520 Gardeners Road, Alexandria
Biodiversity Development Assessment Report Waiver

FINAL REPORT

Prepared for Project Strategy

21 December 2021

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- Project Strategy: Lachlan Andrew.
- Department of Agriculture, Water and the Environment for access to the Protected Matters Search Tool of the Australian Government.
- NSW Environment, Energy and Science Group for access to the BioNet Atlas of NSW Wildlife.

Biosis staff involved in this project were:

- Jane Raithby-Veall (field survey and reporting).
- Lauren Harley and Jenny Beckius (mapping).
- Felicity Williams (reporting).
- Rebecca Dwyer (quality assurance).

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1 Introduction

Biosis Pty Ltd was commissioned by Project Strategy to complete an ecological assessment to describe the biodiversity values associated with the proposed construction of a warehouse facility (the project) to be located at 520 Gardeners Road, Alexandria New South Wales (NSW) (the study area).

The proposed development includes construction of a two-storey warehouse and distribution centre comprising 21,952 metres squared of warehouse and distribution GFA with 5,557 metres squared ancillary office space, landscaping at ground and second floor levels, bicycle and car parking. A small amount of vegetation is proposed for retention in the northwest and south east corners of the study area.

The project will be assessed as State Significant Development (SSD) by the NSW Department of Planning, Industry, and Environment (DPIE) under Part 4 of *the Environmental Planning and Assessment Act 1979* (EP&A Act).

This ecological assessment will support an application for a Biodiversity Development Assessment Report (BDAR) waiver to accompany the Environmental Impact Statement (EIS) as part of the Development Application (DA) and in accordance with the requirements of the Planning Secretary's Environmental Assessment Requirements (SEARs) issued for the project 30 November 2021 (see Table 1). The BDAR waiver request has been lodged with DPIE and is currently in progress.

Table 1 Response to relevant SEARs (warehouses and distribution centres)

Item	Response	Where addressed
9. Biodiversity		
Assess any biodiversity impacts associated with the development in accordance with the *Biodiversity Conservation Act 2016* and the *Biodiversity Assessment Method 2020*, including the preparation of a Biodiversity Development Assessment Report (BDAR), unless a waiver is granted, or the site is on biodiversity certified land.	A BDAR waiver request has been lodged with DPIE and is currently in progress.	This report
If the development is on biodiversity certified land, provide information to identify the site (using associated mapping) and demonstrate the proposed development is consistent with the relevant biodiversity measure conferred by the biodiversity certification.	The site does not occur on biodiversity certified land.	N/A

1.1 Project background

The study area is located on the southern boundary of the suburb of Alexandria approximately four kilometres south of the Sydney Central Business District (CBD) (Appendix 1-Figure 1). The study area encompasses 1.88 hectares of private land bordered by Gardeners Road to the south and Bourke Road to the west and is defined as (Lot 302 DP 1231238).

The study area is within the City of Sydney Local Government Area (LGA) and is currently zoned under the *Sydney Local Environmental Plan 2012* (Sydney LEP) as IN1 (General Industrial), with a small portion mapped as SP2 (Infrastructure) along the western site boundary. The surrounding area includes primarily urban industrial land use, with Sydney Airport approximately 2 kilometres to the south. Vegetation surrounding the study area consist primarily of planted urban landscaping, residential gardens, street trees and urban parklands. Vegetation connectivity within the study area itself and with the surrounding landscape is poor.

The study area is not located within the Biodiversity Values Map (BV Map) (DPIE 2021). Vegetation within the study area is regulated under State Environment Protection Policies (SEPP) (Vegetation in Non-Rural Areas) 2017 (Vegetation SEPP). Vegetation within the study area has been previously cleared for development of the existing warehouse structure interspersed with landscaped areas containing planted urban native / exotic vegetation. This report outlines the ecological features of the study area, demonstrates where avoidance measures have been implemented and provides concluding statements regarding the likelihood of any impacts to threatened biota as a result of the project.

