

13 March 2020

Peter Brogan  
Managing Director  
Bloompark  
Suite 2.04/41 McLaren Street  
North Sydney NSW 2060

Cumberland Ecology  
PO Box 2474  
Carlingford Court 2118  
NSW Australia  
Telephone (02) 9868 1933  
ABN 14 106 144 647  
Web: [www.cumberlandecology.com.au](http://www.cumberlandecology.com.au)

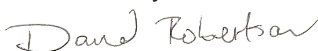
## **Trinity Grammar School Renewal Project Biodiversity Offsets Scheme Waiver Request**

Dear Peter

This letter presents a Biodiversity Assessment that has been prepared to support the proposed Development Application (DA) for Trinity Grammar School, located at 119 Prospect Road, Summer Hill NSW (the subject site) (see **Figure 1**). The purpose of this Biodiversity Assessment is to support the application of waivers to the Biodiversity Offset Scheme (BOS), operating under the NSW *Biodiversity Conservation Act 2016* (BC Act) for the proposed development. On the 27<sup>th</sup> February 2020, a request for information was issued by the Department of Environment, Energy and Science regarding potential habitat for threatened Microchiropteran Bats and the Long-nosed Bandicoot in inner western Sydney endangered population. This request for information has been addressed in **Section A.5.4.4** and **Section A.5.4.5** respectively.

Our Biodiversity Assessment is provided in **Appendix A**, BAM waiver tables are provided in **Appendix B**, flora species lists are provided in **Appendix C**, threatened species records and likelihood of occurrence are summarised in **Appendix D**, photographs associated with targeted fauna searches are located in **Appendix E** personnel and authorship details are provided in **Appendix F** and Figures shown in the **Figures** Section. Based on our Biodiversity Assessment, we recommend that a waiver for the preparation of a Biodiversity Development Assessment Report (BDAR) be sought from the Department of Planning, Industry and Environment due to a minimal risk of impacts to biodiversity values.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'David Robertson', is placed above the printed name.

David Robertson  
Director  
[David.robertson@cumberlandecology.com.au](mailto:David.robertson@cumberlandecology.com.au)

# APPENDIX A :

## Biodiversity Assessment



## A.1. Introduction

Cumberland Ecology has been requested by Bloompark Consulting Pty Ltd (Bloompark) to conduct ecological services to facilitate the proposed State Significant Development (SSD) at the Trinity Grammar School, located at 119 Prospect Road, Summer Hill (hereafter referred to as the 'subject site').

Under the NSW *Biodiversity Conservation Act 2016* (BC Act), an application for development consent for an SSD is to be accompanied by a Biodiversity Development Assessment Report (BDAR) prepared according to the Biodiversity Assessment Method (BAM), however the Secretary (or delegate) of the Department of Planning, Industry and Environment (DPIE) has the power to waive the requirement for a BDAR when proponents of SSD can clearly demonstrate that the proposed development is not likely to have a significant impact on biodiversity values. According to the Department of Planning Industry and Environment (DPIE) (DPIE 2019), for the purpose of deciding whether the requirement for a BDAR can be waived, a proposed development could be considered as unlikely to have any significant impact on biodiversity values if it (DPIE 2019):

- *will not clear or remove native vegetation other than:*
  - *a few single trees with no native understorey in an urban context*
  - *planted native vegetation that is not consistent with a Plant Community Type (PCT) known to occur in the same Interim Biogeographic Regionalisation of Australia (IBRA) subregion (e.g. street trees, trees in carparks, landscaping)*
- *will have negligible adverse impacts on threatened species or ecological communities, considering habitat suitability, abundance and occurrence, habitat connectivity, movement and water sustainability including consideration of any non-natural features, non-native vegetation and human-built structures*
- *will have negligible adverse impacts on protected animals because of impacts to flight path integrity.*

This Biodiversity Assessment has been prepared to provide information for the Planning Agency Head and the Environment Agency Head to assist them in determining whether the development is likely to have any significant impact on biodiversity values and whether a BDAR is required for the proposed development.

## A.2. Site Description

The subject site is located in a highly urban context in the suburb of Summer Hill in the Sydney Metropolitan Area. It is surrounded by urban residential development on all sides, and is bounded by Victoria Street to the west, Prospect Road to the east, and Seaview Street to the north. Directly to the south is the small urban park Yeo Park and playground. Open spaces in the subject site are dominated by grassed playing fields and tennis courts. The subject site and surrounds are shown in **Figure 1** and **Figure 2**.

The vegetation within the subject site is comprised of a combination of exotic and native species of planted origin situated within a highly artificial context, and does not comprise a native vegetation community, or any Threatened Ecological Communities listed under either the BC Act or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

### A.3. Proposed Development

The proposed development includes new teaching and educational facilities, as detailed below:

- Five (5) storey building at the heart of the Campus to accommodate contemporary, flexible teaching and learning spaces;
- Improved movement and flow for students, with better east-west and north-south links across the school grounds and between levels, including more accessible connections between the Junior School, ovals and car park, and providing strong visual and physical connections;
- Renewal and refurbishment of existing teaching and learning facilities;
- Reconfiguration and connection of underground car park to improve traffic flow for the school drop-off and pick-up zone and improve the safety of boys and visitors who enter the school grounds as pedestrians from Victoria Street;
- New multipurpose pavilion between Ovals 1 and 3 containing a championship size basketball court with practice overlay, spectator seating and amenities;
- Demolition of school-owned residences at 46, 48, 50 and 52 Seaview Street, improving the existing service, maintenance and delivery facilities; and
- Improvement and extension to Junior School outdoor teaching, assembly and recreational areas.

The layout of the proposed development is shown in **Figure 3**.

### A.4. Methodology

#### A.4.1. Desktop Assessment

A review of existing data for the subject site and surrounds was conducted to identify the vegetation communities likely to be present, and flora and fauna that have potential to occur within the subject site, including previous records of threatened species and Threatened Ecological Communities (TECs) (OEH 2016, Bionet 2019). Database analysis was conducted for the locality (5 km radius of the subject site) using both the NSW Office of Environment and Heritage OEH Bionet database and the Commonwealth Department of the Environment and Energy (DoEE) Protected Matters Search Tool to identify any threatened species that have the potential to be present. Historical aerial imagery for the subject site was reviewed to inform the site inspection and vegetation mapping and is shown in **Figure 4**.

#### A.4.2. Site Inspection

A site inspection was conducted on 21 November 2019 by an Ecologist and a Botanist to gain an understanding of current ecological values of the subject site. The site inspection included visual and photographic observations of the vegetation and habitat present within the subject site. As the vegetation on the subject site comprises landscaping plantings of limited size, no floristic plots were conducted. Random meander surveys were completed to compile detailed lists of plant species present. The locations of survey locations and photo points are shown in **Figure 5**.



### A.4.3. Fauna Habitat Assessment

A fauna habitat assessment was undertaken on the subject site on the 21 November 2019 and the 4 March 2020, with particular reference to potential microbat habitat within existing structures. Fauna habitat assessments included consideration of important indicators of habitat condition and complexity including the occurrence of microhabitats such as tree hollows, fallen logs, bush rock and wetland areas such as creeks and soaks. An assessment of the structural complexity of vegetation, the age structure of the vegetation and the nature and extent of human disturbance throughout the subject site was undertaken and considered.

### A.4.4. Targeted Fauna Surveys

#### A.4.4.1. Microchiropteran Bat Survey

A diurnal microchiropteran bat survey was undertaken on 4 March 2020 between 9:00 and 10:30 encompassing the structures proposed to be demolished or modified. The search was conducted using a handheld Anabat to detect bat calls, as well as a handheld torch to illuminate holes, crevices and cracks in which bats may be roosting. Potential ingress/egress cavities and immediately adjacent areas were visually assessed for the presence of Microchiropteran bat utilisation such as urine stains, droppings, remains or bat fly casings. Locations of survey locations and photo points are shown in **Figure 5** whilst associated photographs taken during the surveys are provided in **Appendix E**.

#### A.4.4.2. Long-nosed Bandicoot

A diurnal Long-nosed Bandicoot survey was undertaken on 4 March 2020 between 10:30 and 13:00 focussing on the structures and garden beds proposed to be demolished or modified. The surveys were conducted by searching shrubby or grassy planted vegetation, leaf litter and ground level crevices with a torch and gloves for evidence of Long-nosed Bandicoot habitat utilisation such as the presence of refuge nests, shallow nesting holes, scats or "digging" sites. Locations of survey locations and photo points are shown in **Figure 5** whilst associated photographs taken during the surveys are provided in **Appendix E**.

## A.5. Results

### A.5.1. Vegetation Communities

The vegetation within the subject site is comprised of a combination of exotic and native species of planted origin situated within a highly artificial context. The predominantly planted origin of the vegetation within the subject site is apparent upon viewing historical imagery from 1943 as shown in **Figure 4**.

Accordingly, the planted native vegetation of the subject site is not considered to conform to any Threatened Ecological Communities listed under either the BC Act or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) known from the locality. The planted native vegetation of the subject site has been divided into four categories as described below and shown in **Figure 6**. Areas of vegetation mapped within and fringing the subject site is provided in **Table 1**.

