



Curl Curl North Public School

Flora and Fauna Assessment

Prepared for
TKD Architects

18 May 2017



DOCUMENT TRACKING

Item	Detail
Project Name	Curl Curl North Public School – Flora and Fauna Assessment
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Status	DRAFT
Version Number	2
Last saved on	18 May 2017
Cover photo	Planted vegetation on site (Stacey Wilson, May 2017).

This report should be cited as ‘Eco Logical Australia 2017. *Curl Curl North Public School – Flora and Fauna Assessment*. Prepared for TKD Architects.’

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from TKD Architects

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Template 29/9/2015

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Abbreviations

Abbreviation	Description
DCP	Development Control Plan
DotEE	Department of the Environment and Energy
EEC	Endangered Ecological Community
ELA	Eco Logical Australia Pty Ltd.
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection Biodiversity Conservation Act 1999</i>
FFA	Flora and Fauna Assessment
LEP	Local Environmental Plan
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NM Act	<i>Noxious Weeds Act 1993</i>
OEH	Office of Environment and Heritage
TEC	Threatened Ecological Community
TSC Act	<i>NSW Threatened Species Conservation Act 1995</i>

Executive summary

This Flora and Fauna Assessment reports on the ecological values present at Curl Curl North Public School and provides an assessment of the proposed works which involve the construction of new public school facilities in relation to listed threatened species and ecological communities in the locality, as required by State and Commonwealth legislation.

A literature review and database search of the BioNet Atlas of NSW Wildlife and EPBC Protected Matters Search Tool was conducted to provide state and Commonwealth listed threatened and migratory species previously recorded, or considered to potentially occur in the subject site.

This was followed by a site inspection, conducted by an ecologist from Eco Logical Australia (ELA) on 12 May 2017.

The proposed works will remove existing structures and landscaped areas, including a mix of commonly planted native and exotic garden vegetation. No threatened ecological communities, threatened flora or fauna species were observed during the site inspection. The site doesn't provide habitat for threatened flora or fauna species listed under the *Threatened Species Conservation Act 1995* (TSC Act) or *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Based on results from the desktop review and following the site inspection, it was confirmed that the proposal would not result in a significant impact on threatened species, populations or ecological communities listed under the TSC Act or EPBC Act. Therefore a Species Impact Statement or referral to the Commonwealth are not required.

The proposed works were found to be consistent with Clause 5.9(2) of the Warringah Local Environmental Plan (WLEP) 2011 pertaining to the preservation of trees and vegetation; as no direct impacts to vegetation mapped under 'Threatened and High Conservation Habitat', 'Wildlife Corridors' or 'Native Vegetation' of the Warringah Development Control Plan (DCP) 2011 are expected as part of the proposed works.

A number of mitigation measures have been recommended below to ameliorate potential indirect impacts to native vegetation found outside of the development footprint.

1 Introduction

Eco Logical Australia (ELA) was commissioned by TKD Architects to undertake a Flora and Fauna Assessment (FFA) to accompany a State Significant Development Application (SSDA) for services relating to new public school facilities.

1.1 Location of the site

The site is located at the intersection of Abbott Road and Playfair Road, Curl Curl North. Immediately to the south is John Fisher Park - a series of large Council owned playing fields and netball courts that sit beside Curl Curl Lagoon. To the east, north and west are low scale residential dwellings, typically 1-2 storeys in height.

1.2 Key definitions

- Subject site – the area directly affected by the proposal. This is the same as the 'site'. Specifically lot 1 DP: 731454.
- Study area – subject site and any additional areas which are likely to be affected by the proposal, either directly or indirectly.
- Locality – the same meaning as ascribed to local population of a species of local occurrence of an ecological community.

2 Statutory framework

Commonwealth and State legislation and policies, as well as local policies apply to the assessment, planning and management of ecological issues within the study area. A brief outline of the relevant Commonwealth and State Acts and Policies, and local policies, are provided below in **Table 1**.

Table 1: legislative context

Name	Relevance to the project	Section in this report
Commonwealth		
<i>Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	Several Matters of National Environmental Significance (MNES) have been identified as having a potential to occur within the subject site. An assessment using the Commonwealth 'significant impact criteria' has been undertaken for these species. This report concludes that the development is not likely to have a significant impact on MNES.	Section 5 & Appendix A
State		
<i>Environmental Planning and Assessment Act 1979 (EP&A Act)</i>	The EP&A Act is the principal planning legislation for NSW. It provides a framework for the overall environmental planning and assessment of development proposals. The proposed development requires consent under the Wyong Local Environmental Plan 2013 and is to be assessed under Part 4 of the EP&A Act. Assessments of significance for impacts to threatened ecological communities, species, or endangered populations, have been prepared in accordance with s5A of the Act.	Section 5 and Appendix A
<i>Threatened Species Conservation Act 1995 (TSC Act)</i>	The TSC Act provides for the conservation of threatened species, populations and ecological communities. The Act is integrated with the EP&A Act and requires consideration of whether a development or an activity is likely to significantly affect threatened species, populations and ecological communities or their habitat. The land on which the development is proposed is not biodiversity certified under s126 of the TSC Act and therefore impacts to threatened species and endangered ecological communities listed under the TSC Act are required in accordance with s5A of the EP&A Act.	Section 5 and Appendix A
<i>Fisheries Management Act 1994 (FM Act)</i>	The FM Act governs the management of fish and their habitat in NSW. The Schedules of the Act list key threatening processes and threatened species. The FM Act also regulates the provision of permits required in relation to potential harm to mangroves or protected marine vegetation, dredging or reclamation or blockage of fish passages. No impacts to fish and their habitats are expected as a result of the proposal and does not involve harm to mangroves or other protected marine vegetation, dredging, reclamation or blocking of fish passage and therefore a permit under the FM Act is not required.	N/A
<i>Noxious Weeds Act 1993</i>	Under this Act, noxious weeds have been identified for Local Government Areas and assigned Control Categories (e.g. 1, 2, 3, 4 and 5). Part 3 provides that occupiers of land (this includes owners of land) have responsibility for controlling	N/A