2 Methods

2.1 Database and literature review

Prior to completing the field investigation, information provided by Project Strategy as well as other key information was reviewed, including:

- Commonwealth Department of Agriculture, Water and Environment (DAWE) Protected Matters Search Tool for matters protected by the EPBC Act.
- NSW Environment, Energy and Science (EES) BioNet Atlas of NSW Wildlife, for items listed under the BC Act.
- NSW DPI *Biosecurity Act 2015* for listed priority weeds for the Greater Sydney Local Land Services (LLS) area.
- Vegetation mapping:
  - *The Native Vegetation of the Sydney Metropolitan Area - Version 3.1* - VIS_ID 4489 (OEH 2016).
- DPIE ePlanning Spatial Viewer to review relevant State and Local Government legislative requirements and planning provisions.

The implications for the project were assessed in relation to key biodiversity legislation and policy including:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *Biodiversity Conservation Act 2016* (BC Act).
- *National Parks and Wildlife Act 1974* (NPW Act).
- *Water Management Act 2000* (WM Act).
- *Biosecurity Act 2015* (Biosecurity Act).
- SEPP (Vegetation in Non-Rural Areas) 2017.
- *Sydney Local Environmental Plan 2012.*
- *Sydney Development Control Plan 2012.*

2.2 Field investigation

A field investigation of the study area was undertaken on 7 December 2021 by Biosis Principal Ecologist, Jane Raithby-Veall. Given the limited vegetation present at the site, the field survey assessed all vegetation contained within the study area over three person hours.

A habitat-based assessment was completed to determine the presence of suitable habitat for threatened species previously recorded (EES 2021) or predicted to occur (Commonwealth of Australia 2021) within 5 kilometres. This list was filtered according to species descriptions, life history, habitat preference and soil preference to determine those species most likely to be present within the study area.

3 Results

Regional soil landscape mapping indicates that the study area occurs on the Tuggerah soil landscape (Department of Planning, Industry and Environment 2020).

The study area is cleared of remnant vegetation and is currently occupied by a large warehouse facility and associated infrastructure including two tanks, a small shed/office, concreted parking facilities and driveways and landscaped garden beds consisting of ornamental native and exotic trees. The study area contains 0.04 hectares of urban native / exotic vegetation.

No fauna species were observed during the survey. Common generalist avifauna known to utilise the urban matrix would be expected to occur within the study area on a seasonal or transient basis.

The ecological values recorded at the site are shown in Appendix 1-Figure 2.

3.1 Vegetation communities

A key focus of the field investigation was to determine whether vegetation present was consistent with any known Plant community Type (PCT).

The field assessment confirmed that native vegetation at the site does not align with any PCT. Vegetation consists of planted native / exotic vegetation, consisting of trees and shrubs, with no native understorey in an urban context.

A list of flora recorded within the study area are provided in Appendix 3.

Table 2 Vegetation within the study area

VEGETATION COMMUNITY NAME	
Urban native / exotic vegetation	Planted urban native / exotic vegetation occurs along the Bourke Road fenceline in the north east corner of the site, the gateway at Gardeners Road, and within the existing carpark. The vegetation occurs in decorative pots and isolated garden beds. Native species recorded include Tallowwood *Eucalyptus microcorys*, Broad-leaved Paperbark *Melaleuca quinquenervia*, Lilly Pilly *Acmena smithii* and Water Gum *Tristaniopsis laurina*. All natives are planted with no native understorey present. Exotic species included ornamental planted trees and shrubs including Jacaranda *Jacaranda mimosifolia*, Chinese Elm Tree *Ulmus parvifolia*, Bird of Paradise *Strelitzia* sp. and Murraya Hedge *Murraya paniculata*. Urban native / exotic vegetation within the study area does not conform to any NSW PCTs due to the floristic composition of the vegetation as well as the lack of original soil profile, no evidence of successful reproduction and altered structural integrity. The study area contains 0.04 ha of this community.

3.2 Priority weeds

No priority weeds were recorded within the study area.

3.3 Threatened species

Background searches identified 19 threatened flora species and 47 threatened fauna species recorded (EES 2021) or predicted to occur (Commonwealth of Australia 2021) within 5 kilometres of the study area. Those species considered most likely to have habitat within the study area based on the background research are as follows:

- Grey-headed Flying-fox *Pteropus poliocephalus* (Vulnerable, EPBC Act and BC Act).
- Southern Myotis *Myotis macropus* (Vulnerable BC Act).
- Yellow-bellied Sheathtail-bat *Saccolaimus flaviventris* (Vulnerable, BC Act).
- Large Bent-winged Bat *Miniopterus orianae oceanensis* (Vulnerable, BC Act).
- Large-eared Piet Bat *Chalinolobus dwyeri* (Vulnerable, EPBC and BC Act).

