and shrub	3	Negligible. Although records occur in the locality, the site is heavily disturbed and	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			vegetation. The sites where they occur are characterized by dense waterside vegetation.		doesn't provide potential habitat for this species.	
<i>Lathamus discolor</i> (Swift Parrot)	E	CE	The Swift Parrot occurs in woodlands and forests of NSW from May to August, where it feeds on eucalypt nectar, pollen and associated insects . The Swift Parrot is dependent on flowering resources across a wide range of habitats in its wintering grounds in NSW . This species is migratory, breeding in Tasmania and also nomadic, moving about in response to changing food availability.	1	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Limosa lapponica baueri</i> (Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit)	E	E	The subspecies is widespread in the Torres Strait and along the east and south-east coasts of Queensland, New South Wales, and Victoria. Smaller populations have been recorded in Tasmania, where the subspecies is mainly found along the south-east coast. In South Australia it has mostly been recorded around coasts from Lake Alexandrina to Denial Bay.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Limosa limosa</i> (Black-tailed Godwit)	V	E	Primarily a coastal species. Usually found in sheltered bays, estuaries and lagoons with large intertidal mudflats and-or sandflats. Further inland, it can also be found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps.	6	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Lophochroa leadbeateri</i> (Pink Cockatoo)	V	-	Inhabits a wide range of treed and treeless inland habitats, always within easy reach of water. Feeds mostly on the ground, especially on the seeds of native and exotic melons and on the seeds of species of saltbush, wattles and cypress pines. Nesting, in tree hollows, occurs throughout the second half of the year; nests are	3	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.

