16 Biodiversity

This chapter assesses the potential biodiversity impacts arising from the construction and operation of the Project, outlines the outcomes for biodiversity, and proposes measures to avoid, reduce, mitigate or offset adverse impacts identified. A biodiversity development assessment report (BDAR) waiver was granted for the Project on 19 November 2019 (refer **Appendix F** of this EIS), and as such, a BDAR has not been prepared for the Project (refer **Section 16.2** for further information). The Project is however subject to TfNSW's vegetation offset policy.

16.1 Introduction

Biodiversity is listed under 'Other issues' in the SEARS, and includes reference to the commitments in the Scoping Report (TfNSW, 2019d) for the Project. **Table 16-1** sets out the SEARs and Scoping Report commitments relevant to biodiversity and identifies where the requirements have been addressed in this chapter.

Table 16-1 SEARs

SEARs	Where addressed in this EIS
Other Issues	
(Address) *the following issues in accordance with the commitments made in Chapter 9 of the Scoping Report*: *(a) biodiversity* The Scoping Report (TfNSW, 2019d) makes the following commitments: A biodiversity assessment will be prepared as a chapter of the EIS. This will be supported by a site inspection to confirm the presence or absence of sensitive flora or fauna. This inspection will not include detailed biometric vegetation plots, though it will identify vegetation to genus level at a minimum and assess the habitat potential present. The biodiversity assessment will include:	
• desktop searches of relevant databases such as BioNet and the Commonwealth Protected Matters Search Tool. Vegetation mapping will also be reviewed	**Section 16.2** and **Section 16.3**
• site inspection and ground truthing to identify and describe flora and fauna, habitat, populations and ecological communities	**Section 16.3**
• assessment of the direct and indirect impacts of the Project on flora and fauna species, habitat, populations and ecological communities	**Section 16.4**
• assessment of the significance of the impacts of the Project on species, ecological communities and groundwater dependent ecosystems listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the *Biodiversity Conservation Act 2016* (BC Act) that occur or are considered likely to occur	**Section 16.4.1**
• identification of measures to avoid or mitigate identified potential impacts, and offsets required according to the Transport for New South Wales *Vegetation Offset Guide 2019,* if residual impacts occur.	**Section 16.4.2 and Section 16.5**

16.2 Method of assessment

The methodology for the biodiversity assessment included:

- desktop searches of relevant databases, aerial photography and sources of information, including the following:

- NSW BioNet database within a 10 kilometre x 10 kilometre area centred on the Project area (NSW Office of Environment and Heritage, 2019a)
- EPBC Act Protected Matters Search Tool, which documents Matters of National Environmental Significance (MNES) within a one kilometre radius of the Project area. MNES include threatened species, communities and migratory species which are listed under the EPBC Act (Department of Agriculture, Water and Environment, 2020)
- NSW Flora Online Search, Rare or Threatened Australian Plants (ROTAP) species (National Herbarium of NSW, 2019)
- NSW BioNet Vegetation Classification Database (Department of Planning Industry and Environment, 2019)
- NSW Threatened Species Profile Database (NSW Office of Environment and Heritage, 2019b)
- NSW Department of Primary Industries WeedWise Priority Weeds List (NSW Department of Primary Industries, 2019)
- Office of Environmental and Heritage (OEH) guidelines *Threatened Species Survey and Assessment: Guidelines for Developments and Activities (working draft)* (Department of Environment and Conservation, 2004), used to develop survey methods
- Bureau of Meteorology (BoM) Atlas of Groundwater Dependent Ecosystems (GDEs) database (Bureau of Meteorology, 2020)
- *The Native Vegetation of the Sydney Metropolitan Area, VIS 4489*

- site inspection and ground truthing on 16 June and 14 September 2019 to identify and describe any flora and fauna, habitat and ecological communities present within the Project area, including a micro-bat survey
- assessments of significance under the BC Act and EPBC Act for the listed threatened species *Eucalyptus scoparia* (which was identified to the east of Platform 10 within the periphery of the existing staff car park)
- ecological assessment of the direct and indirect impacts of the Project and implementation of appropriate measures to avoid or mitigate identified potential impacts.