No threatened flora, threatened ecological communities or their habitats were considered likely to occur.

An assessment of the habitat values of the study area is provided for threatened fauna in the sections below.

Grey-headed Flying-fox

The study area contains native flowering trees including two Tallowood and three Broad-leaved Paperbark, which are known feed trees for the Grey-headed Flying-fox (DAWE 2021a) (Appendix 2). Nine Broad-leaved Paperbark also occur outside the fenceline on the Bourke Road boundary that would be retained under the current design (see Appendix 5).

The nearest flying-fox camps are located at Centennial Park approximately 4.5 kilometres north east of the study area and Wolli Creek Regional Park approximately 5.6 kilometres south east of the study area (DAWE 2021b).

Although camps occur in close proximity to the study area and the species has a known foraging range of up to 50 kilometres (Tidemann & Nelson 2004), the foraging habitat within the study area is considered to be low quality based on its fragmented and isolated location and its exposure to disturbance associated with industrial activities, traffic and light pollution. It is possible that this habitat may be utilised occasionally on a seasonal or transient basis by some individuals for foraging or as a temporary refuge but it is likely to be too small and exposed to be heavily relied upon by the species. As this habitat is considered to be low quality and unlikely to be relied upon by the species the likelihood of impact to this species is considered negligible.

Microbats

Foraging habitat within the study area for insectivorous microbats is considered to be of negligible quality based on the small amount of vegetation coverage relative to the study area, absence of understorey vegetation, limited native species richness, highly fragmented nature and location in an industrialised area resulting in low abundance of invertebrates forming prey species for microbats (Luck et al. 2013, Threlfall et al. 2016). It is likely that artificial lighting in and around the study area would also inhibit microbat foraging activity (Linley 2015).

The study area is in close proximity to the artificially constructed Alexandra Canal, which was considered as potential habitat for Southern Myotis. Given the modified nature of this waterway and its location in an industrial and urbanised environment with little riparian vegetation, it is considered to represent low quality habitat for the species. In addition to the lack of records for Southern Myotis in the Alexandria area (EES 2021), it is unlikely that this species would occur in or around the study area. Impacts to this species are therefore considered unlikely.

No hollow-bearing trees which form potential nesting and roosting habitat for threatened microbats were recorded in the study area. Existing warehouse infrastructure and associated ancillary facilities were assessed for their potential to provide suitable roosting habitat for threatened microbats such as Southern Myotis, Yellow-bellied Sheathtail-bat, Large-eared Pied Bat and Large Bent-wing Bat that are known to utilise artificial structures for roosting (Churchill 2008). Building lines were observed to be clean and structurally sound with no obvious cracks or crevices that would indicate the presence of active or existing bat roosts (Appendix 2). No evidence of roosting activity was observed, and no obvious roost sites were located. In addition to the industrial location of the site, lack of connectivity with surrounding vegetation and lack of suitable foraging habitat in close proximity, there is a low likelihood that threatened microbats would be roosting in the existing site infrastructure.

The likelihood of threatened microbats utilising the study area for foraging or roosting is considered to be low. As such the likelihood of impact to threatened microbat species as a result of the project would be negligible.

3.4 Aquatic habitats

The study area does not contain any aquatic habitats. The nearest aquatic habitat is the artificially constructed Alexandra Canal, approximately 200 metres west of the site. No impacts to aquatic habitats are likely to occur as a result of the project.

The study area does not provide habitat for any further threatened species.

4 Impact Assessment

The proposed works involve the following impacts to remaining ecological features within the study area:

- Removal/modification of up to 0.04 ha of urban native / exotic vegetation.

The study area contains limited features of ecological value, restricted to the planted native trees that represent low quality foraging habitat for Grey-headed Flying-fox. Under the current design, much of the potential foraging habitat for Grey-headed Flying-fox would be retained outside the fenceline on Bourke Road and potential impacts to Grey-headed Flying-fox as a result of the project are considered negligible.