**Table 1 Vegetation Communities within and fringing the subject site**

Vegetation Community	Area (ha)
Planted Native Vegetation	0.32
Planted Non-endemic Native Vegetation	0.30
Exotic Vegetation	1.10
Exotic Dominated Grassland	2.03
Cleared Land	3.53

#### **A.5.1.1. Planted Native Vegetation**

The Planted Native Vegetation of the subject site is comprised of large and small trees native to the Sydney region. These trees are planted in rows over garden beds or exotic dominated grassland. Common planted native trees within the subject site include *Angophora costata* (Sydney Red Gum), *Corymbia maculata* (Spotted Gum), *Ficus macrophylla* (Moreton Bay Fig), *Syncarpia glomulifera* (Turpentine) and *Melaleuca quinquenervia* (Broad-leaved Paperbark). The subject site notably contains two very large *Ficus macrophylla* specimen trees adjacent to existing buildings. An example of this vegetation is shown in **Photograph 1**.

**Photograph 1 Planted Native Vegetation within the subject site**



#### **A.5.1.2. Planted Non-endemic Native Vegetation**

The Planted Non-endemic Native Vegetation of the subject site is comprised of large and small trees that are native to NSW, but are not native to the Sydney region. These stands of trees are planted in rows over garden beds or exotic dominated grassland and as boundary plantings fringing the border of the subject site. Common non-endemic native trees within the subject site include *Araucaria cunninghamii* (Hoop Pine), *Eucalyptus*

*nicholii* (Narrow-leaved Black Peppermint), *Eucalyptus scoparia* (Wallangarra White Gum), *Lophostemon confertus* (Brush Box) and *Callistemon viminalis* (Weeping Bottlebrush). An example of this vegetation is shown in **Photograph 2**.

**Photograph 2 Planted Non-endemic Native vegetation within the subject site**



#### **A.5.1.3. Planted Exotic Vegetation**

The Planted Exotic Vegetation of the subject site is comprised of large and small trees, shrubs and herbaceous species not native to NSW and cultivars of native plants. Common large exotic trees throughout the subject site include a number of very large *Cinnamomum camphora* (Camphor Laurel) trees, rows of *Platanus x acerifolia* (Hybrid Plane), scattered *Acer negundo* (Box Elder), *Jacaranda mimosifolia* (Jacaranda), *Ulmus parvifolia* (Chinese Elm), and *Pinus* sp. (Pine Tree). This vegetation community also includes scattered garden beds dominated by small trees and shrubs such as *Acer palmatum* (Japanese Maple), *Camellia japonica* (Camellia) and *Buxus microphylla* (Japanese Box) and common exotic garden herbaceous species such as *Agapanthus praecox* (Agapanthus) and *Clivia miniata* (Clivia). An example of this vegetation is shown in **Photograph 3**.



**Photograph 3 Planted Exotic Vegetation within the subject site**



#### **A.5.1.4. Exotic Dominated Grassland**

The Exotic Dominated Grassland of the subject site forms maintained turf on sports grounds and other lawn areas, and is comprised of common lawn grass cultivars such as *Cynodon dactylon* (Couch Grass) interspersed with occasional grassy and herbaceous weeds such as *Ehrharta erecta* (Panic Veldtgrass), *Gamochaeta pensylvanica* (Cudweed), *Hypochaeris microcephala* (White Flatweed), *Oxalis corniculata* (Creeping Oxalis) and *Poa annua* (Winter Grass). An example of this vegetation is shown in **Photograph 4**.

**Photograph 4 Exotic dominated grassland within the subject site**



### **A.5.2. Flora Species**

A total of 99 flora species was detected in the subject site during the site inspection, of which 32 species are native to NSW, but are predominantly of native origin, with the remaining 67 species being introduced species. The full list of flora species detected is provided in **Appendix C**.

No existing records of locally occurring threatened flora species are present on the subject site. However, the subject site contains individuals of *Eucalyptus scoparia* (Wallangara White Gum) and *Eucalyptus nicholii* (Narrow-leaved Black Peppermint), of planted origin. Neither species is endemic to the Sydney region and are frequently planted as landscape trees. *Eucalyptus scoparia* is endemic to the Tenterfield region in northern NSW and is listed as Endangered under the BC Act and as Vulnerable under the EPBC Act. *Eucalyptus nicholii* is endemic to the New England Tablelands between Nundle and Tenterfield and is listed as Vulnerable under the BC Act and EPBC Act.

Other threatened flora species are known to occur within the locality (see **Appendix D**). However due to the highly developed and artificial nature of the subject site, it is considered unlikely that any other threatened flora species would occur within the subject site.

### **A.5.3. Fauna Habitat**

The primary habitat for native fauna within the subject site is the native and exotic plantings throughout the campus. This vegetation may fall within the foraging range of a range of native fauna species including threatened species. The foraging resources of the subject site would be expected to be utilised occasionally and opportunistically by birds, Microchiropteran bats and arboreal mammals. Nectivorous and frugivorous species may utilise the native and exotic vegetation within the subject site to feed on blooms and fruit whilst

insectivorous species such as Microchiropteran bats may forage for insects throughout the canopy layer. No hollow-bearing trees were observed within the areas of vegetation to be impacted, ruling out the potential for impacts to breeding habitat for hollow nesting and roosting species.

Eight trees within the subject site were observed to contain small hollows of approximately 5cm diameter or less, with the exception of a large *Camphor laurel* located in the central portion of the subject site which contains a large hollow approximately 0.75 m from the ground and was observed to contain European Honey Bees (*Apis mellifera*). Hollow-bearing trees within the subject site are shown on **Figure 7** and are mostly comprised of the large *Ficus* sp. adjacent to buildings and along the perimeter of the subject site. These trees are located well outside of the construction footprints and will not be subject to impacts.

#### A.5.4. Fauna Habitat Assessment Photo Points

**Table 2** contains notes and photograph numbers for photographs located in **Appendix E** for photo points and habitat assessments shown in **Figure 5**.

**Table 2 Fauna habitat assessment photo point details**

Code (Figure 5)	Photograph Numbers (Appendix E)	Notes
PP1	<b>Photograph 5, Photograph 6</b>	This building will be subject to internal refurbishments and does not contain suitable microchiropteran bat roosting/refuge habitat.
PP2	<b>Photograph 7, Photograph 8</b>	This walkway will be subject to internal refurbishment and does not contain suitable microchiropteran bat roosting/refuge habitat.
PP3	<b>Photograph 9, Photograph 10</b>	This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.
PP4	<b>Photograph 11, Photograph 12</b>	This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.
PP5	<b>Photograph 13, Photograph 14</b>	This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.
PP6	<b>Photograph 15, Photograph 16</b>	This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain

Code (Figure 5)	Photograph Numbers (Appendix E)	Notes
		suitable refuge habitat for bandicoots as it is constructed on a slab.
PP7	<b>Photograph 17, Photograph 18</b>	This carpark will be subject to modification and does not contain suitable microchiropteran bat roosting/refuge habitat.
PP8	<b>Photograph 19, Photograph 20</b>	This building will be subject to modification and does not contain suitable microchiropteran bat or bandicoot roosting/refuge habitat.
PP9	<b>Photograph 21, Photograph 22</b>	This carpark will be subject to modification and does not contain suitable microchiropteran bat roosting/refuge habitat.
BS1	<b>Photograph 23, Photograph 24</b>	Garden bed to be removed adjacent to House 1. No evidence of bandicoot activity.
BS2	<b>Photograph 25, Photograph 26</b>	Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.
BS3	<b>Photograph 27, Photograph 28</b>	Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.
BS4	<b>Photograph 29, Photograph 30</b>	Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.
BS5	<b>Photographs 31, Photograph 32</b>	Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.
BS6	<b>Photograph 33, Photograph 34</b>	Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.
BS7	<b>Photograph 35, Photograph 36</b>	Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.
BS8	<b>Photograph 37, Photograph 38</b>	Trees to be removed. No evidence of bandicoot activity.

### A.5.5. Threatened Fauna Species

A limited number of threatened fauna species are known to occur within the locality of the subject site (see Appendix D). Threatened fauna that would be expected to utilise the foraging resources within the subject site and immediate surrounds include highly mobile, aerial species such as The Grey-headed Flying-fox (*Pteropus*



*poliocephalus*), the Powerful Owl (*Ninox strenua*), Superb Fruit-Dove (*Ptilinopus superbus*), Microchiropteran bats and the Long-nosed Bandicoot. Grey Headed Flying Fox

The Grey-headed Flying Fox is listed as Vulnerable under the BC Act and the EPBC Act. There are many records of Grey Headed Flying Fox near within the locality as there is a number of breeding camps located within 20 km of the subject site which is considered to be the foraging range of the species. Nearby camps include the Wolli Creek camp located approximately 3 km south of the subject site and the Gladesville camp located approximately 7 km northwest of the subject site, and the Centennial Park camp and Sydney Botanic Gardens camps, both located approximately 9 km east of the subject site (DoEE 2019). Grey Headed Flying Foxes from these camps are likely to fly over the subject site in search of foraging resources such as fruit, nectar and pollen (OEH 2019a). Whilst Grey-headed Flying Foxes are likely to forage within the subject site, it does not contain a roosting camp.