It should be noted that, with the exception of a microbat survey, detailed fauna surveys were not undertaken. This was due to the highly urbanised nature of the Project area and the very low potential for the area to comprise important habitat for threatened species.

As explained in **Chapter 3** of this EIS, under Section 7.9 of the BC Act an application for State Significant Infrastructure (SSI) must be accompanied by a BDAR unless the Planning Agency Head and the Environment Agency Head (or delegates) determine that the proposed development is not likely to have any significant impact on biodiversity values. A BDAR waiver was granted for the Project on 19 November 2019 (refer **Appendix F** of this EIS). As such, a BDAR has not been prepared for the Project.

16.3 Existing environment

16.3.1 Flora

The majority of the Project area has been heavily modified by past and ongoing disturbances associated with urban development and the active rail corridor. These activities have resulted in the full removal of all remnant vegetation communities.

All vegetation currently present in and around the Project area comprises planted and regenerated native and exotic species occurring on highly modified soils and landforms. The flora is further influenced by the presence of the surrounding built environment, including shading, urban stormwater runoff and air emissions. **Figure 16-1** indicates the extent of vegetation (in the form of tree canopy coverage) within and surrounding the Project area.

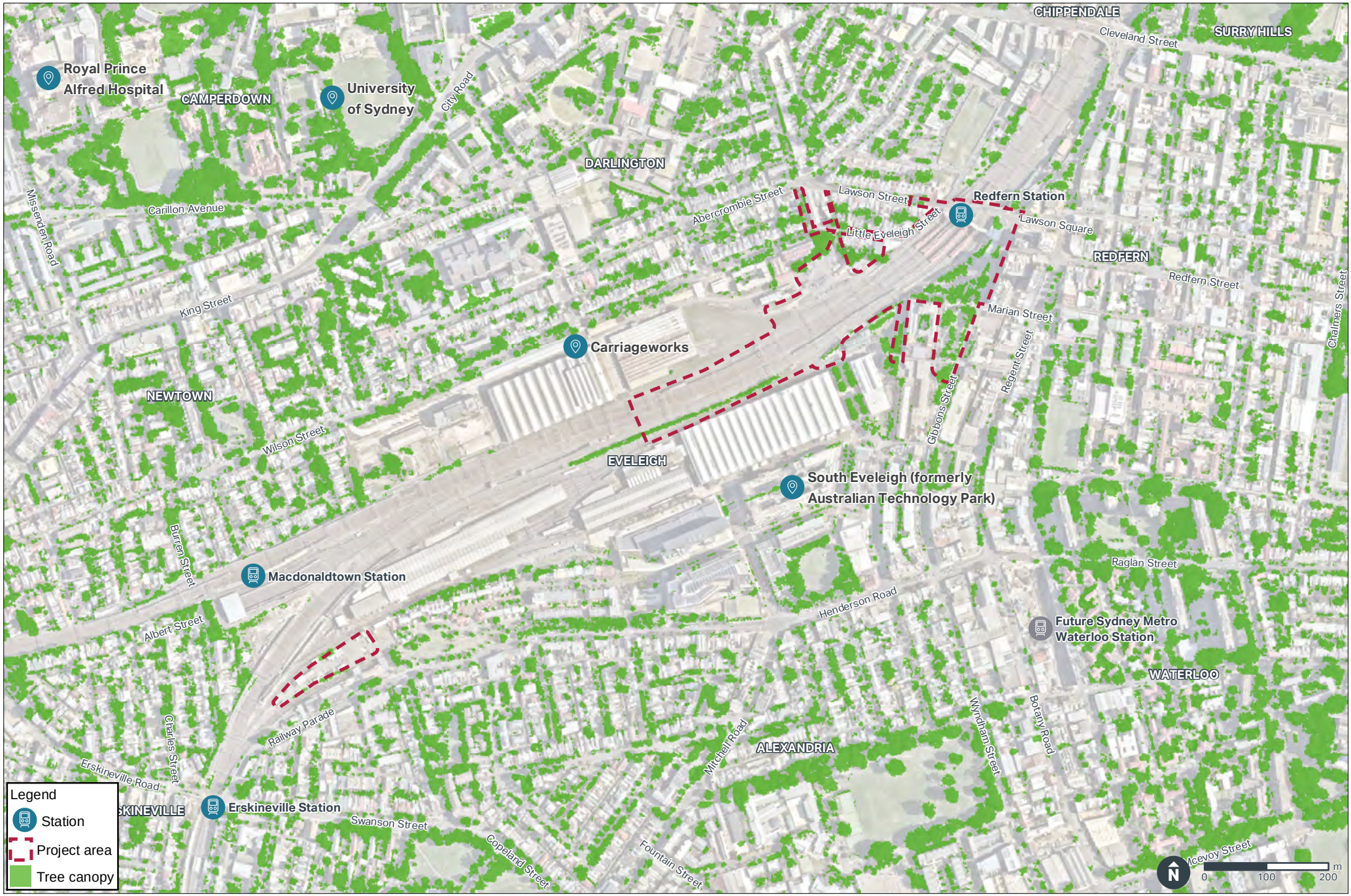

FIGURE 16-1: EXTENT OF VEGETATION (TREE CANOPY COVERAGE) WITHIN AND SURROUNDING THE PROJECT AREA

Source: Imagery © Nearmap, 2019.

Database searches

A search of the NSW BioNet database was undertaken on 3 October 2019. This search identified 18 threatened flora species and 27 threatened ecological communities within a 10 kilometre x 10 kilometre area centred on the Project area.

A search of the EPBC Act Protected Matters Search Tool identified 16 threatened flora species and six threatened ecological communities within a five kilometre radius centred on the Project area.