Name	Relevance to the project	Section in this report
	noxious weeds on the land they occupy. The study area contains weeds listed under the NW Act. Under Part 3 of the Act, action must be taken to control noxious weeds on the land as required under the order.	
<i>Water Management Act 2000 (WM Act)</i>	A pre-lodgement meeting with Central Coast Council identified that a mapped watercourse traverses the south west corner of the site and the works may require a Controlled Activity Approval from the NSW Department of Primary Industries.	N/A
Planning Instruments		
<i>Warringah Local Environment Plan 2011</i>	The site is zoned R2 – Low Density Residential under the Warringah Local Environmental Plan 2011. The proposed construction works are to be carried out wholly within the portion of the site zoned R2 and therefore the proposal is considered to be in compliance with Warringah Local Environment Plan 2011.	Section 5

3 Methods

3.1 Data audit and literature review

A desktop literature review was undertaken to identify the threatened species, populations and ecological communities that could potentially occur within the subject site. The following documentation and mapping was reviewed:

- Office of Environment and Heritage (OEH) Atlas of NSW Wildlife. Search of data supplied May 2017, 5 km search radius (OEH 2017a).
- Department of the Environment and Energy (DotEE) Online search (May 2017) for Matters of National Environmental Significance (MNES) with 5km buffer around the subject site (DotEE 2016a).
- Previous vegetation mapping – Sydney Metropolitan Catchment Management Authority (SMCMA 2016).
- Aerial photography to investigate extent of vegetation cover and landscape features.
- The Northern Beaches Council planning instruments
 - The Warringah Local Environmental Plan 2011
 - The Warringah Development Control Plan 2011, Part E.

Aerial photography of the subject site and previous vegetation mapping by Sydney Metropolitan Catchment Management Authority (SMCMA 2016) was used to investigate the extent of vegetation cover and landscape features and also guide the site inspection.

Species from the Atlas of NSW Wildlife, and EPBC Act MNES searches were combined to produce a list of threatened species that may occur within the subject site (“subject species”) (**Appendix A**). Likelihood of occurrences for threatened species, endangered populations and communities in the subject site were then made based on location of database records, the likely presence or absence of suitable habitat on the subject site, and knowledge of the species’ ecology. A list of potentially “affected species” was then identified (those that were defined as “yes”, “likely” or having “potential” to occur in the subject site)

Five terms for the likelihood of occurrence of species are used in this report. The terms for likelihood of occurrence are defined below:

- “yes” = the species was or has been observed in the subject site
- “likely” = a medium to high probability that a species uses the subject site
- “potential” = suitable habitat for a species occurs in the subject site, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” = a very low to low probability that a species uses the subject site, and
- “no” = habitat in the subject site and in the vicinity is unsuitable for the species.

Assessments for the likelihood of occurrence were made both prior to field survey and following field survey. The pre-survey assessments were performed to determine which species were “affected species”, and hence determine which sorts of habitat to look for during field survey. The post-survey assessments to determine final “affected species” were made after observing the available habitat in the subject site. The likelihood table in **Appendix A** reflects the final list of species and their likelihood of occurrence. Potential impacts to these species are further assessed in this report.

It is noted that some threatened fauna species that are highly mobile, wide ranging and vagrant may use portions of the subject site intermittently for foraging. For these fauna species, the habitat present and

likely to be impacted is not considered to be important to the threatened species, particularly in relation to the amount of similar good quality habitat remaining in the surrounding landscape. As such, an assessment of significance in reference to State or Commonwealth legislation was not considered necessary.

3.2 Site inspection

A site inspection was undertaken by ELA Ecologist Stacey Wilson on 12 May 2017 to assess the ecological values present, and potential impact of the proposed works on flora and fauna, within the subject site (**Figure 1**).

The site inspection validated previous vegetation mapping and record any important flora or fauna habitat features (such as hollow-bearing trees or culverts) within the subject site. A species list from the site inspection is provided in (**Appendix B**).

A final assessment of the likelihood of occurrence was completed following the site inspection and was based on database or other records, presence or absence of suitable habitat, features of the subject site, results of the field survey and professional judgement (**Appendix A**).



Figure 1: Vegetation on site (ELA validated, 2017).