Existing site infrastructure was assessed for its potential to provide roosting habitat for threatened microbats but as no signs of roosting activity were observed and no potential roost locations (cracks, crevices) were identified removal of existing infrastructure is considered unlikely to result in any impacts to threatened microbats. In the unlikely event that a microbat roost is located during the project, works should cease and an ecologist should be contacted for advice.

Given the small area of urban native and exotic vegetation to be removed within the study area and low likelihood of microbat roosting habitat being present, no threatened biota is considered likely to be impacted by the proposed works. Information derived from this assessment to support the BDAR waiver request, as defined in Tables 1 and 2 of the document *How to apply for a biodiversity development assessment report waiver for a major project application* (DPIE 2019) is located in Appendix 4.

5 Conclusion and recommendations

5.1 Conclusion

The following recommendations have been made regarding the project to minimise indirect impacts to biodiversity values:

- Any trees to be retained should be protected in accordance with Australian Standard AS4970 – 2009 Protection of trees on development sites.
- In the unlikely event that unexpected threatened species are identified during the project, works should cease and an ecologist should be contacted for advice.
- Appropriate erosion and sediment control measures should be installed to avoid impacts to nearby waterways via stormwater collection systems.
- Minimise disturbance to any vegetation to be retained.

It is concluded that if the proposed development is to proceed as planned there will be no significant impacts to biodiversity values and a BDAR waiver should be sought in accordance with s.7.9(2) of the BC Act. Further detail is provided in Appendix 4.