#### **A.5.5.1. Powerful Owl**

The Powerful Owl is listed as Vulnerable under the BC Act. The Powerful Owl occupies a territory of up to 4000 ha and may occasionally and opportunistically hunt for arboreal mammal prey species such as the Common Ringtail Possum (*Pseudocheirus peregrinus*) within the subject site as part of a larger foraging range (OEH 2019c); however the Urban Exotic/Native vegetation within the subject site would not be expected to support an abundance of prey species. Nonetheless, the Powerful Owl may utilise the limited foraging values within the subject site to opportunistically hunt for prey such as Ring-tailed Possums (*Pseudocheirus peregrinus*) or feral fauna which may have the potential to occur.

#### **A.5.5.2. Superb Fruit Dove**

The Superb Fruit-Dove is listed as Vulnerable under the BC Act. The Superb Fruit Dove 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 (OEH 2017). Part of the population is migratory or nomadic. There are records of single birds flying into lighted windows and lighthouses, indicating that birds travel at night. At least some of the population, particularly young birds, moves south through Sydney, especially in autumn (OEH 2018c). It is likely that the subject site would be used as part of this broader migratory or nomadic range but would not support breeding habitat as it does not contain rainforest or closed forests.

#### **A.5.5.3. Microchiropteran Bats**

Microchiropteran bats are known to forage for insects in urban areas and would be expected to occasionally and opportunistically access the foraging resources within the subject site. The species most likely to access the site is the Large Bent-winged Bat (*Miniopterus orianae oceanensis*). A total of two threatened Microchiropteran bats listed under the BC Act have been recorded in the locality previously since 1980 and include the Large Bent-wing Bat (*Miniopterus orianae oceanensis*) (13 records) and the Southern Myotis (*Myotis macropus*) (2 records). Both of these microchiropteran bat species are listed as Vulnerable under the BC Act.

Due to the low number (15) of records within the locality and consideration of the sub-optimal habitat available, the subject site is considered unlikely to be important to either the Large-Bent-wing Bat or the Southern Myotis



as it is likely only utilise periodically as part of a broader range. Further discussion regarding each species is provided below.

#### **A.i. Large Bent-wing Bat**

The Large Bent-winged Bat occurs along the entire east coast of NSW where it primarily utilises caves for roosting. The species is also known to utilise derelict mines, stormwater tunnels, buildings and other manmade structures for roosting. Foraging primarily occurs in forested areas where it preys on flying insects above the canopy (OEH 2019b).

The subject site does not contain caves and the buildings to be demolished or modified are not considered to constitute roosting/refuge habitat for the species as they are well maintained and lack suitable crevices/cracks for access/egress. Photographs of the structures present proposed to be demolished/modified are provided in **Appendix E**

Targeted searches conducted throughout the structures in question in accordance with the methods outlined in **Section A.4.3.1** did not result in visual or aural observations of microchiropteran bats, nor did it result in observations of microchiropteran bat utilisation such as urine stains, droppings, remains or bat fly casings. Analysis of handheld ultrasonic detectors utilised during the habitat searches did not record any microchiropteran bat calls.

#### **A.ii. Southern Myotis**

The Southern Myotis forages at streams and pools within various habitats, but typically within 100 km inland. It roosts in groups of 10-15 close to water in caves, but can also roost in mine shafts, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage.

As discussed above for the Large Bent-wing Bat, the subject site does not contain buildings suitable for roosting. The subject site contains few hollow-bearing trees, all of which are located outside of the development footprint as shown in **Figure 7**. Furthermore, for habitat to be considered as roosting habitat for this species it needs to be in close proximity to water sources, which are absent from, and nearby the subject site.

#### **A.5.5.4. Long-Nosed Bandicoot population in inner western Sydney**

The Long-Nosed Bandicoot is not currently listed on the schedules of the BC Act or the EPBC Act as a threatened species, however an Endangered Population is listed on the BC Act, occurring in the former local government areas of Marrickville and Canada Bay with potential to occur in surrounding areas throughout a wider distribution (Scientific Committee 2008). The subject site falls within the former local government area of Ashfield which at the time that the final determination was written, was only considered to be a likely area of occupancy (Scientific Committee 2008). Long-nosed Bandicoots in inner western Sydney are thought to seek shelter under old houses and buildings or in nests made from vegetation litter in shallow depressions or within dense vegetation (Scientific Committee 2008). The species prefers to forage within areas containing an open understorey (Scientific Committee 2008).

It is acknowledged that the westernmost records of the species exist approximately 500 m to 700 m east of the subject site. These records are associated with the Light Rail corridor and Hoskins Park, and were recorded in

2007. More recent records of the population exist approximately 1 km east of the subject site. Individuals of the species are known to occupy a territory of approximately 4.4 ha for males and 1.7 ha for females, indicating that the subject site may be outside of the territory of individuals within the known westernmost utilised habitat along the rail corridor and associated parks. Whilst the species generally has a high rate of juvenile mortality, juveniles generally disperse widely to attempt to colonise habitat outside of the home range of their mothers, indicating that the subject site may be within the dispersal range of the known habitat (Scientific Committee 2008). However, between the area of known occurrence along the rail corridor and the subject site exist a number of potential barriers such as fencing, dense pockets of houses and large roads (most notably Old Canterbury Road) which are recognised as being factors currently fragmenting bandicoot populations (DPIE 2018). These barriers may reduce the potential for dispersal from bandicoots along the rail corridor.

Targeted habitat assessments were subsequently conducted in accordance with the methods described in **Section A.4.3.2** throughout garden beds and around structures to be demolished or modified. None of the structures in question contain suitable ground level openings suitable to be used by the Long-nosed Bandicoot as refuge habitat. All of the buildings to be demolished or modified appear to have been constructed upon slabs as shown in **Appendix E** and do not contain ground level cavities. No bandicoot individuals or evidence of bandicoot habitat utilisation such as scats, nesting sites, shallow burrows or diggings were observed within garden beds proposed to be impacted as shown in **Appendix E**. The leaf litter and mulch throughout all garden beds subject to searches were uniform and undisturbed. Subsequently, the garden beds containing open understorey vegetation are considered to constitute potential but likely unutilised foraging habitat for the Long-nosed Bandicoot as part of a larger foraging range. The lack of evidence of bandicoot utilisation of the subject site and a lack of records of the species in the direct surrounds suggests that the population does not utilise the denser pockets of vegetation within the subject site as diurnal refuge sites or as breeding sites.

## A.6. Impact Assessment

According to the Department of Planning Industry and Environment, for the purpose of deciding whether the requirement for a BDAR can be waived, a proposed development could be considered as unlikely to have any significant impact on biodiversity values if it (DPIE 2019):

- *will not clear or remove native vegetation other than:*
  - a few single trees with no native understorey in an urban context
  - planted native vegetation that is not consistent with a Plant Community Type (PCT) known to occur in the same Interim Biogeographic Regionalisation of Australia (IBRA) subregion (e.g. street trees, trees in carparks, landscaping)
- *will have negligible adverse impacts on threatened species or ecological communities, considering habitat suitability, abundance and occurrence, habitat connectivity, movement and water sustainability including consideration of any non-natural features, non-native vegetation and human-built structures*
- *will have negligible adverse impacts on protected animals because of impacts to flight path integrity.*

These criteria are addressed in further detail in **Appendix B**.

### A.6.1. Native Vegetation

The proposed development will not remove any significant areas of native vegetation. The majority of the vegetation to be removed is comprised of planted Exotic and Non-endemic Native Vegetation that is not consistent with a PCT known to occur in the Sydney Metropolitan IBRA region in which the subject site is located. Planted Non-endemic Vegetation is proposed to be impacted with the removal of a row of juvenile *Araucaria cunninghamii* (Hoop Pine) trees and two *Lophostemon confertus* (Brush Box), all adjacent to existing driveways within the subject site. Planted Non-endemic Vegetation to be impacted comprises a 0.03 ha area of the subject site. Planted exotic vegetation is proposed to be impacted with the removal of two rows of exotic trees, predominantly consisting of *Platanus x acerifolia* (Hybrid Plane), *Populus* sp. (Hybrid Poplar) and *Liquidambar styraciflua* (Liquidambar) comprising a 0.12 ha area. The Planted Native Vegetation to be removed is comprised of three *Melaleuca quinquenervia* (Broad-leaved Paperbark) trees in the northern portion of the subject site comprising a 0.03 ha area.

The trees to be removed have previously been planted for landscaping purposes and do not comprise a naturally occurring vegetation community. None of the trees to be impacted contain habitat features such as hollows, fissures or decorticated bark. **Table 3** contains a breakdown of the areas of vegetation to be impacted as a result of the project.