The above searches resulted in a large number of records, some stretching over 100 years. Given this, and the large diversity of habitats captured by the original search areas, the database results were refined to those within a one kilometre buffer of the Project area. Based on this refinement, records of the following species were returned and therefore have the potential to occur in the area, based on the presence of suitable habitat:

- Magenta Lilly Pilly (*Syzygium paniculatum*)
- Thick Lip Spider Orchid (*Caladenia tessellate*).

These species records are identified in **Figure 16-2**.

Site inspection results

The site inspection undertaken identified the following species along Little Eveleigh Street and platform 1 of the Station:

- Magnolia (*Magnolia* sp.)
- Water Gum (*Tristaniopsis laurina*)
- Hills Fig *(Ficus microcarpa* var. *hillii)*
- Sweet Pittosporum (*Pittosporum undulatum)*
- Chinese elm *(Ulmus parviflora)*
- *Mirabilis jalapa.*

Inspection of the proposed Little Eveleigh Street car park area indicated that the majority of vegetation was a mixture of planted and naturally propagated exotic and native vegetation. None of the vegetation identified in this area included threatened species.

Along with a large area of exotic perennial grasses in the Gibbons Street Reserve, species located in the vicinity of the Marian Street entrance included:

- Smooth Barked Apple (*Angophora costata*)
- Wallangarra White Gum (*Eucalyptus scoparia*)
- Flooded gum (*Eucalyptus grandis*)
- Blackbutt (*Eucalyptus pilularis*)
- *Callistemon citrinus*
- Tuckeroo (*Cupaniopsis anacardioides*)
- Sweet Pittosporum (*Pittosporum undulatum)*
- Date Palm (*Phoenix dactylifera*)*
- Narrow-leaved Bottlebrush (*Melaleuca linearis*)
- *Cotoneaster glaucophyllus**
- *Nandina domestica**
- *Lomandra longifolia*
- Hackberry (*Celtis occidentalis*)*
- *Philodendron xanadu**
- Spotted Gum (*Corymbia maculata*)
- Sydney Blue Gum (*Eucalyptus saligna*)
- London Plane (*Platanus x acerifolia*)*
- Giant White Bird of Paradise (*Strelitzia nicolai*)*.