4 Results

4.1 Literature and database review

One threatened ecological community, Estuarine Swamp Oak Forest listed as endangered under the TSC Act has been previously mapped within the locality by SMCA 2016.

Records of 13 flora species and 80 threatened fauna species were returned by the Atlas of NSW Wildlife searches of the threatened flora, species which may be of constraint (i.e., known to occur within 5 km of the subject site) were considered to be *Acacia terminalis* subsp. *terminalis* (Sunshine Wattle), *Senecio spathulatus* (Coast Groundsel), and *Tetratheca glandulosa*.

The EPBC Protected Matters Search Tool returned 6 listed threatened ecological communities and 74 TSC and/or EPBC Act listed threatened species and 51 migratory species that may occur in the locality.

Results from the database searches have been considered in a likelihood table (**Appendix A**) for the potential for these threatened and migratory species to occur in the subject site and to be impacted by the proposed works.

4.2 Site inspection

The majority of vegetation within the subject site was representative of landscaped areas, existing structures, and exotic or commonly planted urban native vegetation (**e.g. Photo 1 and Photo 2**).

The site inspection confirmed that no threatened ecological communities occur within the subject site. No threatened flora or fauna species were recorded during the site inspection.

No hollow-bearing trees were observed within the subject site. No other habitat features considered important for threatened fauna were observed within the subject site.



Photo 1: Landscaped areas / plantings on site.



Photo 2: Common urban native vegetation along southern boundary of the site.

5 Ecological impact assessment

The proposed works will remove some existing structures and landscaped areas, including a mix of commonly planted native and exotic garden vegetation.

No threatened ecological communities, or threatened flora and fauna were recorded during the field survey, or are considered likely to occur within the site. Consequently no assessments of significance were conducted, and a Species Impact Statement is not required.

Of the threatened fauna species returned from the database search, 51 threatened species listed under the TSC and EPBC Acts were originally considered to have a higher potential to utilise the subject site either regularly or on occasion (**Appendix A**). However, assessments of significance for these species were considered unnecessary as only marginal foraging habitat was present and any impacts were considered negligible in comparison to available habitat in locality.

It was concluded that a significant impact was unlikely to occur on the threatened flora or fauna species, and a Species Impact Statement or EPBC Act referral were not required.

5.1 Mitigation measures

The following safeguards are designed to mitigate the potential impacts of the proposed works on native vegetation, threatened ecological communities or any potential threatened flora and fauna species in areas adjacent to the proposed works and include:

- installation of appropriate sediment control measures (e.g., silt fences) around the impact area to limit the spread of sediment into adjacent waterways and vegetation
- minimise impacts during development design and construction phase, including establishing a buffer area adjacent to any native vegetation
- follow best practices guidelines for tree removal and pruning if required
- ensure protection of native vegetation outside of the construction footprint through measures such as installation of temporary fencing and signage.

6 Conclusion

ELA undertook an assessment of the proposed works at Curl Curl North Public School in relation to ecological values listed under State (TSC Act) and Federal (EPBC Act) legislation.

A literature review and site inspection was undertaken to assess the ecological values present within the subject site, and to assess potential impact of the proposed works on threatened flora and fauna.

The proposal will remove some existing structures and landscaped areas, including a mix of commonly planted native and exotic garden vegetation. No threatened ecological communities or threatened flora species were observed during the site inspection. The area was not considered to provide potential habitat for threatened flora or fauna species listed under the TSC Act and/or EPBC Act.

The proposed works were found to be consistent under Part E2- Prescribed Vegetation of the Warringah DCP 2011 pertaining to the protection of trees or vegetation as:

- the proposed development occurs on an area that has been highly modified and clear of most remnant vegetation, thus avoiding the majority of ecological values on the lot.
- the works will not impact upon vegetation identified as
 - Threatened and High Conservation Habitat
 - Wildlife Corridors
 - Native Vegetation
- a number of mitigation measures have been outlined above to ameliorate potential impacts to adjacent native vegetation during construction works.

Appendix A : Likelihood of occurrence

An assessment of the likelihood of occurrence was made for threatened and migratory species identified from the database search. Five terms for the likelihood of occurrence of species are used in this report. This assessment was based on database and results from targeted survey effort during the NWRL and Travers Report, presence or absence of suitable habitat, features of the proposal site, results of the field survey and professional judgement. The terms for likelihood of occurrence are defined below:

- “yes” = the species was or has been observed on the site
- “likely” = a medium to high probability that a species uses the site
- “potential” = suitable habitat for a species occurs on the site, but there is insufficient information to categorise the species as likely to occur, or unlikely to occur
- “unlikely” = a very low to low probability that a species uses the subject site, and
- “no” = habitat on site and in the vicinity is unsuitable for the species.

An assessment of significance was conducted for threatened species or ecological communities that were recorded within the subject site or had a higher likelihood of occurring and were not recorded during the site visit. It is noted that some threatened fauna species that are highly mobile, wide ranging and vagrant may use portions of the subject site intermittently for foraging. For these fauna species, the habitat present and likely to be impacted is not considered to be important to the threatened species, particularly in relation to the amount of similar good quality habitat remaining in the surrounding landscape. As such, an assessment of significance in reference to State or Commonwealth legislation was not considered necessary.