References

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Appendices

Appendix 1 Figures

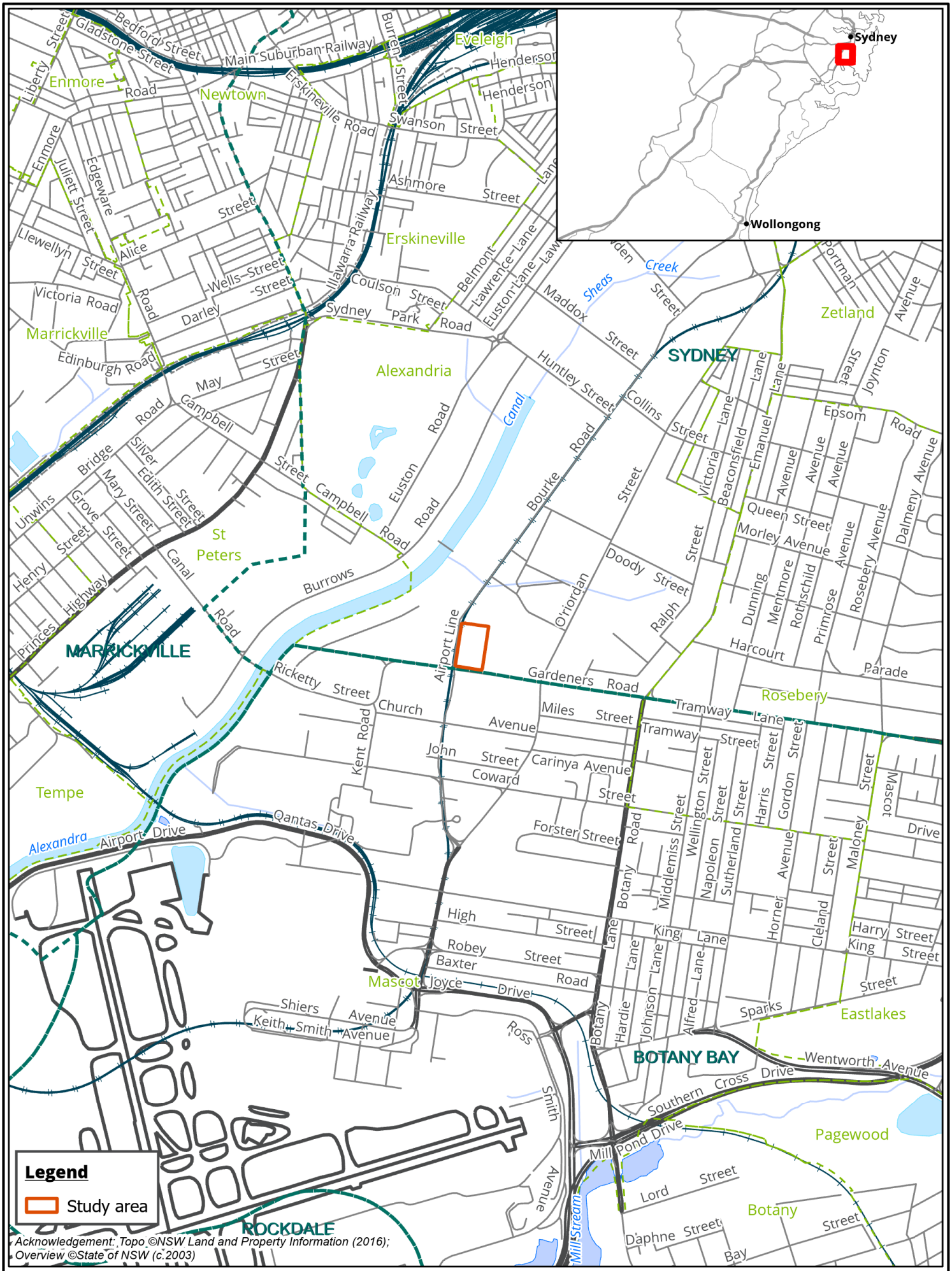

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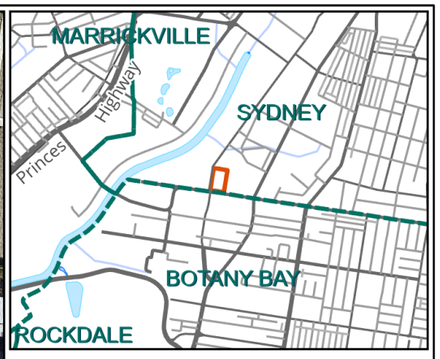
Figure 1 Location of the study area

Matter: 36527
Date: 13 December 2021,
Checked by: JR, Drawn by: JB, Last edited by: jbeckius
Location:P:\36500s\36527\Mapping\36527_BDAR_GardenersRd

0 160 320 480 640 800
Metres

N

Scale 1:20,000 @ A4, GDA 1994 MGA Zone 56



Legend

Study area

Plant Community Type

Urban Native/Exotic Vegetation

Figure 2 Ecological values

0 8 16 24 32 40

Metres

Scale: 1:1,000 @ A3

Coordinate System: GDA 1994 MGA Zone 56

N

biosis

Matter: 36527,
Date: 15 December 2021 ,
Prepared for: JR, Prepared by: JB, Last edited by: jbeckius
Layout: 36527_F2_EcoValues
Project: P:\36500s\36527\Mapping\
36527_BDAR_GardenersRd.aprx

Appendix 2 Photos

Photo 1 Planted urban native and exotic vegetation on Bourke Road fenceline.

Photo 2 Planted urban native and exotic vegetation in carpark.

Photo 3 Urban native and exotic vegetation in pots and garden beds.

Photo 4 Building profile shows no obvious roosting habitat for microbats.

Photo 5 Building interior shows no obvious roosting habitat for microbats.

Appendix 3 Flora

Flora species recorded from the study area

Table A. 1 Flora species recorded by Biosis,

Status	Scientific name	Common name
Native species		
	Eucalyptus microcorys	Tallowwood
	Melaleuca quinquenervia	Broad-leaved Paperbark
	Acmena smithii	Lilly Pilly
	Tristaniopsis laurina	Water Gum
Exotic species		
	Jacaranda mimosifolia	Jacaranda
	Ulmus parvifolia	Chinese Elm Tree
	Strelitzia sp.	Bird of Paradise
	Murraya paniculata	Murraya Hedge