** denotes exotic species*

With the exception of *Eucalyptus scoparia* (see below), the remainder of the species identified within the Project area are not listed as threatened.

Threatened flora species

The site inspection identified seven individuals of *Eucalyptus scoparia* located within the Project area, near the existing Marian Street station entrance (refer **Figure 16-4**). This species is listed as endangered under the BC Act and vulnerable under the EPBC Act. The natural range for this species in NSW is between Glen Innes, NSW and the Queensland border. The two identified individuals have clearly been planted as part of a landscaping effort and are not part of a naturally occurring population. It is noted that this species was a commonly planted street tree in Sydney throughout the 20th century.

No further listed threatened flora was recorded within or surrounding the Project area. At present the Project area does not provide any known suitable threatened flora habitat.

Vegetation communities

The Native Vegetation of the Sydney Metropolitan Area (VIS 4489) mapping shows vegetation within the study area as 'Urban/exotic/native'. No remnant native vegetation was located within the study area. The two planted *Eucalyptus scoparia* individuals are not part of any naturally occurring population.

Priority weeds

Priority weeds are plants classified under the *Biosecurity Act 2015* as presenting a biosecurity risk to the State or a particular region. No priority weeds were recorded within the Project area during the site inspection.

Groundwater Dependent Ecosystems (GDE)

The BoM Atlas of GDEs database provides a national dataset of GDEs, whereby aquatic, terrestrial and subterranean ecosystems are mapped to inform groundwater planning and management. A search of this dataset found that there was no terrestrial GDEs mapped within or surrounding the Project area. GDEs have therefore not been further assessed.

16.3.2 Fauna

As outlined above, detailed fauna assessment was not undertaken for most species, primarily given the highly degraded nature of the Project area. A high level habitat search was however undertaken for microbats within and around 125-127 Little Eveleigh Street.

Database searches

The NSW BioNet database search returned records for 73 threatened fauna species and two endangered populations within a 10 kilometre x 10 kilometre radius centred on the Project area.

Similarly, the search of the EPBC Act Protected Matters Search Tool returned records for 19 threatened fauna species within a five kilometre radius centred on the Project area.

Similar to flora, the searches resulted in a large number of records, some dating over 100 years. Given this, and the large diversity of habitats captured by the original search areas, the database results for fauna were also refined to those within a one kilometre buffer of the Project area. Based on this search, records of the following species were returned and therefore have the potential to occur in the area:

- Red Goshawk (Erythrotriorchis radiatus)
- Bush Stone-curlew (*Burhinus grallarius*)
- Glossy Black-Cockatoo (*Calyptorhynchus lathami*)
- Little Lorikeet (*Glossopsitta pusilla*)
- Powerful Owl (*Ninox strenua*)
- Grey-headed Flying-fox (*Pteropus poliocephalus*)

These species records are shown in **Figure 16-2**.

Microbat Survey

A survey of 125-127 Little Eveleigh Street was undertaken on 14 September 2019 to assess the potential for it to provide habitat for threatened microbats. The survey used a handheld bat detector (Anabat II) and commenced at 9:00 am with the survey lasting about two hours. During the survey an additional visual inspection of the internal and external façade of the building was also undertaken for signs of habitation, such as urine stains, droppings, remains, and bat fly casings.

A number of holes, cracks and crevices were examined in the external façade, however no signs of habitation were identified, as these were likely either too narrow or too shallow to comprise suitable habitat for microbats. No further signs of habitation by any threatened microbat, megabat or other native mammals was detected during the survey.

The handheld Anabat device carried throughout the survey did not detect any ultrasonic noise that could be attributed to microbats.

Fauna habitat

There is a general lack of suitable habitat for native fauna within the Project area owing to the highly urbanised nature of the environment. Elements that contribute to the small degree of habitat that is present within and surrounding the Project area are outlined in **Table 16-2** below.

In general, it is noted that the trees present within the Project area (i.e. all planted and regenerated native and exotic species) would provide a limited degree of habitat connectivity with other surrounding urban vegetation.