**Table 3 Areas of Vegetation Proposed to be Impacted**

Vegetation Community	Area (ha)
Planted Native Vegetation	0.03
Planted Non-endemic Native Vegetation	0.03
Exotic Vegetation	0.12
<b>Total</b>	<b>0.18</b>

### A.6.2. Threatened Species and Ecological Communities

As outlined above, the vegetation of the subject site does not comprise any naturally occurring PCT and does not conform to listings of any TEC.

Due to the highly urban nature of the subject site and its surrounds, there is limited potential for threatened species to occur. No threatened flora species have been recorded or are considered likely to occur. However as described in **Section A.4.5** there is minor potential for threatened fauna species to access foraging resources throughout the subject site, including the Grey-headed Flying-fox, the Powerful Owl, microchiropteran bats and to a lesser extent, the Superb Fruit Dove and the Long-nosed Bandicoot. Subsequently, the impacts of the proposed development upon threatened species is considered very minor and is limited to the removal of a small area (0.18 ha) of relatively low quality potential foraging habitat comprised predominantly of exotic trees and small non-endemic native trees.

### A.6.3. Biodiversity Values Assessment

**Table 5 in Appendix B** contains a breakdown of the relevance of the biodiversity values defined within the BC Act - Part 1 Section 1.5 and the BC Regulation - Part 1 Clause 1.4.

## A.7. Conclusion

The proposed development has been assessed against the DPIE criteria for significant impact to biodiversity values as outlined **Appendix B**. This assessment has demonstrated that the development of Trinity Grammar School is highly unlikely to have significant impacts upon defined biodiversity values as a result of the proposed project. The Project is anticipated to impact a 0.13 ha area of planted Exotic Vegetation and a 0.03 ha area of planted Non-endemic Native Vegetation and a 0.03 ha area of Planted Native Vegetation none of which are considered to conform to any recognised PCT known to occur within the Cumberland IBRA Subregion due to their planted origin. This area of vegetation may comprise potential and marginal foraging habitat within the broad habitat ranges of highly mobile native fauna including threatened species such as the Superb Fruit-Dove, Grey-headed Flying Fox, microchiropteran bats, the Long-nosed Bandicoot and the Powerful Owl.

When assessing impacts to potentially occurring threatened species from the project at Trinity Grammar School, there is limited justification for considering impacts to threatened species with the detail required under the BAM. The project may result in a small reduction of marginal foraging habitat for highly mobile, aerial threatened species. When assessing impacts likely from the project in its current form, there is very little likelihood of significant impacts to threatened species. On the basis of our investigations, we believe that the preparation of a BDAR is not necessary, due to the low likelihood of impacts to biodiversity and the low likelihood of utilisation of the subject site by threatened species. Therefore, we recommend that a waiver for the preparation of a BDAR be sought from DPIE for the proposed development at Trinity Grammar School.

## A.8. References

- Bionet. 2019. Threatened Biodiversity Data Collection
- DoEE. 2019. National Flying-fox Monitoring Viewer. Canaberra, ACT.
- DPIE. 2018. Bandicoots.
- DPIE. 2019. State Significant Development - Applying for a biodiversity development assessment report waiver.
- OEH. 2016. The Native Vegetation of the Sydney Metropolitan Area - VIS\_ID 4489. Office of Environment and Heritage, Sydney.
- OEH. 2017. Superb Fruit-Dove - Profile. NSW Office of the Environment and Heritage, website: <http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10709>.
- OEH. 2019a. Grey-headed Flying-fox - profile. NSW Office of Environment and Heritage., Hurstville.
- OEH. 2019b. Large Bent-winged Bat - profile. Office of Environment and Heritage, Hurstville.
- OEH. 2019c. Powerful Owl - profile. Office of Environment and Heritage, Hurstville.
- Scientific Committee. 2008. Long-nosed bandicoot (*Perameles nasuta*) Geoffroy, 1804 in inner western Sydney - endangered population listing.

# APPENDIX B :

## Proponent and Biodiversity Assessment Details



**Table 4 Biodiversity development assessment report waiver request information requirements**

Criteria	Details
<b>Admin</b>	
Proponent Name:	Trinity Grammar School
Proponent Contact Details:	Project Manager: Peter Brogan – Bloompark Consulting Pty Ltd, 0432 094 698, pbrogan@bloompark.com.au
Project ID:	SSD 10371
Name and Ecological Qualifications of assessors completing the Biodiversity Assessment Table:	See <b>Appendix E</b> .
<b>Site Details</b>	
Street Address:	Prospect Road, Summer Hill, NSW, 2130
Lot and DP:	Lot 6 DP 15765 Lot 19 DP 15765 Lot 5 DP 15765 Lot 18 DP 15765 Lot 11 DP 1171965
LGA:	Inner West Council
Description of existing development site:	See <b>Section A.2</b> and <b>Section A.5</b>
Location Map:	See <b>Figure 1</b>
Site Map:	See <b>Figure 2</b>
Proposed Development	
Project Description:	See <b>Section A.3</b>
Proposed Site Plan:	See <b>Figure 3</b>
Impacts on Biodiversity Values:	See <b>Table 4</b>

**Table 5 Biodiversity values assessment**

Biodiversity Value	Meaning	Assessment within subject site
<b>Vegetation abundance 1.4(b) BC Regulation</b>	Occurrence and extent or coverage of vegetation at a particular site	Based upon analysis of historic aerial photography, it is apparent that the vast majority of the vegetation within the subject site has been planted since 1943. Based upon the results of floristic surveys, it has been concluded that the existing vegetation is comprised predominantly of planted exotic, non-endemic native and native species within garden beds and in rows as shown in <b>Figure 6</b> .

Biodiversity Value	Meaning	Assessment within subject site
		<p>The composition, structure and function of vegetation within the subject site and the surrounding landscape have been significantly altered and do not resemble vegetation in a near natural state. Furthermore, the vegetation within the subject site does not resemble any naturally occurring PCTs known from the locality or the IBRA subregion.</p> <p>The proposed development avoids impacts on native vegetation by limiting the majority of the impacts to previously cleared and developed areas, exotic vegetation and non-endemic native vegetation comprising garden beds and rows of young trees. Residual impacts are proposed to occur to planted native vegetation with the removal of three planted native <i>Melaleuca quinquenervia</i> (Broad-leaved Paperbark) trees which occur over exotic dominated garden beds. These trees were not observed to contain habitat features such as hollows.</p>
<b>Vegetation integrity</b> <b>1.5(2)(a) BC Act</b>	Degree to which the habitat needs of threatened species are present at a particular site	<p>The planted vegetation within Trinity Grammar School does not correspond to any threatened ecological communities listed under the BC Act or the EPBC Act.</p> <p>The subject site does not contain karst, caves, crevices, cliffs or other significant geological features. The subject site does not contain areas of naturally occurring rocks. The subject site contains human-made structures; however, they are not considered to comprise threatened species habitat due to their generally well-maintained condition and a lack of crevices that may be utilised by threatened species such as microchiropteran bats.</p> <p>The non-native vegetation within the subject site, including that to be removed is not considered to constitute significant habitat for threatened species as they are comprised of species offering limited habitat values. None of the non-native trees to be removed contain habitat features such as hollows, nor do they provide significant foraging opportunities for threatened species other than for potentially falling within the range of prey species.</p> <p>The vegetation within the subject site has little potential to provide habitat for threatened species other than falling within the foraging range of highly mobile, aerial species. Threatened species with the highest likelihood to utilise the subject site include the Grey Headed Flying Fox, Microchiropteran bats and the Powerful Owl and to a lesser degree the Superb Fruit Dove. These highly mobile species may occasionally and</p>

Biodiversity Value	Meaning	Assessment within subject site
		<p>opportunistically utilise the limited foraging resources of the subject site as part of a larger foraging range. Subsequently, direct and indirect impacts to the vegetation within the subject site will have very minor impacts to threatened species of the locality. The ground level vegetation of the subject site is considered to be potential but unutilised habitat for the Long-nosed Bandicoot and subsequently this species is unlikely to be impacted by the project.</p>
<b>Threatened species abundance 1.4(a) BC Regulation</b>	<p>Occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site</p>	<p>No threatened species were observed during the site inspection other than two <i>Eucalyptus nicholii</i> (Narrow-leaved Black Peppermint) and a single <i>Eucalyptus scoparia</i> (Wallangarra White Gum) of planted origin, far outside of their natural range. These species are not proposed to be removed.</p> <p>The proposed development avoids impacts on threatened species abundance by limiting the majority of the impacts to previously cleared and developed areas, exotic vegetation and non-endemic native vegetation. The large native trees within the subject site potentially comprising foraging habitat for threatened species will be retained.</p> <p>Impacts relating to vehicle strike will not change substantially from the current scenario as the development will not result in significantly increased traffic throughout the subject site. Additionally, there is little likelihood of threatened species vulnerable to vehicle strike of utilising the subject site.</p> <p>Impacts upon threatened species as a result of building demolition are considered highly unlikely due to the limited potential for such species to utilise the well-maintained buildings of the subject site lacking suitable crevices for fauna entry. No suitable refuge habitat for Microchiropteran bats or the Long-nosed Bandicoot was observed in buildings to be demolished or modified.</p> <p>There is no potential for impacts upon non-natural water bodies as they do not occur within the subject site.</p>
<b>Habitat connectivity 1.4(c) BC Regulation</b>	<p>Degree to which a particular site connects different areas of habitat of threatened species</p>	<p>The vegetation within the subject site does not significantly contribute to the habitat connectivity of the highly fragmented habitat within the locality as shown in <b>Figure 1</b>.</p>