Note, likelihood of occurrence were made both prior to field survey and following field survey and habitat assessments. The list of final “affected species” determined following the field survey are displayed below.

Table 2: Likelihood of occurrence and requirement of impact assessment for threatened ecological communities

Community	TSC Status	EPBC Status	Distribution and Habitat	Likelihood of Occurrence	Assessment of Significance
Coastal Upland Swamps in the Sydney Basin Bioregion	E	E	Endemic to NSW and confined to the Sydney Basin Bioregion. It occurs in the eastern Sydney Basin from the Somersby district in the north (Somersby-Hornsby plateaux) to the Robertson district in the south (n the Woronora plateau). May include tall open scrubs, tall closed scrubs, closed heaths, open graminoid heaths, sedgelands and fernlands. Larger examples may include a complex of these structural forms.	Unlikely. Suitable habitat not available in subject site	No
Eastern Suburbs Banksia Scrub of the Sydney Region	E	E	Predominantly a sclerophyllous heath or scrub community although, depending on site topography and hydrology, some remnants contain small patches of woodland, low forest or limited wetter areas. Common species include <i>Banksia aemula</i> , <i>B. ericifolia</i> , <i>B. serrata</i> , <i>Eriostemon australasius</i> , <i>Lepidosperma laterale</i> , <i>Leptospermum laevigatum</i> , <i>Monotoca elliptica</i> and <i>Xanthorrhoea resinifera</i> .	Unlikely. Suitable habitat not available in subject site	No
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	E	CE	Occurs on dunes and flats, cheniers, berms, cobbles, headlands, scree, seacliffs, marginal bluffs, spits, deltaic deposits, coral rubble and islands.	Unlikely. Suitable habitat not available in subject site	No
Subtropical and Temperate Coastal Saltmarsh	-	V	Typically restricted to the upper intertidal environment; mainly associated with the soft substrate shores of estuaries and embayments (sandy and/or muddy) and on some open, low wave energy coasts).	Unlikely. Suitable habitat not available in subject site	No
Western Sydney Dry Rainforest and Moist Woodland on Shale	E	CE	It generally occurs in rugged terrain and other patches may occur on undulating terrain, with dry rainforest patches typically occupying steep lower slopes and gullies, and moist woodland patches typically occupying upper sections of the slope. Occurs almost exclusively on clay soils derived from Wianamatta Group shales.	Unlikely. Suitable habitat not available in subject site	No

TSC Act: E1 = Endangered, E2 = Endangered Population, E4 = Extinct, E4A = Critically Endangered, V = Vulnerable; EPBC Act: M = Migratory; Mar = Marine, Bonn = Listed migratory species under Bonn Convention, CD = Conservation Dependent, CE = Critically Endangered, E = Endangered, V = Vulnerable, X = Extinct

Table 3: Likelihood of occurrence and requirement of impact assessment for threatened flora species

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
FLORA							
<i>Acacia bynoeana</i>	Bynoe's Wattle	E	V	Found in central eastern NSW, from the Hunter District (Morisset) south to the Southern Highlands and west to the Blue Mountains.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Acacia terminalis</i> subsp. <i>terminalis</i>	Sunshine Wattle	E	E	<i>Acacia terminalis</i> subsp. <i>terminalis</i> has a very limited distribution, mainly in near-coastal areas from the northern shores of Sydney Harbour south to Botany Bay, with most records from the Port Jackson area and the eastern suburbs of Sydney. It occurs in coastal scrub and dry sclerophyll woodland on sandy soils.	146	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Asterolasia elegans</i>	-	E	E	Hawkesbury sandstone. Found in sheltered forests on mid- to lower slopes and valleys.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Caladenia tessellata</i>	Thick-lipped Spider-orchid	E	V	Grassy sclerophyll woodland on clay loam or sandy soils, or low woodland with stony soil	0	Unlikely. Suitable habitat not recorded within subject site. No	No

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
						known records within locality.	
<i>Cryptostylis hunteriana</i>	Leafless Tongue-orchid	V	V	Coastal heathlands, margins of coastal swamps and sedgeland, coastal forest, dry woodland, and lowland forest.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Callistemon linearifolius</i>	Netted Bottlebrush	V	-	<i>Callistemon linearifolius</i> has been recorded from the Georges River to Hawkesbury River in the Sydney area, and north to the Nelson Bay area of NSW, growing in dry sclerophyll forest. For the Sydney area, recent records are limited to the Hornsby Plateau area near the Hawkesbury River.	2	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Chamaesyce psammogeton</i>	Sand Spurge	E	-	<i>Chamaesyce psammogeton</i> is known from coastal sites north from near Jervis Bay as well as on Lord Howe Island. It is a prostrate perennial herb, which grows on foredunes and exposed sites on headlands often with spinifex grass.	3	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Darwinia biflora</i>	-	V	V	Recorded in Ku-ring-gai, Hornsby, Baulkham Hills and Ryde local government areas, in an area bounded by Maroota, North Ryde, Cowan and Kellyville.	1	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	-	V	-	Recorded from Gosford in the north, to Narrabeen in the east, Silverdale in the west and Avon Dam vicinity in the South.	2	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Eucalyptus camfieldii</i>	Camfield's Stringybark	V	V	<i>Eucalyptus camfieldii</i> is associated with shallow sandy soils bordering coastal heath with other stunted or mallee eucalypts, often in areas with restricted drainage and in areas with laterite influenced soils, thought to be associated with proximity to shale.	11	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V	V	New England Tablelands from Nundle to north of Tenterfield.	3	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Hibbertia superans</i>	-	E	-	<i>Hibbertia superans</i> mainly occurs in the north west Sydney region between Baulkham Hills and Wisemans Ferry, with a disjunct occurrence near Mt Boss (inland from Kempsey) on the Mid North Coast of NSW. In the Sydney region it occurs in dry sclerophyll forest on sandstone ridgetops while the northern occurrence is on granite.	1	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Genoplesium baueri</i>	Yellow Gnat-orchid	E	E	Known from coastal areas from northern Sydney south to the Nowra district. Previous records from the Hunter Valley and Nelson Bay are now thought to be erroneous. Grows in shrubby woodland in open forest on shallow sandy soils.	0	Unlikely. Suitable habitat not recorded within subject site. No	No