Appendix 4 BDAR Waiver information

Item	Information requirement	Response
Admin	Proponent name and contact details	**Company:** Project Strategy **Contact name:** Lachlan Andrew **Contact address:** PO Box 42 Kemps Creek NSW 2178 **Contact email:** landrew@projectstrategy.com.au **Contact phone:** 0411 867 609
Site details	Street address	520 Gardeners Road, Alexandria, NSW, 2015
	Lot and DP	Lot 302 DP 1231238
	Description of development site	The development site is occupied by a large warehouse facility and associated infrastructure including a tank and small shed, concreted parking facilities and driveways and landscaped garden beds consisting of ornamental native and exotic trees. The development site is fenced on all boundaries with driveway access on both Bourke Road and Gardeners Road. Vegetation at the site occurs in in decorative pots, isolated garden beds in the existing carpark, along the Bourke Road fenceline in the north east corner of the site and the gateway at Gardeners Road.
	Location Map	Refer to Appendix 1 - Figure 1.
	Site Map	Refer to Appendix 1 - Figure 2.
Proposed development	Project description	The proposed development includes construction of a two-storey warehouse and distribution centre comprising 21,952 m2 of warehouse and distribution GFA with 5,557 m2 ancillary office space, landscaping at ground and second floor levels, bicycle and car parking. A small amount of vegetation is proposed for retention in the northwest and south east corners of the study area.
	Proposed site plan	Refer to Appendix 5.
Impacts on biodiversity	Explanation of whether a biodiversity value is or is not relevant to the proposed development. If relevant, describe nature and extent of impacts associated with the proposal.	Refer to Table 2 below.

Table 3 Impacts of the proposed development on biodiversity values

Biodiversity value	Meaning	Occurrence, potential direct, indirect or prescribed impacts
Vegetation abundance 1.4(b) BC Regulation	Occurrence and abundance of vegetation at the development site.	The study area contains 0.04 ha of ornamental native and exotic trees and shrubs occurring in decorative pots, isolated garden beds in the existing carpark, along the Bourke Road fenceline in the north east corner of the site and the gateway at Gardeners Road. The current design requires the removal of up to 0.04 hectares of urban native and exotic vegetation. Vegetation along the Bourke Road fenceline in the north east corner of the site and some individual trees at at the Gardeners Road Gateway would be retained under the current design. Urban native and exotic vegetation within the study area is not considered to conform to any NSW PCTs, due to the floristic composition of the vegetation as well as the lack of original soil profile, no evidence of successful reproduction and altered structural integrity. Refer to Figure 2.
Vegetation integrity 1.5(2)(a) BC Act	Degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near-natural state.	The original native vegetation communities within the development site and surrounding area have been completely cleared as a result of existing industrial development within the suburb. Vegetation currently located within the development site consists entirely of planted native and exotic ornamental species. The structural integrity of extant vegetation within the development site and surrounding area is considered to be low, consisting of one stratum for urban native and exotic vegetation. Vegetation cover within the development site is extremely low, being 2.1 % of the total area of the site. The development site is subject to a high degree of historical and current disturbance with no regeneration or recruitment observed. Vegetation function is considered to be low, with only one stratum, small in size and widely separated. Extant vegetation performs limited functions, mainly in the form of minor uptake of rainfall, carbon sequestration and oxygen production in addition to low production of foraging resources for frugivorous fauna.
Habitat suitability 1.5(2)(b) BC Act	Degree to which the habitat needs of threatened species are present at the development site.	The development site contains low quality foraging habitat (in the form of nectar producing feed trees) within urban native and exotic vegetation for Grey-headed Flying-fox. Under the current design the majority of this habitat would be retained outside the Bourke Road fenceline. Impacts of the proposal to the highly limited habitat available to the above listed species is considered negligible with details provided above in the body of the report. The existing man-made structures at the development site were considered for potential breeding and roosting habitat for the following species:

Biodiversity value	Meaning	Occurrence, potential direct, indirect or prescribed impacts
		• Southern Myotis, • Yellow-bellied Sheathtail-bat • Large-eared Pied Bat • Large Bent-wing Bat No evidence of roosting activity was observed, and no obvious roost sites were located. The existing building lines were observed to be structurally sound with no obvious cracks or crevices. It is considered unlikely that these structures are being utilised as roosting habitat by threatened microbats, particularly given the isolated location of the development and lack of suitable foraging habitat in close proximity. The development site is a warehouse facility set within an industrial area serviced by heavy, medium and light vehicular traffic. The proposal will not result in any significant changes to the functioning of the development site or the amount or type of vehicular traffic using the area. The proposal will not result in any significant changes to current light and noise levels within the development site or surrounding area. Based on the above, the proposal is considered highly unlikely to result in impacts either direct, indirect or prescribed to the above threatened flora and fauna species. The proposal will not impacts upon karst, caves, crevices, cliffs, other geological features of significance, or rocks.
Threatened species abundance 1.4(a) BC Regulation	Occurrence and abundance of threatened biota or their habitat at the development site.	The development site contains low quality foraging habitat for the grey-headed Flying-fox however, potential impacts are considered negligible, as outlined above particularly given that most of this habitat would be retained outside the Bourke Road fenceline under the current design. As outlined above threatened microbat species existing man-made infrastructure at the site was assessed for its potential as roosting or breeding habitat however no suitable roosting sites were identified. Given the lack of suitable foraging habitat nearby and isolated, urban location of the site it is considered unlikely that threatened microbats would be using the site for roosting. The development site is a warehouse facility within an industrial area serviced by heavy, medium and light vehicular traffic. The proposal will not result in any significant changes to the functioning of the development site or the amount or type of vehicular traffic, noise or light pollution. Based on the above, the proposal is considered highly unlikely to result in impacts either direct, indirect or prescribed to the above threatened flora and fauna species.
Habitat connectivity 1.4(c) BC Regulation	Degree to which the development site connects different areas of habitat of threatened	Vegetation within the development site consists of planted urban native and exotic vegetation occurring in decorative pots, isolated garden beds in the existing carpark, along the Bourke Road fenceline in the north east corner of the site and the gateway at Gardeners Road. Vegetation

Biodiversity value	Meaning	Occurrence, potential direct, indirect or prescribed impacts
	species to facilitate the movement of those species across their range.	connectivity within the development site and with the surrounding landscape is poor. Therefore it is highly unlikely that sedentary or less mobile threatened species utilise vegetation within the development site when moving through their range. Highly mobile threatened fauna species may potentially utilise the vegetation within the development site as temporary refuge or for foraging; however due to the small amount of available habitat combined with high disturbance resulting from industrial activities and traffic, it is considered highly unlikely that the vegetation would facilitate movement throughout the landscape.
Threatened species movement 1.4(d) BC Regulation	Degree to which the development site contributes to the movement of threatened species to maintain their lifecycle.	The development site does not contribute to the movement of sedentary or less mobile threatened fauna species. Vegetation within the development site may potentially allow temporary refuge to highly mobile, disturbance tolerant threatened species such as the Grey-headed Flying-fox; however, the patches are too small, exposed and widely separated to allow permanent refuge or regular use for passage of movement. The majority of trees potentially visited by Grey-headed Flying-fox for foraging will not be removed to facilitate the project and therefore, impacts to this species are considered negligible.
Flight path integrity 1.4(e) BC Regulation	Degree to which the flight paths of protected animals over the development site are free from interference.	The airspace above the development site may potentially allow for movement of Grey-headed Flying-fox. The likelihood of threatened microbats such as Southern Myotis, Yellow-bellied Sheathtail-bat, Large-eared Pied Bat and Large Bent-wing Bat utilising this space is considered low given the site lacks suitable foraging habitat and does not connect with any vegetation corridors that would create a suitable flight path for these species. The development site is currently occupied by an existing warehouse facility and associated ancillary structures. Flight paths for threatened biota which may utilise the airspace above the development site are unlikely to be affected by the proposal.
Water sustainability 1.4(f) BC Regulation	Degree to which the water quality, water bodies and hydrological processes sustain threatened biota at the development site.	No waterways, water bodies or water sources that have the potential to sustain threatened species are present within the development site or immediate surrounds. Mitigation measures recommended in this report, if followed, will ensure stormwater runoff from the development site entering the stormwater system will not impact receiving waterways via sedimentation.