Table 16-2 Fauna habitat within and surrounding the Project area

Habitat	Characteristics
Vegetation within and surrounding the Project area	Vegetation within the Project area is restricted to cultivated landscaping vegetation and naturally propagated weeds. Landscaping vegetation within the Project area includes a range of native and exotic vegetation including Acacia species, Eucalypt species and Date Palms. None of the mature trees were observed to contain hollows.
125-127 Little Eveleigh Street	125-127 Little Eveleigh Street contains a number of holes, cracks and crevices that were initially considered to have potential to provide suitable habitat for microbats, however the site inspection undertaken did not detect any signs of habitation by these species, and it was concluded that these features were likely to be too narrow or shallow to provide suitable habitat.

Site inspection results

The site inspection did not identify any features that would be considered important habitat such as trees with hollows of more than five centimetres, fallen logs or coarse woody debris. Several bird species were identified in the vicinity of the Project area including the Noisy Miner (*Manorina melanocephala*), Rainbow Lorikeet (*Trichoglossus moluccanus*) and Indian Myna (*Acridotheres tristis*), however these are common urban inhabitants within and around Sydney.

Threatened fauna species

Several records of Grey-headed Flying-fox are present around the Project area, though none of these records are within the Project area itself. This species typically makes use of fruit-bearing trees in urban environments, particularly fig trees. As no such fruit-bearing vegetation would be removed as part of the Project, any impact upon this species is expected to be negligible.

No further listed threatened fauna species were identified in the Project area.