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
						known records within locality.	
<i>Grammitis stenophylla</i>	Narrow-leaf Finger Fern	E	-	Rainforest and moist eucalypt forest, usually near streams, on rocks or in trees.	1	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Melaleuca biconvexa</i>	Biconvex Paperbark	V	V	Damp places, often near streams or low-lying areas on alluvial soils.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Melaleuca deanei</i>	Deane's Melaleuca	V	V	Heath on sandstone.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Microtis angusii</i>	Angus's Onion Orchid	E	E	Currently only known from one site at Ingleside in the north of Sydney. The dominant species occurring on the highly disturbed Ingleside site are introduced weeds <i>Hyparrhenia hirta</i> (Coolatai grass) and <i>Acacia saligna</i> . Most likely associated with the Duffys Forest vegetation community. Exists as subterranean tubers during most of the year, producing leaves and then flowering stems in late	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
				winter and spring and flowers from May to October. By summer, the above ground parts have withered leaving no parts above ground.			
<i>Pelargonium</i> sp. <i>Striatellum</i>	Omeo Stork's-bill	E	E	Irregularly inundated or ephemeral lakes, in the transition zone between surrounding grasslands or pasture and wetland or aquatic communities.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Persoonia hirsuta</i>	Hairy Geebung	E	E	Scattered distribution around Sydney, from Singleton in the north, along the east coast to Bargo in the south and the Blue Mountains to the west.	24	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Persoonia laxa</i>	-	Presumed extinct	Extinct	Listed as extinct. <i>Persoonia laxa</i> is found in dry sclerophyll woodland and forest, heathland or coastal sand communities.	1	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Pimelea curviflora</i> var. <i>curviflora</i>	-	V	V	Confined to the coastal area of the Sydney and Illawarra regions between northern Sydney and Maroota in the north-west and Croom Reserve near Albion Park in the south.	23	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Prostanthera junonis</i>	Somersby Mintbush	E	E	Likely to be restricted to the Somersby Plateau, found on the Somersby and Sydney Town soil landscapes. Occurs predominantly in the low woodland component of the Hawkesbury Sandstone Complex dominated by <i>Eucalyptus haemastoma</i>	2	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
				with <i>Banksia ericifolia</i> or <i>Banksia serrata</i> in the understorey			
<i>Prostanthera marifolia</i>	Seaforth Mintbush	CE	CE	<i>Prostanthera marifolia</i> is currently only known from the northern Sydney suburb of Seaforth and within Manly Dam Reserve and has a very highly restricted distribution. It occurs in localised patches in deeply weathered clay-loam soils associated with ironstone and scattered shale lenses	102	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Senecio spathulatus</i>	Coast Groundsel	E		There is only one confirmed record of <i>Senecio squarrosus</i> from NSW, dated 1819, from the "Port Jackson" area.	1	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E	V	Only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest.	14	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Tetradlea glandulosa</i>	-	V	-	Found from Sampons Pass (Yengo NP) in the north to West Pymble (Lane Cove NP) in the south. The eastern limit is at Ingleside (Pittwater LGA) and the western limit is at East Kurrajong (Wollemi NP).	38	Unlikely. Suitable habitat not available within subject site.	No. Not recorded during site inspection.
<i>Thesium australe</i>	Austral Toadflax	V	V	Grassland on coastal headlands or grassland and grassy woodland away from the coast.	0	Unlikely. Suitable habitat not recorded within subject site. No	No

Scientific Name	Common Name	TSC Status	EPBC Status	Distribution and habitat	Number of records within 5 km radius of subject site	Likelihood of occurrence	Impact Assessment Required
						known records within locality.	