Biodiversity Value	Meaning	Assessment within subject site
	to facilitate the movement of those species across their range	The habitat within Trinity Grammar School may marginally contribute to the habitat connectivity throughout the largely cleared and artificial landscape that dominates the Inner West LGA. Trees within the subject site may function as stepping stone habitat for highly mobile fauna, providing a degree of habitat connectivity between isolated foraging sites of the surrounding urban landscape. No threatened species would rely solely on the habitat connectivity provided by the habitat within the subject site.
<b>Threatened species movement 1.4(d) BC Regulation</b>	Degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle	As discussed above, only highly mobile and aerial threatened species would be likely to occasionally and opportunistically utilise the marginal habitat within the subject site. The proposed development is not anticipated to impede movement of threatened species within the subject site or throughout the locality. Impacts to marginal habitat within the subject site would not be expected to have any impact on the lifecycle of such species. No threatened species would rely solely on the habitat connectivity provided by the habitat within the subject site to maintain their lifecycle.
<b>Flight path integrity 1.4(e) BC Regulation</b>	Degree to which the flight paths of protected animals over a particular site are free from interference	The Trinity Grammar School is not located within the immediate vicinity of colonies of threatened aerial fauna such as the Grey-headed Flying Fox. The proposed development will be similar to the scale of existing development in the subject site, and any further impacts to flight paths as a result of the development are considered to be highly unlikely to occur.
<b>Water sustainability 1.4(f) BC Regulation</b>	Degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site	Trinity Grammar School is located sufficiently far away from mapped watercourses (>1 km) to rule out impacts upon the aquatic environment as shown on <b>Figure 1</b> . The proposed development will involve sediment control measures such that the aquatic environment will not be impacted.

# APPENDIX C :

## Flora Species List



**Table 6 Flora species list**

Family	Species Name	Common Name	Exotic	BC Act Status	EPBC Act Status	High Threat Weed
Agavaceae	<i>Agave americana</i>	Century Plant	*			
Alliaceae	<i>Agapanthus praecox</i>		*			
Alliaceae	<i>Nothoscordum gracile</i>	Onion Weed	*			
Amaryllidaceae	<i>Clivia miniata</i>		*			
Amygdalaceae	<i>Prunus</i> spp.		*			
Anthericaceae	<i>Chlorophytum comosum</i>	Spider Plant	*			Yes
Apiaceae	<i>Cyclospermum leptophyllum</i>	Slender Celery	*			
Apocynaceae	<i>Trachelospermum jasminoides</i>		*			
Araceae	<i>Monstera deliciosa</i>	Fruit Salad Plant	*			
Araliaceae	<i>Hedera helix</i>	English Ivy	*			Yes
Araliaceae	<i>Schefflera arboricola</i>		*			
Araucariaceae	<i>Araucaria heterophylla</i>	Norfolk Island Pine	*			
Arecaceae	<i>Livistona australis</i>	Cabbage Palm				
Asteraceae	<i>Bidens pilosa</i>	Cobbler's Pegs	*			Yes
Asteraceae	<i>Gamochaeta pensylvanica</i>	Cudweed	*			
Asteraceae	<i>Hypochaeris microcephala</i>	White Flatweed	*			
Asteraceae	<i>Senecio madagascariensis</i>	Fireweed	*			Yes
Asteraceae	<i>Sonchus oleraceus</i>	Common Sowthistle	*			
Asteraceae	<i>Taraxacum officinale</i>	Dandelion	*			
Betulaceae	<i>Betula</i> spp.		*			
Bignoniaceae	<i>Jacaranda mimosifolia</i>	Jacaranda	*			

Family	Species Name	Common Name	Exotic	BC Act Status	EPBC Act Status	High Threat Weed
Brassicaceae	<i>Lepidium africanum</i>	Common Peppergrass	*			
Buxaceae	<i>Buxus microphylla</i>		*			
Caryophyllaceae	<i>Paronychia brasiliensis</i>	Chilean Whitlow Wort, Brazilian Whitlow	*			
Caryophyllaceae	<i>Polycarpon tetraphyllum</i>	Four-leaved Allseed	*			
Convallariaceae	<i>Ophiopogon japonicus</i>	Dwarf lilyturf	*			
Cupressaceae	<i>Cupressus</i> spp.		*			
Cupressaceae	<i>Juniperus conferta</i>	Japanese Shore Juniper	*			
Cyatheaceae	<i>Cyathea cooperi</i>	Straw Treefern				
Cyperaceae	<i>Carex inversa</i>	Knob Sedge				
Cyperaceae	<i>Cyperus gracilis</i>	Slender Flat-sedge				
Davalliaceae	<i>Nephrolepis cordifolia</i>	Fishbone Fern				
Doryanthaceae	<i>Doryanthes excelsa</i>	Gynea Lily				
Fabaceae (Faboideae)	<i>Robinia pseudoacacia</i>	Black Locust	*			Yes
Fagaceae	<i>Quercus palustris</i>	Pin Oak	*			
Hamamelidaceae	<i>Liquidambar styraciflua</i>	Sweetgum	*			
Iridaceae	<i>Dietes grandiflora</i>		*			
Lauraceae	<i>Cinnamomum camphora</i>	Camphor Laurel	*			Yes
Lomandraceae	<i>Lomandra longifolia</i>	Spiny-headed Mat-rush				
Lythraceae	<i>Lagerstroemia indica</i>		*			
Magnoliaceae	<i>Magnolia grandiflora</i>	Southern Magnolia	*			
Malaceae	<i>Photinia serratifolia</i>	Chinese Photinia	*			


Family	Species Name	Common Name	Exotic	BC Act Status	EPBC Act Status	High Threat Weed
Malaceae	<i>Rhaphiolepis indica</i>	Indian Hawthorn	*			
Malvaceae	<i>Hibiscus</i> spp.					
Meliaceae	<i>Melia azedarach</i>	White Cedar				
Moraceae	<i>Ficus macrophylla</i>					
Moraceae	<i>Ficus microcarpa</i>		*			
Moraceae	<i>Ficus rubiginosa</i>	Port Jackson Fig				
Moraceae	<i>Morus alba</i>	White Mulberry	*			
Myrtaceae	<i>Angophora costata</i>	Sydney Red Gum				
Myrtaceae	<i>Callistemon viminalis</i>	Weeping Bottlebrush				
Myrtaceae	<i>Corymbia citriodora</i>	Lemon-scented Gum	*			
Myrtaceae	<i>Corymbia maculata</i>	Spotted Gum				
Myrtaceae	<i>Eucalyptus botryoides</i>	Bangalay				
Myrtaceae	<i>Eucalyptus microcarpa</i>	Western Grey Box				
Myrtaceae	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint		Vulnerable	Vulnerable	
Myrtaceae	<i>Eucalyptus scoparia</i>	Wallangarra White Gum		Endangered	Vulnerable	
Myrtaceae	<i>Leptospermum petersonii</i>	Lemon-scented Teatree				
Myrtaceae	<i>Lophostemon confertus</i>	Brush Box				
Myrtaceae	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle				
Myrtaceae	<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark				
Myrtaceae	<i>Metrosideros excelsa</i>	New Zealand Christmas Bush	*			
Myrtaceae	<i>Syncarpia glomulifera</i>	Turpentine				
Myrtaceae	<i>Syzygium australe</i>	Brush Cherry				
Myrtaceae	<i>Syzygium</i> spp.					