Appendix 5 Proposed site plan

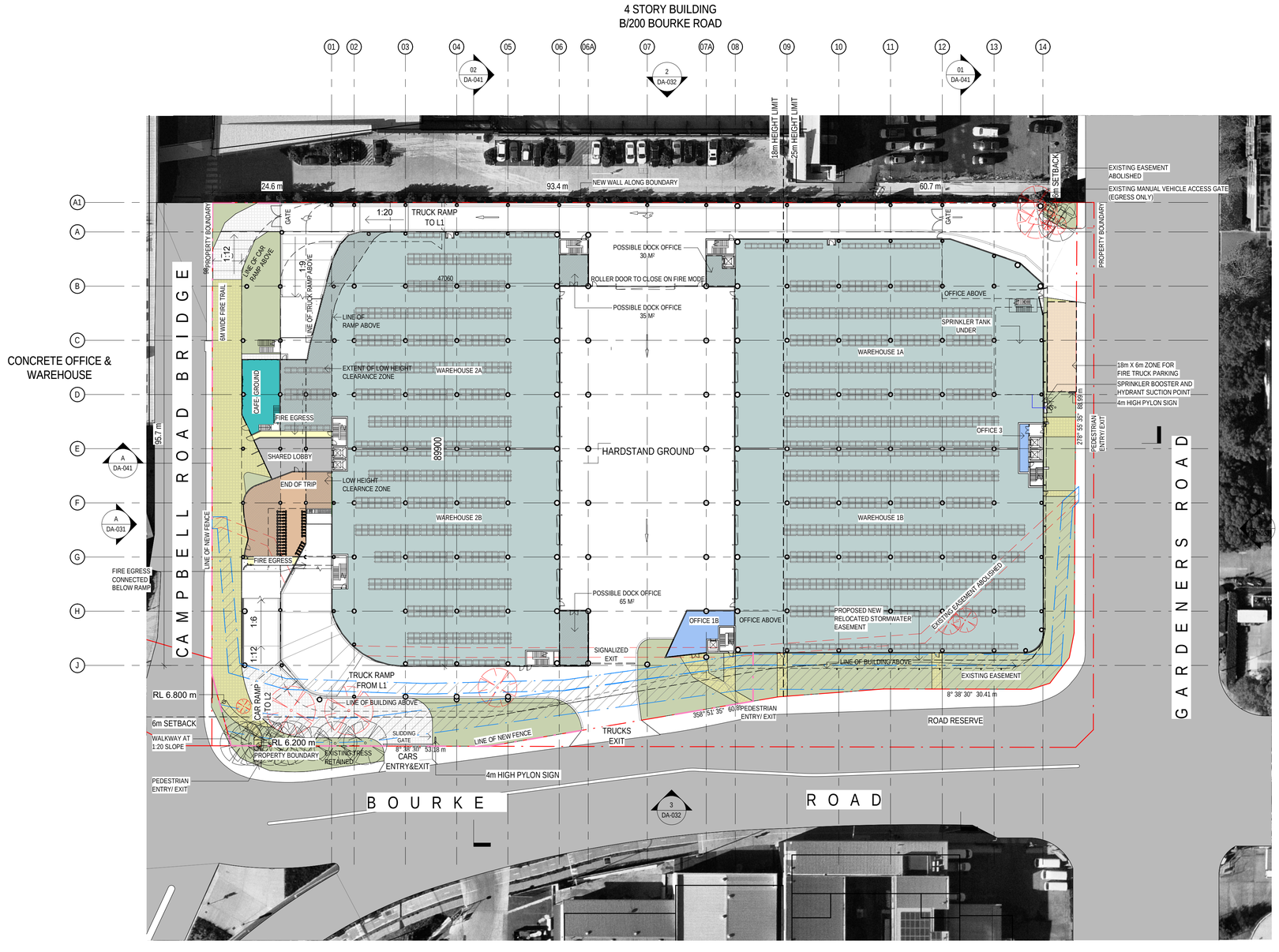
Key Plan

0 1000 2500

Issue	Description	Date
8	For Information	07.12.21
7	For Information	26.11.21
6	For Information	17.11.21
5	For Information	11.11.21
4	For Information	29.10.21
3	For Information	08.10.21
2	For Information	14.09.21
1	For Information	07.09.21

NOTES

RACKING LAYOUT SHOWN INDICATIVELY FOR COORDINATION ONLY - FINAL LAYOUT TO BE CONFIRMED BY SUPPLIER/TENANT



FOR INFORMATION

Client

Charter Hall

Builder

Project Name
Charter Hall - Alexandria

Project Address
520 Gardeners Rd. Alexandria, NSW 2015

Drawing Title
Ground Floor Plan

Author:	Checker:	Sheet Size:	Scale:
RA	IG	A1	1:500 @ A1

Drawing Number: **11596_DA-010**

Issue: **8**

nettletontribe

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