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			at least 1 km apart, with no more than one pair every 30 square kilometres.			
<i>Macronectes giganteus</i> (Southern Giant Petrel)	E	E	The Southern Giant Petrel has a circumpolar pelagic range from Antarctica to approximately 20 S and is a common visitor off the coast of NSW. Over summer, the species nests in small colonies amongst open vegetation on antarctic and subantarctic islands, including Macquarie and Heard Islands and in Australian Antarctic territory.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Macronectes halli</i> (Northern Giant-petrel)	V	V	Breeding in Australian territory is limited to Macquarie Island and occurs during spring and summer.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Melanodryas cucullata cucullata</i> (South-eastern Hooded Robin)	V	-	Occupy a wide range of eucalypt woodlands, Acacia shrublands and open forests.	0	Low. The site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Neophema chrysogaster</i> (Orange-bellied Parrot)	CE	CE, M	The Orange-bellied Parrot breeds in the south-west of Tasmania and migrates in autumn to spend the winter on the mainland coast of south-eastern South Australia and southern Victoria. There are occasional reports from NSW, with the most recent records from Shellharbour and Maroubra in May 2003. It is expected that NSW habitats may be more frequently utilised than observations suggest. Typical winter habitat is saltmarsh and strandline-foredune vegetation communities either on coastlines or coastal lagoons. Spits and islands are favoured but they will turn up anywhere within these coastal regions. The species can be found foraging in weedy areas associated with these coastal	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			habitats or even in totally modified landscapes such as pastures, seed crops and golf courses.			
<i>Neophema chrysostoma</i> (Blue-winged parrot)	V	V	Blue-winged Parrots breed on mainland Australia south of the Great Dividing Range in southern Victoria from Port Albert in Gippsland west to Nelson, and sometimes in the far south-east of South Australia, and the north-western, central and eastern parts of Tasmania. Blue-winged Parrots inhabit a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones. The species can also be seen in altered environments such as airfields, golf-courses and paddocks.	4	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Ninox connivens</i> (Barking Owl)	V	-	Generally found in open forests, woodlands, swamp woodlands and dense scrub. Can also be found in the foothills and timber along watercourses in otherwise open country.	1	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Ninox strenua</i> (Powerful Owl)	V	-	Occupies wet and dry eucalypt forests and rainforests. Can occupy both un-logged and lightly logged forests as well as undisturbed forests where it usually roosts on the limbs of dense trees in gully areas. It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.5 m deep are required for nesting. Tree hollows are particularly important for the Powerful Owl because a large proportion of the diet is made	25	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			up of hollow-dependent arboreal marsupials. Nest trees for this species are usually emergent with a diameter at breast height of at least 100 cm.			
<i>Numenius madagascariensis</i> (Eastern Curlew)	-	CE	The Eastern curlew spends its breeding season in northeastern Asia, including Siberia to Kamchatka, and Mongolia. Its breeding habitat is composed of marshy and swampy wetlands and lakeshores. Most individuals winter in coastal Australia, with a few heading to South Korea, Thailand, Philippines and New Zealand, where they stay at estuaries, beaches, and salt marshes. It uses its long, decurved bill to probe for invertebrates in the mud. It may feed in solitary but it generally congregates in large flocks to migrate or roost. Its call is a sharp, clear whistle, cuuue-reee, often repeated.	388	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Onychoprion fuscatus</i> (Sooty Tern)	V	-	The Sooty Tern is found over tropical and sub-tropical seas and on associated islands and cays around Northern Australia. In NSW only known to breed at Lord Howe Island. Large flocks can be seen soaring, skimming and dipping but seldom plunging in off shore waters. Breeds in large colonies in sand or coral scrapes on offshore islands and cays including Lord Howe and Norfolk Islands.	7	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Oxyura australis</i> (Blue-billed Duck)	V	-	Widespread in NSW, but most common in the southern Murray-Darling Basin area. Birds disperse during the breeding season to deep swamps up to 300 km away. It is generally only during summer or in drier years that they are seen in coastal areas. The Blue-billed Duck	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			prefers deep water in large permanent wetlands and swamps with dense aquatic vegetation.			