TSC Act: E1 = Endangered, E2 = Endangered Population, E4 = Extinct, E4A = Critically Endangered, V = Vulnerable; EPBC Act: M = Migratory; Mar = Marine, Bonn = Listed migratory species under Bonn Convention, CD = Conservation Dependent, CE = Critically Endangered, E = Endangered, V = Vulnerable, X = Extinct

Table 4: Likelihood of occurrence and requirement of impact assessment for threatened fauna species

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
AMPHIBIANS							
<i>Pseudophryne australis</i>	Red-crowned Toadlet	V		Confined to the Sydney Basin, from Pokolbin in the north, the Nowra area to the south, and west to Mt Victoria in the Blue Mountains.	38	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	V	V	Forages in woodlands, wet heath, and dry and wet sclerophyll forest. Associated with semi-permanent to ephemeral sand or rock based streams where the soil is soft and sandy so that burrows can be constructed	4	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Litoria aurea</i>	Green and Golden Bell Frog	E	V	This species has been observed utilising a variety of natural and man-made waterbodies such as coastal swamps, marshes, dune swales, lagoons, lakes, other estuary wetlands, riverine floodplain wetlands and billabongs, stormwater detention basins, farm dams, bunded areas, drains, ditches and any other structure capable of storing water.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Mixophyes balbus</i>	Stuttering Frog	E	E	Rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
AVES							
<i>Anthochaera phrygia</i>	Regent Honeyeater	E	CE	Inland slopes of south-east Australia, and less frequently in coastal areas. In NSW, most records are from the North-West Plains, North-West and South-West Slopes, Northern Tablelands, Central Tablelands and Southern Tablelands regions; also recorded in the Central Coast and Hunter Valley regions.	0	Unlikely. Suitable habitat not recorded within subject site. No known records in nearby locality.	No. Not recorded during site inspection.
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V	V-	Woodlands and dry open sclerophyll forest, usually eucalypts and mallee associations. Also have recordings in shrub and heathlands and various modified habitats, including regenerating forests. In western NSW, this species is primarily associated with River Red Gum/Black Box/Coolabah open forest/woodland and associated with larger river/creek systems.		Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Daphoenositta chrysoptera</i>	Varied Sittella	V		Inhabits forest and woodland areas with a nearly continuous from the coast to the far west.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Glossopsitta pusilla</i>	Little Lorikeet	V		In NSW, found from the coast westward as far as Dubbo and Albury.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
<i>Ixobrychus flavicollis</i>	Black Bittern	V	-	In NSW, records are scattered along the east coast, with individuals rarely being recorded south of Sydney or inland.	4	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Lathamus discolor</i>	Swift Parrot	E	E	Migrates from Tasmania to mainland in Autumn-Winter. In NSW, the species mostly occurs on the coast and south west slopes.	4	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Lophoictinia isura</i>	Square-tailed Kite	V	-	In coastal areas associated tropical and temperate forests and woodlands on fertile soils with an abundance of passerine birds. May be recorded inland along timbered watercourses In NSW it is commonly associated with ridge or gully forests	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Ninox connivens</i>	Barking Owl	V	-	Wide but sparse distribution in NSW, avoiding the most central arid regions. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests.	7	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Ninox strenua</i>	Powerful Owl	V	-	In NSW, it is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains.	80	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Burhinus grallarius</i>	Bush Stone-curlew	E		Associated with dry open woodland with grassy areas, dune scrubs, in savanna areas,	10	Unlikely. Suitable habitat not	No. Not recorded