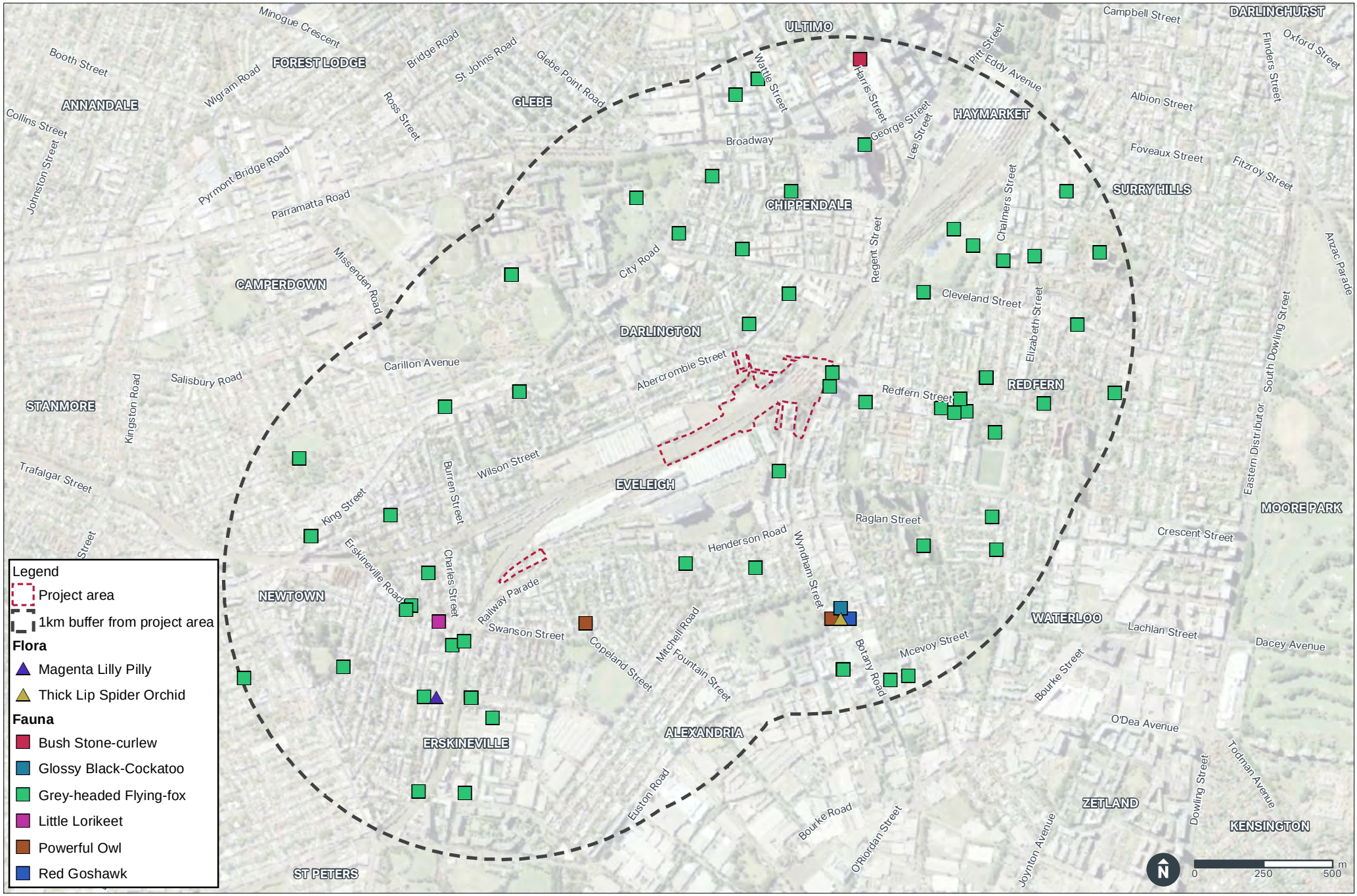

FIGURE 16-2: FLORA AND FAUNA BIONET SEARCH RECORDS WITHIN ONE KILOMETRE OF THE PROJECT AREA

16.4 Impact assessment

This section assesses potential direct and indirect impacts to biodiversity associated with construction and operation of the Project, and potential changes to the biodiversity values of the Project area.

16.4.1 Construction

Vegetation impacts

Construction of the Project would require the removal and trimming of a portion of the vegetation within each of the indicative areas shown in **Figure 16-3**. The specific vegetation impacts within each of these areas are described in **Table 16-3**. Where possible trees would be retained and branches trimmed or temporarily tied back to facilitate construction activities.

Stockpiling of equipment/materials and vehicle/machinery movements also has the potential to affect vegetation if these activities occur over the root zones of trees. To manage this impact tree protection zones would be established for any trees within the Project area that are not identified for removal.