<i>Pachyptila turtur subantarctica</i> (Fairy Prion (southern))	V	V	The fairy prion is the smallest prion and it measures between 23 and 28 cm (9.1–11.0 in) long.[2] Its plumage is blue-grey on its upperparts, and white underneath. They have a dark "M" on their upperparts extending to their wingtips, and their tail is wedge-shaped with a dark tip. They have a blue bill and feet. The diet consists mainly of planktonic crustaceans and other tiny sea animals, which they feed at night from the water's surface. They breed colonially and prefer small islands. The nest is situated in soil, hidden by vegetation and is dug with the bill or feet, or it is in a hollow in a crevice. When coming back to their nest at night, they will coo softly and listen for their mate. The fairy prion is found throughout oceans and coastal areas in the Southern Hemisphere. Their colonies can be found on Chatham, Snares and Antipodes Islands of New Zealand, Bass Strait Islands of Australia, Falkland Islands, Marion Island, the Crozet Islands and Macquarie Island. Outside of the breeding season, the fairy prion is most often found feeding over deep waters, far from shore. During stormy weather it may come towards coastal habitats. It breeds on oceanic islands, where it nests in crevices on cliffs and rock falls or in burrows in soil, although it may also nest in scrub, herblands, tussock or pasture.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Pandion cristatus</i> (Eastern Osprey)	V	-	Ospreys are found right around the Australian coast line, except for Victoria and Tasmania. They are common around the northern coast, especially on rocky shorelines, islands and reefs. The species is uncommon to rare or absent from closely settled parts of south-eastern Australia. Favour coastal areas, especially the mouths of large rivers, lagoons and lakes. Feed on fish over clear, open water.	22	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Parvipsitta pusilla</i> (Little Lorikeet)	V	-	Distributed in forests and woodlands from the coast to the western slopes of the Great Dividing Range in NSW, extending westwards to the vicinity of Albury, Parkes, Dubbo and Narrabri. Mostly occur in dry, open eucalypt forests and woodlands. They feed primarily on nectar and pollen in the tree canopy. Nest hollows are located at heights of between 2 m and 15 m, mostly in living, smooth-barked eucalypts. Most breeding records come from the western slopes.	5	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Petroica boodang</i> (Scarlet Robin)	V	-	The Scarlet Robin is found from SE Queensland to SE South Australia and also in Tasmania and SW Western Australia. In NSW, it occurs from the coast to the inland slopes. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs.	6	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Petroica phoenicea</i> (Flame Robin)	V	-	Flame Robins are found in a broad coastal band from southern Queensland to just west of the South Australian border. The species is also found in Tasmania. The preferred habitat in summer includes eucalyptus forests and woodland, whilst in winter prefers open	1	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			woodlands and farmlands. It is considered migratory. The Flame Robin breeds from about August to January.			
<i>Phoebastria fusca</i> (Sooty Albatross)	V	-	In Australian waters, this species is generally recorded in winter off the south coast from Tasmania to Western Australia, while there are occasional sightings off the NSW coast, north of Grafton. This pelagic or ocean-going species inhabits subantarctic and subtropical marine waters, spending the majority of its time at sea, and rarely occurs in continental shelf waters.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pluvialis squatarola</i> (Grey Plover)	-	V	In Australia, Grey Plovers occur almost entirely in coastal areas, where they usually inhabit sheltered embayments, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons. They also occur around terrestrial wetlands such as near-coastal lakes and swamps, or salt-lakes. The species is also very occasionally recorded further inland, where they occur around wetlands or salt-lakes.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pterodroma leucoptera leucoptera</i> (Gould's Petrel)	V	E	Pelagic marine species, spending much of its time foraging at sea and coming ashore only to breed. The Australian subspecies breeds and roosts on two islands off NSW, Cabbage Tree and Boondelbah Islands, and the at-sea distribution is poorly known.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pterodroma neglecta neglecta</i> (Kermadec Petrel)	V	V	Pelagic seabird that occurs in tropical, subtropical and temperate waters of the Pacific Ocean. It breeds on islands, atolls and islets in the southern Pacific Ocean. Breeding habitat in	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			Australia includes Balls Pyramid and Phillip Island.			
<i>Pterodroma nigripennis</i> (Black-winged Petrel)	V	-	Ranges throughout the Tasman Sea and Central Pacific Ocean, breeding at various island groups including Lord Howe Island. Marine Nests at numerous sites on Lord Howe Island.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Ptilinopus superbus</i> (Superb Fruit-dove)	V	-	The Superb Fruit-dove occurs principally from north-eastern in Queensland to north-eastern NSW. It is much less common further south, where it is largely confined to pockets of suitable habitat as far south as Moruya. There are records of vagrants as far south as eastern Victoria and Tasmania. Inhabits rainforest and similar closed forests where it forages high in the canopy, eating the fruits of many tree species such as figs and palms. It may also forage in eucalypt or acacia woodland where there are fruit-bearing trees.	6	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Pycnoptilus floccosus</i> (Pilotbird)	-	V	Pilotbirds are endemic to south-east Australia. Upland Pilotbirds occur above 600 m in the Brindabella Ranges in the Australian Capital Territory, and in the Snowy Mountains in New South Wales and north-east Victoria. Lowland Pilotbirds occur in forests from the Blue Mountains west of Newcastle, around the wetter forests of eastern Australia, to Dandenong near Melbourne. Pilotbirds are strictly terrestrial, living on the ground in dense forests with heavy undergrowth.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Rostratula australis</i> (Australian Painted Snipe)	E	E, M	In NSW, this species has been recorded at the Paroo wetlands, Lake Cowell, Macquarie Marshes and Hexham Swamp. Most common in	1	Negligible. Although records occur in the locality, the site is heavily disturbed and	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			the Murray-Darling Basin. Prefers fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests on the ground amongst tall vegetation, such as grasses, tussocks or reeds.		doesn't provide potential habitat for this species.	