Family	Species Name	Common Name	Exotic	BC Act Status	EPBC Act Status	High Threat Weed
Myrtaceae	<i>Tristania laurina</i>	Kanooka				
Oleaceae	<i>Olea europaea</i> subsp. <i>cuspidata</i>	African Olive	*			Yes
Oxalidaceae	<i>Oxalis corniculata</i>	Creeping Oxalis	*			
Pinaceae	<i>Pinus</i> spp.		*			
Plantaginaceae	<i>Plantago lanceolata</i>	Lamb's Tongues	*			
Platanaceae	<i>Platanus x acerifolia</i>	Hybrid Plane	*			
Plumbaginaceae	<i>Plumbago auriculata</i>	Cape leadwot	*			
Poaceae	<i>Bromus catharticus</i>	Prairie Grass	*			
Poaceae	<i>Cynodon dactylon</i>	Common Couch				
Poaceae	<i>Ehrharta erecta</i>	Panic Veldtgrass	*			Yes
Poaceae	<i>Festuca arundinacea</i>	Tall Fescue	*			
Poaceae	<i>Lolium perenne</i>	Perennial Ryegrass	*			
Poaceae	<i>Poa annua</i>	Winter Grass	*			
Poaceae	<i>Sporobolus africanus</i>	Parramatta Grass	*			
Polygonaceae	<i>Rumex brownii</i>	Swamp Dock				
Polypodiaceae	<i>Platynerium bifurcatum</i>	Elkhorn Fern				
Proteaceae	<i>Grevillea</i> spp.					
Proteaceae	<i>Hakea dactyloides</i> broad leaf form					
Rhamnaceae	<i>Alphitonia excelsa</i>	Red Ash				
Rosaceae	<i>Rosa</i> spp.		*			
Rubiaceae	<i>Gardenia</i> spp.		*			
Rutaceae	<i>Coleonema pulchellum</i>		*			

Family	Species Name	Common Name	Exotic	BC Act Status	EPBC Act Status	High Threat Weed
Rutaceae	<i>Murraya paniculata</i>		*			
Salicaceae	<i>Populus nigra</i>	Lombardy Poplar	*			Yes
Sapindaceae	<i>Acer negundo</i>	Box Elder	*			Yes
Sapindaceae	<i>Acer palmatum</i>	Japanese Maple	*			
Solanaceae	<i>Capsicum frutescens</i>	Chilli	*			
Strelitziaceae	<i>Strelitzia reginae</i>		*			
Theaceae	<i>Camellia japonica</i>	Camellia	*			
Ulmaceae	<i>Celtis australis</i>		*			
Ulmaceae	<i>Ulmus glabra</i>		*			
Ulmaceae	<i>Ulmus parvifolia</i>	Chinese Elm	*			
Vitaceae	<i>Parthenocissus tricuspidata</i>		*			
Vitaceae	<i>Vitis vinifera</i>	Grape Vine	*			

# APPENDIX D :

## Threatened Species Likelihood of Occurrence Tables





**Table 7 Threatened Flora Likelihood of Occurrence**

Family	Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/Nature of Impacts
Fabaceae (Mimosoideae )	<i>Acacia pubescens</i>	Downy Wattle	4	V	V	Nil - not encountered within subject site	No impacts anticipated as it does not occur within the subject site
Myrtaceae	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	1	V	V	Planted individuals within the subject site	While the species does occur within the subject site, the individual trees are not proposed to be removed
Myrtaceae	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	9	E	V	Nil - not encountered within the subject site. Commonly planted species.	No impacts anticipated as it does not occur within the subject site
Rhamnaceae	<i>Pomaderris prunifolia</i>	<i>P. prunifolia</i> in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas	1	E		Nil - not encountered within subject site	No impacts anticipated as it does not occur within the subject site

**Table 8 Threatened Fauna Likelihood of Occurrence**

Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/ Nature of Impacts
<b>Amphibians</b>						
<i>Litoria aurea</i>	Green and Golden Bell Frog	192	E	V	Nil - suitable habitat is not present	Nil
<b>Birds</b>						
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	5	V		Likely to occur throughout the locality as part of migratory or nomadic range. The subject site may contain marginal foraging habitat that may be used occasionally and opportunistically by the species. The subject site does not contain suitable breeding habitat	The project may result in a very minor reduction in foraging habitat
<i>Apus pacificus</i>	Fork-tailed Swift	1		M	Nil - suitable habitat is not present	Nil
<i>Hirundapus caudacutus</i>	White-throated Needle-tail	1		M	Nil - suitable habitat is not present	Nil
<i>Ardenna pacificus</i>	Wedge-tailed Shearwater	1		M	Nil - suitable habitat is not present	Nil
<i>Ardenna tenuirostris</i>	Short-tailed Shearwater	4		M	Nil - suitable habitat is not present	Nil

Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/ Nature of Impacts
<i>Ardea ibis</i>	Cattle Egret	1		M	Nil - suitable habitat is not present	Nil
<i>Hieraaetus morphnoides</i>	Little Eagle	1	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Burhinus grallarius</i>	Bush Stone-curlew	4	E		Nil - suitable habitat is not present	Nil
<i>Pluvialis fulva</i>	Pacific Golden Plover	5		M	Nil - suitable habitat is not present	Nil
<i>Actitis hypoleucos</i>	Common Sandpiper	1		M	Nil - suitable habitat is not present	Nil
<i>Arenaria interpres</i>	Ruddy Turnstone	1		M	Nil - suitable habitat is not present	Nil
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	4		M	Nil - suitable habitat is not present	Nil
<i>Calidris ferruginea</i>	Curlew Sandpiper	4	E	CE, M	Nil - suitable habitat is not present	Nil
<i>Calidris ruficollis</i>	Red-necked Stint	2		M	Nil - suitable habitat is not present	Nil
<i>Gallinago hardwickii</i>	Latham's Snipe	3		M	Nil - suitable habitat is not present	Nil
<i>Limosa lapponica</i>	Bar-tailed Godwit	8		M	Nil - suitable habitat is not present	Nil

Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/ Nature of Impacts
<i>Xenus cinereus</i>	Terek Sandpiper	1	V	M	Nil - suitable habitat is not present	Nil
<i>Hydroprogne caspia</i>	Caspian Tern	2		M	Nil - suitable habitat is not present	Nil
<i>Sterna hirundo</i>	Common Tern	2		M	Nil - suitable habitat is not present	Nil
<i>Glossopsitta pusilla</i>	Little Lorikeet	2	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Neophema pulchella</i>	Turquoise Parrot	2	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Ninox strenua</i>	Powerful Owl	12	V		Likely to occur throughout the locality as part of a large foraging habitat range. The subject site may contain marginal foraging habitat that may be used occasionally and opportunistically by the species. The subject site does not contain suitable breeding habitat	The project may result in a very minor reduction in foraging habitat
<i>Tyto novaehollandiae</i>	Masked Owl	1	V		Unlikely - limited records within 5km of the subject site	Nil

Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/ Nature of Impacts
<i>Anthochaera phrygia</i>	Regent Honeyeater	1	E	CE	Unlikely - limited records within 5km of the subject site	Nil
<i>Melithreptus gularis gularis</i>	Black-chinned Honeyeater (eastern subspecies)	1	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	2	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Petroica boodang</i>	Scarlet Robin	2	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Stagonopleura guttata</i>	Diamond Firetail	1	V		Unlikely - limited records within 5km of the subject site	Nil
<b>Mammals</b>						
<i>Perameles nasuta</i>	Long-nosed Bandicoot population in inner western Sydney	24	E		Potential to occur throughout the locality as part of a larger habitat range, predominantly throughout known habitat approximately 500 m to 1 km east of the subject site. The subject site does not appear to be actively utilised by the species at the present.	Nil
<i>Phascolarctos cinereus</i>	Koala	1	E	E	Nil - suitable habitat is not present	Nil

Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/ Nature of Impacts
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	865	V	V	Likely to occur throughout the locality as part of a large foraging habitat range. The subject site may contain marginal foraging habitat that may be used occasionally and opportunistically by the species. The subject site does not contain suitable breeding habitat	The project may result in a very minor reduction in foraging habitat
<i>Myotis macropus</i>	Southern Myotis	2	V		Unlikely - limited records within 5km of the subject site	Nil
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	13	V		Likely to occur throughout the locality as part of a large foraging habitat range. The subject site may contain marginal foraging habitat that may be used occasionally and opportunistically by the species. The subject site does not contain	The project may result in a very minor reduction in foraging habitat

Scientific Name	Common Name	No. of Records	BC Act Status	EPBC Act Status	Likelihood of Occurrence	Likelihood/ Nature of Impacts
					suitable breeding habitat	

# APPENDIX E :

## Photographs



## E.1. Building Demolition/Modification Photo Points

### E.1.1. Photo Point 1 – School Hall

This building will be subject to internal refurbishments and does not contain suitable microchiropteran bat roosting/refuge habitat.