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
				the fringes of mangroves, golf courses and open forest / farmland. Forages in areas with fallen timber, leaf litter, little undergrowth and where the grass is short and patchy. Is thought to require large tracts of habitat to support breeding, in which there is a preference for relatively undisturbed in lightly disturbed.		recorded within subject site.	during site inspection.
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper		Mi	It prefers the grassy edges of shallow inland freshwater wetlands. It is also found around sewerage treatment ponds, flooded grasslands, mudflats, mangroves, rocky shores and beaches.	3	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Calidris canutus</i>	Red Knot		Mi	Red Knots are widespread around the Australian coast, less in the south and with few inland records. Small numbers visit Tasmania and off-shore islands. It is widespread but scattered in New Zealand. They breed in North America, Russia, Greenland and Spitsbergen.-	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Calidris ferruginea</i>	Curlew Sandpiper	E	CE Mi	Intertidal mudflats of estuaries, lagoons, mangrove channels; around lakes,, dams, floodwaters, flooded saltbush surrounds of inland lakes	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Calidris ruficollis</i>	Red-necked Stint	V	Mi	Breeds in north-eastern Siberia and northern and western Alaska. It follows the East Asian-Australasian Flyway to spend the southern summer months in Australia. It is found widely	10	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
				in Australia, except in the arid inland. In Australia, Red-necked Stints are found on the coast, in sheltered inlets, bays, lagoons, estuaries, intertidal mudflats and protected sandy or coralline shores. They may also be seen in saltworks, sewage farms, saltmarsh, shallow wetlands including lakes, swamps, riverbanks, waterholes, bore drains, dams, soaks and pools in saltflats, flooded paddocks or damp grasslands.			
<i>Calidris tenuirostris</i>	Great Knot	V	CE Mi	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 inlets, or exposed reefs or rock platforms.	4	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Charadrius leschenaultii</i>	Greater Sand-plover	V	V Mi	Entirely coastal in NSW, foraging on intertidal sand and mudflats in estuaries, roosting during high tide on sandy beaches or rocky shores.	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Charadrius mongolus</i>	Lesser Sand-plover	V	E Mi	Favours coastal areas including beaches, mudflats and mangroves where they forage. May be seen roosting during high tide on sandy beaches or rocky shores.	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
<i>Chlidonias leucopterus</i>	White-winged Black Tern	-	Ma;Mi	Large coastal and inland wetlands, saltfields, tidal estuaries, lagoons, grassy swamps, and sewage ponds.	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Esacus magnirostris</i>	Beach Stone-curlew	CE		Beaches, mudflats, reefs and especially islands. Open undisturbed beaches, islands, reefs, intertidal sand and mudflats, preferably with estuaries or mangroves nearby.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Gallinago hardwickii</i>	Latham's Snipe	-	Mi	A variety of permanent and ephemeral wetlands, preferring open fresh water wetlands with nearby cover. Occupies a variety of vegetation around wetlands including wetland grasses and open wooded swamps.	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Hieraaetus morphnoides</i>	Little Eagle	V		The Little Eagle is widespread in mainland Australia, central and eastern New Guinea. The Little Eagle is seen over woodland and forested areas, The population of Little Eagle in NSW is considered to be a single population. It tends to avoid rainforest and heavy forest.	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Limosa lapponica</i>	Bar-tailed Godwit	-	Mi	Mainly coastal, usually sheltered bays, estuaries and lagoons with large intertidal mudflats or sandflats. Breeds in Northern Russia, Scandinavia, NW Alaska.	5	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
<i>Numenius madagascariensis</i>	Eastern Curlew	-	Mi	Intertidal coastal mudflats, coastal lagoons, sandy spits. Breeds in Russia, NE China.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Numenius phaeopus</i>	Whimbrel	-	Mi	Intertidal coastal mudflats, river deltas and mangroves, occasionally sandy beaches. Breeds Siberia and Alaska.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Pandion cristatus</i>	Eastern Osprey	V	Mi	Associated with waterbodies including coastal waters, inlets, lakes, estuaries, beaches, offshore islands and sometimes along inland rivers. Osprey may nest on the ground, on sea cliffs or in trees. Osprey generally prefer emergent trees, often dead or partly dead with a broken off crown.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Petroica boodang</i>	Scarlet Robin	V	-	The Scarlet Robin is found in south-eastern and south-western Australia, as well as on Norfolk Island. In Australia, it is found south of latitude 25°S, from south-eastern Queensland along the coast of New South Wales (and inland to western slopes of Great Dividing Range) to Victoria and Tasmania, and west to Eyre Peninsula, South Australia; it is also found in south-west Western Australia. The Scarlet Robin lives in open forests and woodlands in Australia, while it prefers	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
				rainforest habitats on Norfolk Island. During winter, it will visit more open habitats such as grasslands and will be seen in farmland and urban parks and gardens at this time.			
<i>Pluvialis fulva</i>	Pacific Golden Plover	-	Mi	Breeds North Siberia, Alaska .Mainly coastal, beaches, mudflats and sandflats and other open areas such as recreational playing fields in Australia	3	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Pluvialis squatarola</i>	Grey Plover	-	Mi	The Grey Plover breeds around the Arctic regions and migrates to the southern hemisphere, being a regular summer migrant to Australia, mostly to the west and south coasts. It is generally sparse but not uncommon in some areas. It is occasionally found inland. The Grey Plover is almost entirely coastal, being found mainly on marine shores, inlets, estuaries and lagoons with large tidal mudflats or sandflats for feeding, sandy beaches for roosting, and also on rocky coasts	4	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Tringa incana</i>	Wandering Tattler	-	Mi	Uncommon summer migrant. Rocky coasts with reefs and platforms, offshore islands, shingle beaches or beds; occasionally coral reefs or beaches.	5	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Tringa nebularia</i>	Common Greenshank	-	Mi	Wide variety of inland and sheltered coastal wetlands. On the coast uses sheltered estuaries and bays with extensive mudflats,	1	Unlikely. Suitable habitat not	No. Not recorded