<i>Stagonopleura guttata</i> (Diamond Firetail)	V	-	Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects (especially in the breeding season). Found in grassy eucalypt woodlands, including box-gum woodlands and snow gum woodlands. Also occurs in open forest, mallee, natural temperate grassland, and in secondary grassland derived from other communities.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Sternula albifrons</i> (Little Tern)	E	-	Almost exclusively coastal, preferring sheltered environments; however may occur several hundred kilometres from the sea in harbours, inlets and rivers.	1626	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Sternula nereis nereis</i> (Fairy Tern)	-	V	Distribution includes the southern half of NSW coast. Fairy Terns utilise a variety of habitats including offshore, islands in estuaries or lakes , wetlands, beaches and spits.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche bulleri</i> (Pacific Albatross)	V	V	Inhabits tropical to sub-Antarctic waters, shelf edge and pelagic, preferring warmer waters, of south seas where currents from the north make it warmer.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche bulleri platei</i> (Northern Buller's Albatross)	0	V	Marine, pelagic species that occurs in subtropical and subantarctic waters of the South Pacific Ocean. In Australia, the species occurs over inshore, offshore and pelagic waters (Blaber 1986; Carter 1977; Rogers 1969) and off the coast of south-east Tasmania. Prefers	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			waters of the East Australia Current where sea surface-temperatures are greater than 16.5 °C.			
<i>Thalassarche carteri</i> (Indian yellow-nosed albatross)	-	V	0	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche cauta</i> (Shy Albatross)	V	E	Marine species occurring in subantarctic and subtropical waters, reaching the tropics in the cool Humboldt Current off South America.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche eremita</i> (Chatham Albatross)	E	E	Breeds solely on a small, precipitous rock in the Chatham Islands called 'The Pyramid', to the east of New Zealand. When not breeding, the Chatham albatross migrates across the South Pacific and can be found off the coast of Peru and Chile	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche impavida</i> (Campbell Albatross)	-	V	While most of its time is spent at sea, the Campbell albatross returns to land to breed, nesting on ledges and steep slopes which are covered with short grasses, tussocks and mud.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche melanophris</i> (Black-browed Albatross)	-	V	Uses wide range of marine habitats from inshore shallows, bays and channels to the edge of the continental shelf and beyond to pelagic ocean environs.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche salvini</i> (Salvin's Albatross)	-	V	Breeds on just a few small barren and rocky islands, and otherwise occupies the open oceans	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Thalassarche steadi</i> (White-capped Albatross)	V	V	The Black-browed Albatross has a circumpolar range over the southern oceans, and are seen off the southern Australian coast mainly during winter. Inhabits antarctic, subantarctic, subtropical marine and coastal waters over upwellings and boundaries of currents.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Thinornis cucullatus cucullatus</i> (Eastern Hooded Dotterel)	CE	V	The Hooded Plover occurs on sandy beaches and inland saltlakes of south-eastern and south-western Australia. Within NSW, the Hooded Plover occurs along the southern coast, north to Jervis Bay. In souther-eastern Australian, the Hooded Plover is found mostly on long stretches of sandy shore, backed by tussock and creeper covered dunes with nearby inland lakes.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Tringa nebularia</i> (Common Greenshank)	E	E	Habitat is diverse, both inland and coastal. Found inland on both permanent and temporary wetland- billabongs, swamps, lakes, floodplains, sewage, farms and saltwater ponds. On the coast, it uses sheltered estuaries and bays with extensive mudflats, mangrove swamps, muddy shallows of harbours and lagoons and occasionally rocky tidal edges.	7	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
<i>Tyto novaehollandiae</i> (Masked Owl)	V	-	Inhabits a diverse range of wooded habitat that provide tall or dense mature trees with hollows suitable for nesting and roosting. Mostly recorded in open forest and woodlands adjacent to cleared lands. Nest in hollows, in trunks and in near vertical spouts or large trees, usually living but sometimes dead. Nest hollows are usually located within dense forests or woodlands. Masked owls prey upon hollow-dependent arboreal marsupials, but terrestrial mammals make up the largest proportion of the diet.	2	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Xenus cinereus</i> (Terek Sandpiper)	V	V	The Terek Sandpiper mostly forages in the open, on soft wet intertidal mudflats or in sheltered estuaries, embayments, harbours or lagoons.	8	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species.	Nil. Not recorded during the current field survey.
Mammals						