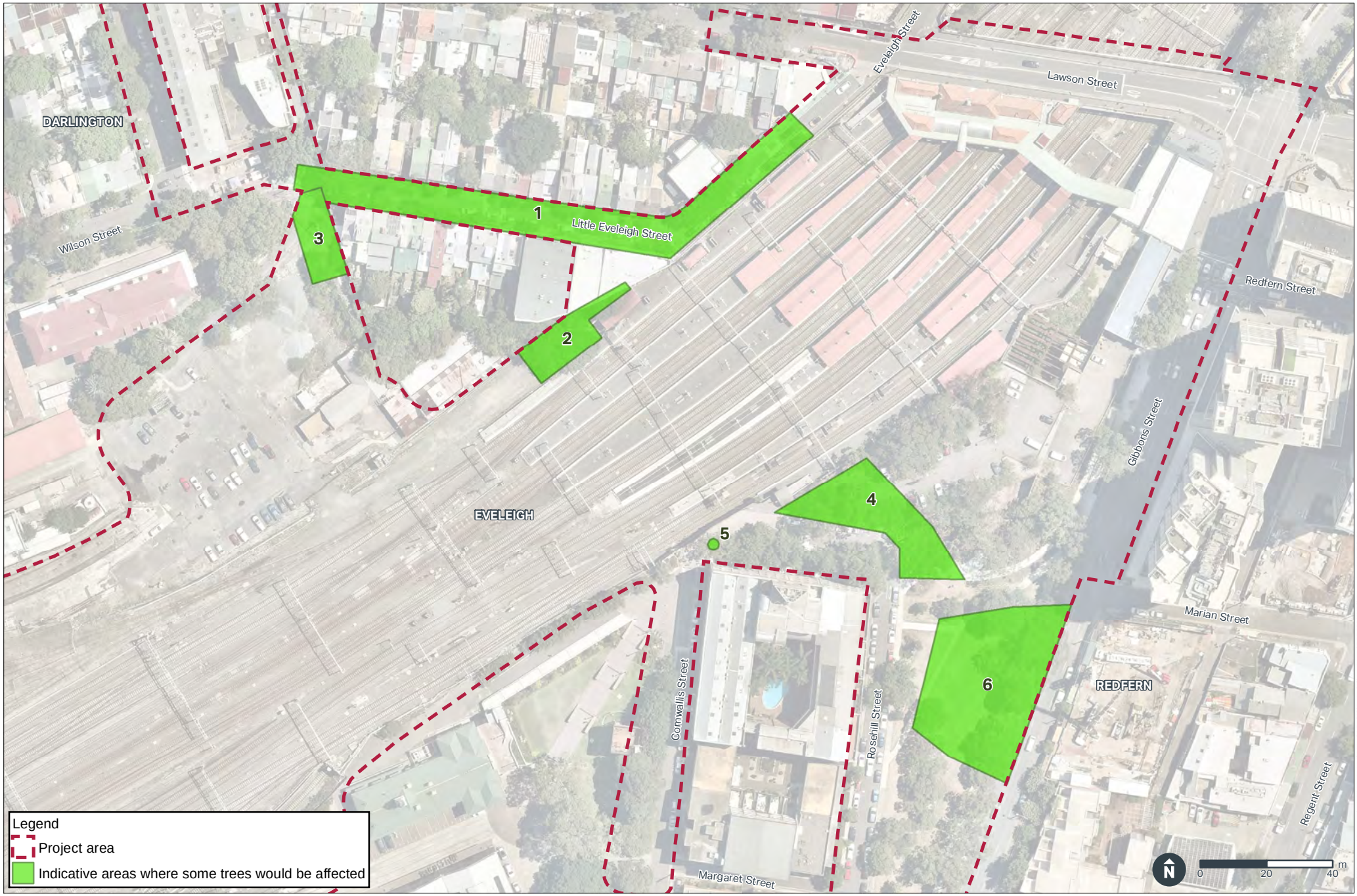

FIGURE 16-3: INDICATIVE AREAS WHERE SOME TREES WOULD BE AFFECTED

FIGURE 16-4: *EUCALYPTUS SCOPARIA* IDENTIFIED WITHIN THE PROJECT AREA

Table 16-3 Vegetation removal areas

Tree impact area	Justification	Extent of clearing
1 - Little Eveleigh Street	Some tree removal and trimming would be required for the reconfiguration of Little Eveleigh Street as a shared zone including works to footpaths and kerbs.	Two trees in Little Eveleigh Street would require removal, and trimming of some branches on other trees may be required.
2 - Adjacent to 125-127 Little Eveleigh Street	Existing trees adjacent to the rear of the building at 125-127 Little Eveleigh Street would require removal to facilitate the proposed station entrance and relocation of the Platform 1 building.	Removal of approximately seven trees and trimming back of tree branches.
3 - Proposed new car park area	Trees within this area would require removal to enable construction of the new car park.	Approximately 18 trees would be removed and/or trimmed.
4 and 5 - Marian Street	Existing landscaped area is directly within the proposed footprint for the new station entrance at Marian Street, and removal and trimming of several trees would be required.	Approximately 17 trees would require removal consisting of a variety of planted native and exotic vegetation. Further trimming of other trees would also be required in this location. This includes the removal of two individuals of *Eucalyptus scoparia* (refer to **Figure 16-4**) near the existing Marian Street station entrance. Five other individuals of this species would not be affected.
6 - Gibbons Street Reserve	Area is required for construction ancillary facility including laydown and staging areas.	Up to two mature trees may be removed. Trimming of tree branches would also be undertaken (specifically trees facing Gibbons Street). Exotic perennial grasses would also be disturbed when Gibbons Street Reserve is levelled for use as a construction ancillary facility.
Lawson Street	Trimming may be required to accommodate works along Lawson Street (i.e. establishment of the new kiss and ride, bus zone and associated footpath upgrades).	No trees would be removed however branches would be trimmed.