**Photograph 5**



**Photograph 6**



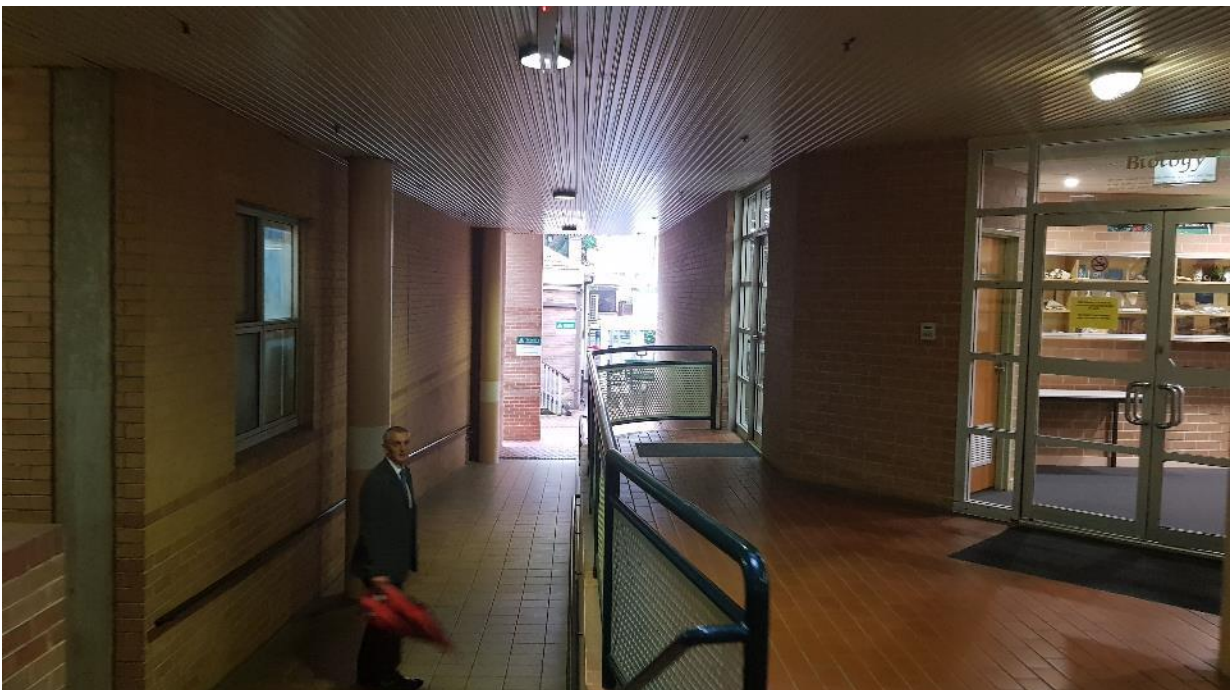
### E.1.2. Photo Point 2 – Walkway

This walkway will be subject to internal refurbishments and does not contain suitable microchiropteran bat roosting/refuge habitat.

**Photograph 7**



**Photograph 8**





### E.1.3. Photo Point 3 – House 1

This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.

**Photograph 9**



**Photograph 10**



#### E.1.4. Photo Point 4 – House 2

This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.

**Photograph 11**



**Photograph 12**





### E.1.5. Photo Point 5 – House 3

This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.

**Photograph 13**



**Photograph 14**



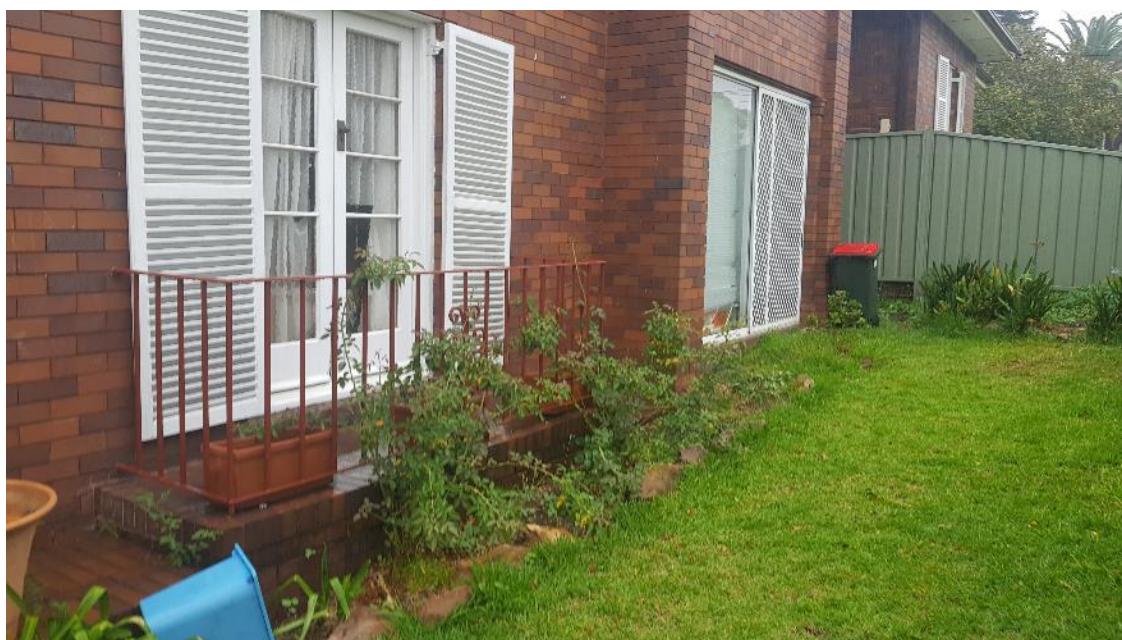
### E.1.6. Photo Point 6 – House 4

This dwelling will be subject to demolition and does not contain suitable microchiropteran bat roosting/refuge habitat nor does it contain suitable refuge habitat for bandicoots as it is constructed on a slab.

**Photograph 15**



**Photograph 16**





### E.1.7. Photo Point 7 – Carpark 1

This carpark will be subject to modification and does not contain suitable microchiropteran bat roosting/refuge habitat.

Photograph 17



Photograph 18



### E.1.8. Photo Point 8 – Existing Building

This building may be subject to modification and does not contain suitable microchiropteran bat or bandicoot roosting/refuge habitat.

**Photograph 19**



**Photograph 20**





### E.1.9. Photo Point 9 – Carpark 2

This carpark will be subject to modification and does not contain suitable microchiropteran bat roosting/refuge habitat.

**Photograph 21**



**Photograph 22**





## E.2. Bandicoot Search Photo Points

### E.2.1. Bandicoot Search 1

Garden bed to be removed adjacent to House 1. No evidence of bandicoot activity.

**Photograph 23**



**Photograph 24**





## E.2.2. Bandicoot Search 2

Garden bed to be removed adjacent to House 1. No evidence of bandicoot activity.

Photograph 25



Photograph 26





### E.2.3. Bandicoot Search 3

Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.

Photograph 27



Photograph 28





#### E.2.4. Bandicoot Search 4

Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.

Photograph 29



Photograph 30





### E.2.5. Bandicoot Search 5

Garden bed to be potentially impacted adjacent to trees to be removed. No evidence of bandicoot activity.

Photograph 31



Photograph 32

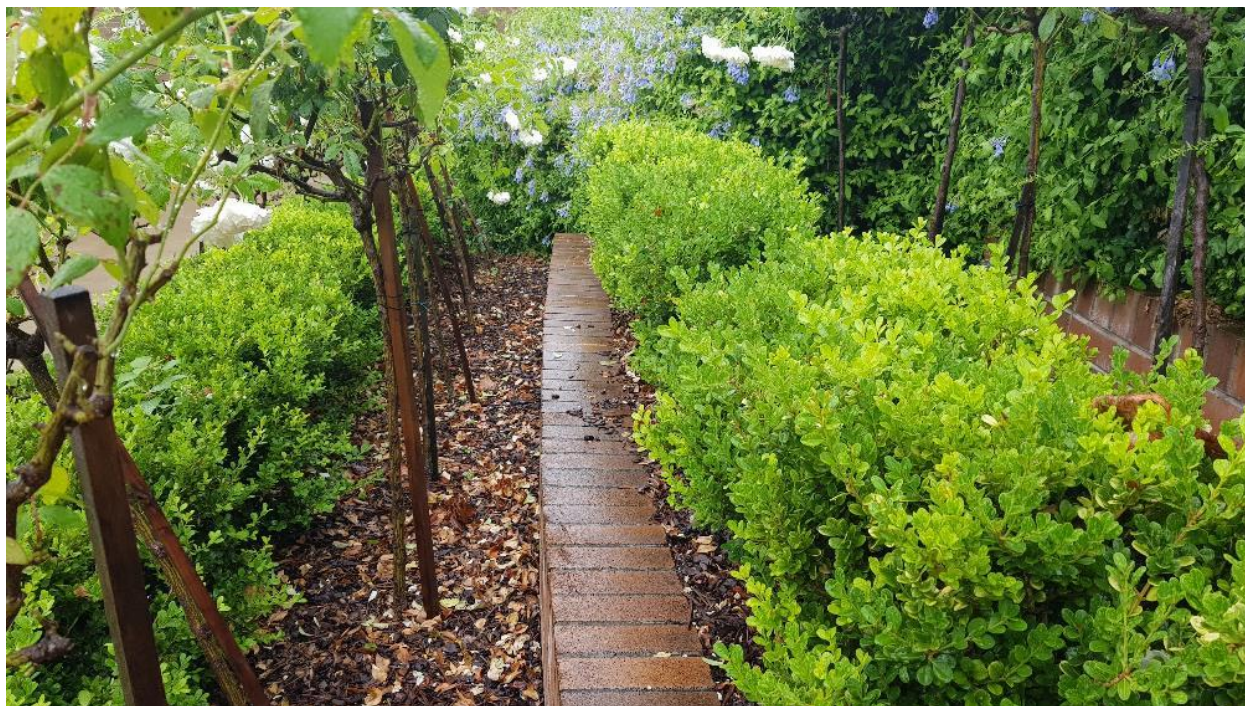




### E.2.6. Bandicoot Search 6

Garden bed to be removed adjacent to House 1. No evidence of bandicoot activity.