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Cercartetus nanus</i> (Eastern Pygmy-possum)	V	-	Inhabits rainforest through to sclerophyll forest and tree heath. Banksias and myrtaceous shrubs and trees are a favoured food source. Will often nest in tree hollows, but can also construct its own nest. Because of its small size it is able to utilise a range of hollow sizes including very small hollows. Individuals will use a number of different hollows and an individual has been recorded using up to 9 nest sites within a 0.5ha area over a 5 month period.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Chalinolobus dwyeri</i> (Large-eared Pied Bat)	V	V	Located in a variety of drier habitats, including the dry sclerophyll forests and woodlands to the east and west of the Great Dividing Range. Can also be found on the edges of rainforests and in wet sclerophyll forests. This species roosts in caves and mines in groups of between 3 and 37 individuals.	0	Low. The site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Dasyurus maculatus</i> (Spotted-tailed Quoll)	0	0	The spotted-tailed quoll is found along both sides of the Great Dividing Range from the Victorian to the Queensland borders. Scattered, unconfirmed records of the species have also been reported in the western parts of New South Wales. Spotted-tailed quolls live in various environments, including forests, woodlands, coastal heathlands and rainforests. They are sometimes seen in open country or on grazed areas and rocky outcrops. They are mainly solitary animals and will make their dens in rock shelters, small caves, hollow logs and tree hollows. They use these dens for shelter and to raise young.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Isoodon obesulus obesulus</i> (Southern Brown Bandicoot (eastern))	E	-	Prefers sandy soils with scrubby vegetation and/or areas with low ground cover that are burn from time to time. A mosaic of post fire vegetation is important for this species.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Miniopterus orianae oceanensis</i> (Large Bent-winged Bat)	V	-	Eastern Bent-wing Bats occur along the east and north-west coasts of Australia. Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young.	15	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey
<i>Myotis macropus</i> (Southern Myotis)	V	-	The Large-footed Myotis is found in the coastal band from the north-west of Australia, across the top-end and south to western Victoria. Generally roost in groups of 10 - 15 close to water in caves, mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.	3	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey
<i>Notamacropus parma</i> (Parma Wallaby)	V	-	Once occurred from north-eastern NSW to the Bega area in the southeast. Their range is now confined to the coast and ranges of central and northern NSW from the Gosford district to the Queensland border. Preferred habitat is moist eucalypt forest with thick, shrubby understorey, often with nearby grassy areas, rainforest margins and occasionally drier eucalypt forest.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Petauroides volans</i> (Greater Glider)	-	V	The Greater Glider occurs in eucalypt forests and woodlands. Utilise tree hollows	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
					fragmented and would require crossing several main roads to access the area.	
<i>Petaurus australis</i> (Yellow-bellied Glider)	V	-	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south. Found along the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Petrogale penicillata</i> (Brush-tailed Rock-wallaby)	E	V	Found in rocky areas in a wide variety of habitats including rainforest gullies, wet and dry sclerophyll forest, open woodland and rocky outcrops in semi-arid country. Commonly sites have a northerly aspect with numerous ledges, caves and crevices.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Phascolarctos cinereus</i> (Koala)	V	V	Inhabits eucalypt forests and woodlands. The suitability of these forests for habitation depends on the size and species of trees present, soil nutrients, climate and rainfall .	2	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Pseudomys novaehollandiae</i> (New Holland Mouse)	-	V	The New Holland Mouse currently has a disjunct, fragmented distribution across Tasmania, Victoria, New South Wales and Queensland. Across the species' range the New Holland Mouse is known to inhabit open heathlands, open woodlands with a heathland understorey, and vegetated sand dunes.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Pteropus poliocephalus</i> (Grey-headed Flying-fox)	V	V	This species is a canopy-feeding frugivore and nectarivore of rainforests, open forests,	859	Moderate. Although records occur in the locality, the site is heavily disturbed and	Low. Not recorded during field survey,