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
				mangrove swamps, muddy shallows of harbours and lagoons, occasionally rocky tidal ledges. Away from the coast both temporary and permanent wetlands such as billabongs, swamps, lakes, floodplains, sewage farms and saltworks ponds and flooded irrigated crops. Generally prefers wet and flooded mud and clay rather than sand		recorded within subject site.	during site inspection.
<i>Tringa stagnatilis</i>	Marsh Sandpiper	-	Mi	Coastal - Permanent or ephemeral wetlands of varying degrees of salinity, commonly inland. Breeds Eastern Europe to Eastern Siberia	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	Associated with forest with sparse, open, understorey, typically dry sclerophyll forest and woodland and especially the ecotone between wet and dry forest, and non-forest habitat. Known to utilise forest margins and isolated stands of trees within agricultural land and heavily disturbed forest where its prey of small and medium sized mammals can be readily obtained.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
MAMMALS							
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V	-	The Eastern Pygmy Possum occurs in wet and dry eucalypt forest, subalpine woodland, coastal banksia woodland and wet heath. Pygmy-Possums feed mostly on the pollen and	44	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
				nectar from banksias, eucalypts and understorey plants and will also eat insects, seeds and fruit. The presence of Banksia sp. and Leptospermum sp. are an important habitat feature. Small tree hollows are favoured as day nesting sites, but nests have also been found under bark, in old birds' nests and in the branch forks of tea-trees			
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	Found on the east coast of NSW, Tasmania, eastern Victoria and north-eastern Qld.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Isodon obesulus obesulus</i>	Sothorn Brown Bandicoot (eastern)	E	E	This species is associated with heath, coastal scrub, sedgeland, heathy forests, shrubland and woodland on well drained, infertile soils, within which they are typically found in areas of dense ground cover. Suitable habitat includes patches of native or exotic vegetation which contain understorey vegetation structure with 50–80% average foliage density in the 0.2–1 m height range. This species is thought to display a preference for newly regenerating heathland and other areas prone to fire, but requires a mosaic of burnt and unburnt areas for survival.	1	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
<i>Petauroides volans</i>	Greater Glider		V	Eucalypt forests and woodlands. It is typically found in highest abundance in taller, montane, moist eucalypt forests with relatively old trees and abundant hollows.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby		V	Rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
<i>Perameles nasuta</i>	Long-nosed Bandicoot	E2	-	Forages mainly at or after dusk, digging for invertebrates, fungi and tubers. The conical holes it leaves in the soil are often seen at the interface of naturally vegetated and areas of open grass around the Quarantine Station, former Defence Lands and Saint Patrick's Estate.	252	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.
<i>Phascolarctos cinereus</i>	Koala	V	V	In NSW it mainly occurs on the central and north coasts with some populations in the west of the Great Dividing Range. There are sparse and possibly disjunct populations in the Bega District, and at several sites on the southern tablelands.	2	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
<i>Pseudomys novaehollandiae</i>	New Holland Mouse		V	Open heathlands, woodlands and forests with a heathland understorey, vegetated sand dunes.	0	Unlikely. Suitable habitat not recorded within subject site. No known records within locality.	No
MAMMALS (BATS)							
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat		V	Wet and dry sclerophyll forests, Cyprus Pine dominated forest, woodland, sub-alpine woodland, edges of rainforests and sandstone outcrop country.	0	Potential. Foraging habitat only recorded.	No. Impact to foraging habitat negligible in comparison to habitat within the locality
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	V	Along the eastern coast of Australia, from Bundaberg in Qld to Melbourne in Victoria.	39	Potential. Foraging habitat only recorded.	No. Impact to foraging habitat negligible in comparison to habitat within the locality
<i>Miniopterus australis</i>	Little Bentwing-bat	V	-	East coast and ranges south to Wollongong in NSW.	4	Potential.	No. Impact to foraging habitat

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
						Foraging habitat only recorded.	negligible in comparison to habitat within the locality
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V		In NSW it occurs on both sides of the Great Dividing Range, from the coast inland to Moree, Dubbo and Wagga Wagga. Maternity roosts may be located in caves, abandoned mines, concrete bunkers and lava tubes. Over-wintering roosts used outside the breeding period include cooler caves, old mines, stormwater channels, under bridges and occasionally buildings.	36	Potential. Foraging habitat only recorded.	No. Impact to foraging habitat negligible in comparison to habitat within the locality
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V		Found along the east coast from south Qld to southern NSW.	1	Potential. Foraging habitat only recorded.	No. Impact to foraging habitat negligible in comparison to habitat within the locality
<i>Myotis macropus</i>	Southern Myotis	V		In NSW, found in the coastal band. It is rarely found more than 100 km inland, except along major rivers.	4	Potential. Foraging habitat only recorded.	No. Impact to foraging habitat negligible in

Scientific Name	Common Name	TSC Act Status	EPBC Act Status	Distribution and habitat	Number of records within 5 km radius of subject site	Habitat within the subject site directly or indirectly impacted	Impact Assessment Required
							comparison to habitat within the locality
REPTILES							
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	V	-	Associated with Sydney sandstone woodland and heath land. Rocks, hollow logs and burrows are utilised for shelter. Terrestrial termitaria are required for reproduction	23	Unlikely. Suitable habitat not recorded within subject site.	No. Not recorded during site inspection.

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Appendix B : Flora species recorded on site

Species	Common Name
<i>Grevillea sp.</i>	Grevillea
<i>Eucalyptus punctata</i>	Grey Gum
<i>Corymbia maculata</i>	Spotted Gum
<i>Eucalyptus robusta</i>	Swamp Mahogany
<i>Banksia serrata</i>	Old Man Banksia
<i>Casuarina glauca</i>	Swamp She Oak
<i>Angophora costata</i>	Sydney Red Gum
<i>Eucalyptus sp.</i>	-
<i>Eucalyptus haemastoma</i>	Scribbly Gum,
<i>Banksia integrifolia</i>	Coast Banksia,
<i>Eucalyptus tereticornis</i>	Forest Red Gum
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
<i>Musa sp.</i>	-
<i>Eucalyptus saligna</i>	Sydney Blue Gum,
<i>Acacia floribunda</i>	Sally Wattle
<i>Agonis flexuosa</i>	WA Weeping Myrtle
<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Acmena smithii</i>	Lilly Pilly
<i>Plumeria acutifolia</i>	Frangipani
<i>Callistemon citrinus</i>	Crimson Bottlebrush
<i>Acacia longifolia</i>	Golden Wattle



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