Photograph 33



Photograph 34





### E.2.7. Bandicoot Search 7

Garden bed to be removed adjacent to House 1. No evidence of bandicoot activity.

Photograph 35



Photograph 36





### E.2.8. Bandicoot Search 8

Trees to be removed. No evidence of bandicoot activity.

**Photograph 37**



**Photograph 38**





# APPENDIX F :

## Authorship and Personnel

This document has been prepared by Dr David Robertson (BAM Accredited Assessor No: BAAS17027). This document, associated field surveys and Geographic Information Systems (GIS) mapping, was prepared with the assistance of additional personnel as outlined in **Table 8**. Notwithstanding the assistance of the additional personnel, the assessment presented within this document is Dr Robertson's.

**Table 9 Personnel**

<b>Name</b>	<b>Tasks</b>	<b>Relevant Qualifications / Training</b>	<b>BAM Accredited Assessor No.</b>
<b>Dr David Robertson</b>	Document preparation, document review	Doctor of Philosophy. Ecology, University of Melbourne, 1986 Bachelor of Science (Honours) in Ecology, University of Melbourne, 1980 BAM Accredited Assessor Training. Muddy Boots, 2017	BAAS17027
<b>Dr Trevor Meers</b>	Document preparation, document review	Doctor of Philosophy, Restoration Ecology. University of Melbourne, 2007 Bachelor of Applied Science (Honours) in Natural Resource Management. Deakin University, 2002 BAM Accredited Assessor Training. Muddy Boots, 2017	BAAS18119
<b>Timothy Playford</b>	Document preparation	Bachelor of Science (Honours) in Ecology, University of Adelaide, 2004 Bachelor of Environmental Management. Flinders University, 2003 BAM Accredited Assessor Training. Muddy Boots, 2018	-
<b>Dr Rohan Mellick</b>	Field work, document preparation	Doctor of Philosophy, Evolutionary Ecology. The University of Adelaide, 2012 Bachelor of Applied Science (Honours) in Natural Resource Management, Southern Cross University, 2000. BAM Accredited Assessor Training. Muddy Boots, 2017	BAAS18075
<b>Michael Davis</b>	Field work, document preparation, GIS mapping	Bachelor of Biodiversity and Conservation. Macquarie University, 2016 BAM Accredited Assessor Training. Muddy Boots, 2017	-
<b>Jesse Luscombe</b>	GIS mapping	Bachelor of Marine Science. Macquarie University, 2013 Certificate III in Conservation and Land Management. TAFE NSW, 2016	-
<b>Sally Dupont</b>	Field work	Master of Research (Marine Biology), Macquarie University, 2016 Bachelor of Science, Western Sydney University, 2012 BAM Accredited Assessor Training. Muddy Boots, 2019	

# FIGURES





**Legend**

 Subject Site

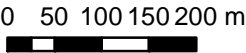
Coordinate System: MGA Zone 56 (GDA 94)

Image Source:  
Image © NearMap 2019  
Dated: 2/11/2018

Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Inner West LGA



Figure 1. Location of the subject site







**Legend**

 Subject Site

Coordinate System: MGA Zone 56 (GDA 94)

Image Source:  
Image © NearMap 2019  
Dated: 2/11/2018

Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Inner West LGA



Figure 2. Site map

0 50 m





Figure 3. The proposed development


Image Source: PMDL 2019



**Legend**

 Subject Site

Coordinate System: MGA Zone 56 (GDA 94)



Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Inner West LGA

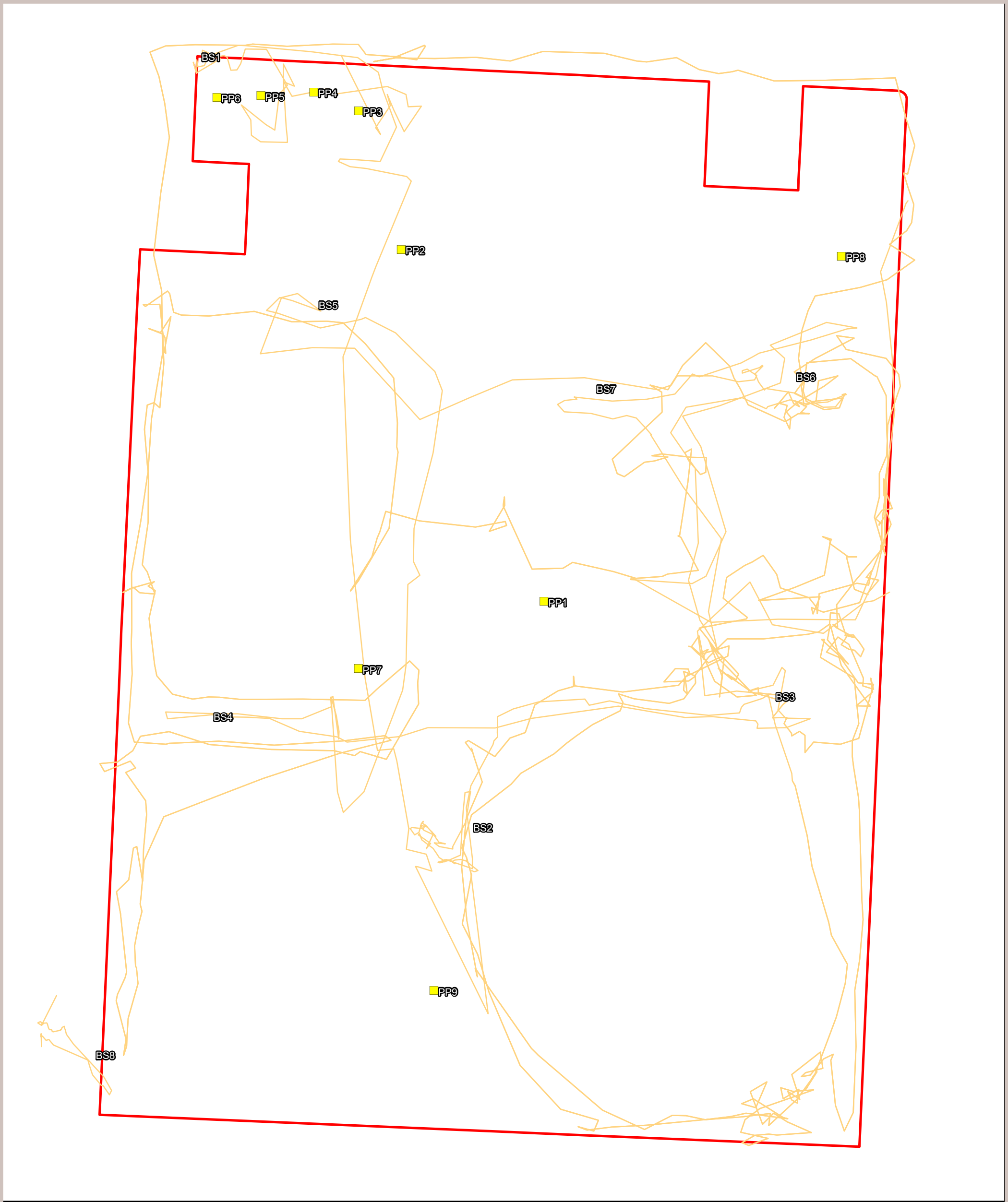


Figure 4. Historic aerial imagery (1943) of the subject land

0 50 m







- Legend**
- Subject Site
  - Bandicoot Search Locations
  - Photo Point Location
  - Survey Tracks

Coordinate System: MGA Zone 56 (GDA 94)



Image Source:  
Image © NearMap 2019  
Dated: 2/11/2018

Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Inner West LGA

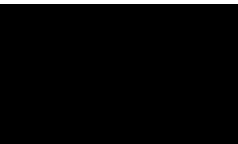


Figure 5. Survey Locations wiithin the subject site

0 50 m





# Legend

<span style="border: 2px solid red; display: inline-block; width: 20px; height: 10px;"></span>	Subject Site	<b>Vegetation Community</b>
<span style="display: inline-block; width: 15px; height: 10px; background-color: #2e7d32;"></span>		Planted Native Vegetation
<span style="display: inline-block; width: 15px; height: 10px; background-color: #8bc34a;"></span>		Planted Non-endemic Native Vegetation
<span style="display: inline-block; width: 15px; height: 10px; background-color: #ff9800;"></span>		Exotic Vegetation
<span style="display: inline-block; width: 15px; height: 10px; background-color: #fff176;"></span>		Exotic Dominated Grassland
<span style="display: inline-block; width: 15px; height: 10px; background-color: #bdbdbd;"></span>		Cleared Land

Coordinate System: MGA Zone 56 (GDA 94)



Image Source:  
Image © NearMap 2019  
Dated: 2/11/2018

Data Source:  
NSW Government Spatial Services  
SIX Maps 'Clip and Ship'  
Inner West LGA

cumberland  
ecology

Figure 6. Vegetation communities within the subject site

0 50 m