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			woodlands, melaleuca swamps and banksia woodlands. Bats commute daily to foraging areas, usually within 15 km of the day roost although some individuals may travel up to 70 km.		provides marginal potential habitat for this species. The species may very infrequently forage within the area. Whilst no sightings are within the Subject Land itself, there are some nearby approximately 50 m to the south. Therefore, whilst the habitat represents only marginal foraging habitat, Flyover sightings of the species is likely	unlikely to use the habitat more than as transitional habitat to foraging areas. Significant Impact Criteria assessment is not required.
<i>Saccolaimus flaviventris</i> (Yellow-bellied Sheathtail-bat)	V	-	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	3	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
<i>Scoteanax rueppellii</i> (Greater Broad-nosed Bat)	V	-	Prefer moist gullies in mature coastal forests and rainforests, between the Great Dividing Range and the coast. They are only found at low altitudes below 500 m. In dense environments they utilise natural and human-made opening in the forest for flight paths. Creeks and small rivers are favoured foraging habitat. This species roosts in hollow tree trunks and branches.	1	Low. Although records occur in the locality, the site is heavily disturbed and provides marginal potential habitat for this species. The species may very infrequently forage or flyover the area.	Nil. Not recorded during the current field survey.
Reptiles						
<i>Aspidites ramsayi</i> (Woma)	V	-	The Woma occurs in north-western NSW, east to about Louth and Bourke. Terrestrial, inhabiting subtropical to temperate deserts and sandy plains, as well as dunefields and deep cracking black soil plains in semi-arid areas. Occurs in hummock grasslands, shrublands or woodlands	1	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			and shelters in animal burrows, hollow logs or under grass hummocks.		The Subject Land is outside the species known geographic distribution.	
<i>Cyclodomorphus melanops elongatus</i> (Mallee Slender Blue-tongue Lizard)	E	-	In NSW, animals inhabit mallee-spinifex communities on a sandy or mixed sand-gravel substrate (plains, ridges or hillslopes). It is assumed that the species seeks refuge in vegetation clumps such as spinifex and in fallen timber and leaf litter.	2	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Hoplocephalus bungaroides</i> (Broad-headed Snake)	E	V	Occurs almost exclusively in association with communities occurring on Triassic sandstone within the Sydney Basin. Typically found among exposed sandstone outcrops with vegetation types ranging from woodland to heath. Within these habitats they spend most of the year sheltering in and under rock crevices and exfoliating rock. However, some individuals will migrate to tree hollows to find shelter during hotter parts of summer.	0	Low. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Hoplocephalus stephensii</i> (Stephens' Banded Snake)	V	-	The Stephens Banded Snake is found through the coast and adjacent ranges of NSW from the Central Coast northwards and into SE Queensland. It is most commonly found living in wet sclerophyll and rainforest areas, but can be found in taller dry forest areas and even in some areas of dry forest where there is significant rock outcropping. They spend the majority of the time in tree tops, either in large hollows or in dense vegetation, coming to the ground for forage for a range of vertebrates.	1	Negligible. Although records occur in the locality, the site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
<i>Tiliqua occipitalis</i> (Western Blue-tongued Lizard)	V	-	Scattered records across central western and western NSW. Inhabits plains, swales, ranges and sometimes dunes of loamy or clayey-sandy	2	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
			soils vegetated by woodlands, especially mallee, shrublands (including chenopods), heaths or hummock grasslands. Preferred vegetation type appears to be mixed mallee-spinifex communities.		fragmented and would require crossing several main roads to access the area.	
<i>Uvidicolus sphyrurus</i> (Border Thick-tailed Gecko)	V	V	Occurs in dry sclerophyll open forest and woodland associated with outcrops of granite, basalt, sandstone and metamorphic rocks. The majority of sites are associated with granite outcrops. Surveys conducted in north-eastern NSW indicate that geckos may show a preference for easterly aspects and the base of rock scarps. The composition of vegetation appears to have little influence on the occurrence of geckos. Shelter sites include rocks, decaying logs, bark, and litter in rocky rubble. Shelter sites are usually laying on a litter substrate and shaded by nearby vegetation. Litter depth at shelters located during CRA surveys varied between one and 10 cm.	1	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.
Snails						
<i>Meridolum maryae</i> (Maroubra Woodland Snail)	E	E	<i>Meridolum maryae</i> are found in the leaf litter of coastal vegetation communities, most commonly in heathland on foredunes. The species is confined to a narrow band of habitat along the coast from the north-eastern corner of the Royal National Park to Palm Beach in Sydney, a total linear distance of 65 km. Records of the species are generally within 1 km of the ocean but occur up to 5 km inland	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.

Scientific name (Common Name)	BC Act	EPBC Act	Habitat description*	Records (Last 5 years)	Likelihood of occurrence in Study Area	Impact Assessment
<i>Pommerhelix duralensis</i> (Dural Land Snail)	-	E	Endemic to NSW and confined to northwest fringes of the Cumberland Plain. Distribution extends as far north as St. Albans; southwest to Mulgoa, and southeast to Parramatta. Occurs in low densities in Hawkesbury Sandstone Vegetation and Shale/Sandstone Transition Forest. Found under rocks, logs, bark and in leaf litter. Has a strong preference for shale-influenced transitional landscapes and has not been confirmed outside such habitats.	0	Negligible. The site is heavily disturbed and doesn't provide potential habitat for this species. The site is heavily fragmented and would require crossing several main roads to access the area.	Nil. Not recorded during the current field survey.

* - habitat descriptions have been adapted by qualified ecologists from the DAWE Species Profile and Threats (SPRAT) Database, DPIE Threatened Species online profiles and the NSW Scientific Committee final determinations for listed species, references within the above table are provided within the report reference list.

Appendix 2.3 Migratory species (EPBC Act listed)

Includes records from the following sources:

- NSW BioNet Wildlife Atlas
- DCCEE database (accessed April 2025)
- Current survey.

Table Migratory fauna species recorded or predicted to occur within 10 kilometres of the Study Area

Scientific name	Common name
Migratory Marine Birds	
<i>Anous stolidus</i>	Common Noddy
<i>Apus pacificus</i>	Fork-tailed Swift
<i>Ardeanna carneipes</i>	Flesh-footed Shearwater, Fleshy-footed Shearwater
<i>Ardeanna grisea</i>	Sooty Shearwater
<i>Calonectris leucomelas</i>	Streaked Shearwater
<i>Diomedea antipodensis</i>	Antipodean Albatross
<i>Diomedea epomophora</i>	Southern Royal Albatross
<i>Diomedea exulans</i>	Wandering Albatross
<i>Diomedea sanfordi</i>	Northern Royal Albatross
<i>Fregata ariel</i>	Lesser Frigatebird, Least Frigatebird
<i>Fregata minor</i>	Great Frigatebird, Greater Frigatebird
<i>Macronectes giganteus</i>	Southern Giant-Petrel, Southern Giant Petrel
<i>Macronectes halli</i>	Northern Giant Petrel
<i>Phaethon lepturus</i>	White-tailed Tropicbird
<i>Phoebastria fusca</i>	Sooty Albatross
<i>Sternula albifrons</i>	Little Tern
<i>Thalassarche bulleri</i>	Buller's Albatross, Pacific Albatross
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross
<i>Thalassarche cauta</i>	Shy Albatross
<i>Thalassarche eremita</i>	Chatham Albatross
<i>Thalassarche impavida</i>	Campbell Albatross, Campbell Black-browed Albatross
<i>Thalassarche melanophris</i>	Black-browed Albatross
<i>Thalassarche salvini</i>	Salvin's Albatross
<i>Thalassarche steadi</i>	White-capped Albatross
Migratory Wetland Species	
<i>Actitis hypoleucos</i>	Common Sandpiper
<i>Arenaria interpres</i>	Ruddy Turnstone
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
<i>Calidris alba</i>	Sanderling
<i>Calidris canutus</i>	Red Knot, Knot
<i>Calidris ferruginea</i>	Curlew Sandpiper
<i>Calidris melanotos</i>	Pectoral Sandpiper
<i>Calidris pugnax</i>	Ruff
<i>Calidris ruficollis</i>	Red-necked Stint
<i>Calidris subminuta</i>	Long-toed Stint
<i>Calidris tenuirostris</i>	Great Knot
<i>Charadrius bicinctus</i>	Double-banded Plover
<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover
<i>Charadrius mongolus</i>	Lesser Sand Plover, Mongolian Plover
<i>Charadrius veredus</i>	Oriental Plover, Oriental Dotterel
<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe
<i>Gallinago megala</i>	Swinhoe's Snipe
<i>Gallinago stenura</i>	Pin-tailed Snipe
<i>Limicola falcinellus</i>	Broad-billed Sandpiper
<i>Limosa lapponica</i>	Bar-tailed Godwit
<i>Limosa limosa</i>	Black-tailed Godwit

Scientific name	Common name
<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
<i>Numenius minutus</i>	Little Curlew, Little Whimbrel
<i>Numenius phaeopus</i>	Whimbrel
<i>Pandion haliaetus</i>	Osprey
<i>Pluvialis fulva</i>	Pacific Golden Plover
<i>Pluvialis squatarola</i>	Grey Plover
<i>Tringa brevipes</i>	Grey-tailed Tattler
<i>Tringa incana</i>	Wandering Tattler
<i>Tringa nebularia</i>	Common Greenshank, Greenshank
<i>Tringa stagnatilis</i>	Marsh Sandpiper, Little Greenshank
<i>Xenus cinereus</i>	Terek Sandpiper
Migratory Marine Species	
<i>Balaenoptera edeni</i>	Bryde's Whale
<i>Balaenoptera musculus</i>	Blue Whale
<i>Caperea marginata</i>	Pygmy Right Whale
<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark
<i>Carcharias taurus</i>	Grey Nurse Shark
<i>Carcharodon carcharias</i>	White Shark, Great White Shark
<i>Caretta caretta</i>	Loggerhead Turtle
<i>Chelonia mydas</i>	Green Turtle
<i>Dermochelys coriacea</i>	Leatherback Turtle, Leathery Turtle, Luth
<i>Dugong dugon</i>	Dugong
<i>Eretmochelys imbricata</i>	Hawksbill Turtle
<i>Eubalaena australis</i>	Southern Right Whale
<i>Lagenorhynchus obscurus</i>	Dusky Dolphin
<i>Lamna nasus</i>	Porbeagle, Mackerel Shark
<i>Megaptera novaeangliae</i>	Humpback Whale
<i>Mobula alfredi</i>	Reef Manta Ray, Coastal Manta Ray
<i>Mobula birostris</i>	Giant Manta Ray
<i>Natator depressus</i>	Flatback Turtle
<i>Orcinus orca</i>	Killer Whale, Orca
<i>Rhincodon typus</i>	Whale Shark
Migratory Terrestrial Species	
<i>Cuculus optatus</i>	Oriental Cuckoo, Horsfield's Cuckoo
<i>Hirundapus caudacutus</i>	White-throated Needletail
<i>Motacilla flava</i>	Yellow Wagtail

APPENDIX 3 – PLATES



Plate 1: Managed *Casuarina glauca* individuals bordered by large *Casuarina glauca* individuals at the northern extent of the Subject Land.



Plate 2: Managed ground layer, with intact and cut *Casuarina glauca* individuals.



Plate 3: Managed *Casuarina glauca* individuals bordered by large *Casuarina glauca* individuals at the eastern extent of the Subject Land.



Plate 4: Patch of bare ground within the south-western corner of the Subject Land.



Plate 5: Structure at the southern extent of the Subject Land. This was assessed as potential microbat habitat.



Plate 6: *Callistemon viminalis* along the western extent of the Subject Land.



Plate 7: Overview of the carpark from the western boundary looking east.



Plate 8: Overview of the carpark from the northern boundary looking south.

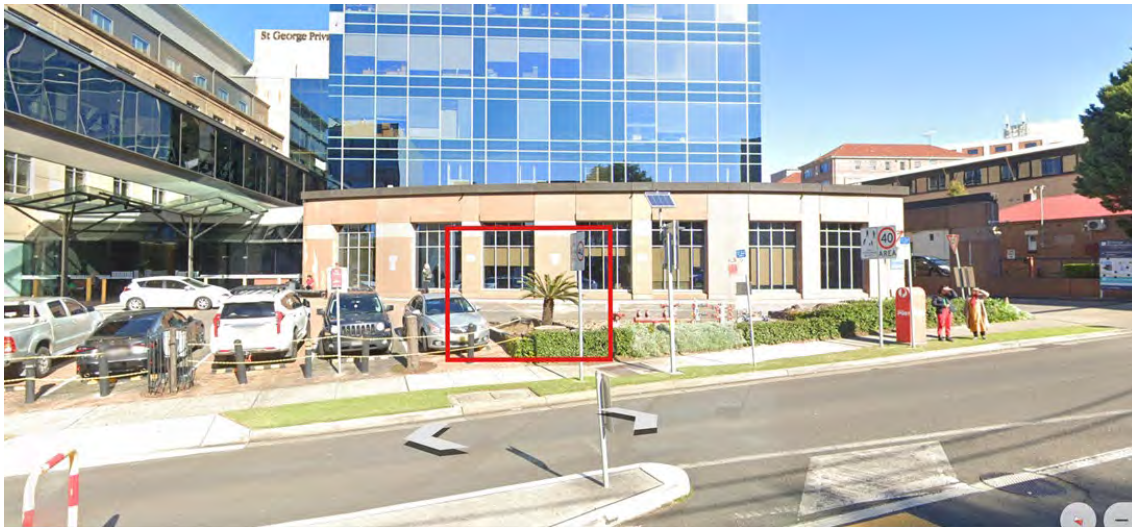


Plate 9: Image provided by the client outlining impact to vegetation at the SGPH building located at 1 South Street, Kogarah.

APPENDIX 4 – CONCEPT DESIGN