Threatened flora species

Two *Eucalyptus scoparia* individuals would be removed to facilitate the Project. As a result, Assessments of Significance under the BC Act and EPBC Act have been undertaken and are documented in the BDAR waiver, which is provided in **Appendix F** of this EIS. Assessments under both acts concluded that, since both individuals are common planted street trees throughout Sydney, they do not form part of any naturally occurring population or community. As such the Project would not result in a significant impact upon this species or their habitat such that they would be placed at risk of local extinction or other significant decline. Further assessment and referral to the Commonwealth Minister for the Environment is therefore not required.

Fauna habitat impact

As outlined above, the vegetation to be removed is located within an extensively modified and urbanised area and would provide limited habitat and habitat connectivity for native fauna. It is unlikely that threatened fauna species or any fauna populations would rely on the habitat resources within the Project area for critical foraging or roosting resources, or habitat connectivity, and therefore a significant impact upon these species is considered unlikely.

As outlined in **Section 16.3.2**, the site inspection showed no signs of habitation by any threatened microbat, megabat or other native mammal. There were no signs of any urine stains or guano within or around any openings, with the majority being covered with cobwebs. On this basis, it is concluded that the building does not currently accommodate microbats, threatened or otherwise.

Indirect impacts

Potential indirect impacts during construction would include:

- the use of machinery and other equipment increasing the risk of accidental spills of fuels, lubricants or paint which could cause harm to the surrounding ecosystems and waterways
- machinery, vehicles and personnel dispersing weeds throughout the Project area and surrounding areas, as well as during the removal of spoil to offsite locations
- increased light and noise, causing disturbance to nocturnal, mobile or roosting species
- movement of plant and machinery causing accidental fauna strike
- increased movement of dust and soil leading to disturbance to vegetation and associated habitat.

The potential impacts to biodiversity identified above are expected to be minor with the adequate implementation of mitigation measures prescribed in **Section 16.5**.

16.4.2 Operation

There would be no residual or ongoing impacts to vegetation during operation given the current and proposed urban nature of the Project area. Revegetation and street planting would be undertaken along the Little Eveleigh Street shared zone and as part of the Marian Street/Cornwallis Street/Rosehill Street shared zone upgrade with plant species selected and located to comply with safety in design principles. In addition, landscape design would ensure entry to residences is not blocked, and that space for residential wheelie bins is allowed for adjacent to each residence. This landscaping planting would provide some degree of replacement habitat for that lost as part of the Project (refer also to **Chapter 8** of this EIS).

Fauna species present within the Project area are likely to be habituated to urban areas, including areas with high noise, light and other human activity. The operation of the upgraded elements of the station would not substantially alter the general nature of the area in terms of flora and fauna habitat, and as such any ongoing impacts are considered to be negligible.

Vegetation offsets and/or landscaping would be undertaken in accordance with the *Vegetation Offset Guide* (TfNSW, 2019b). As per the *Vegetation Offset Guide,* all vegetation cleared would be offset with replacement tree planting. **Table 16-4** provides guidance for the number of trees to be planted as an offset for individual tree removal. The specific species type and location of vegetation offsets would be confirmed during detailed design, with consideration to creating habitat connectivity where possible.

Table 16-4 Offsetting ratio required under the TfNSW *Vegetation Offset Guide*

Tree type	Offset required per tree removed
Large tree (Diameter Breast Height (DBH) greater than 60 cm)	Plant minimum eight trees
Medium tree (DBH greater than 15 cm, but less than 60 cm)	Plant minimum four trees
Small young tree (DBH less than 15 cm)	Plant minimum two trees

16.4.3 Impacts on relevant key threatening processes

Key threatening process associated with the Project are outlined in **Table 16-5**.

Table 16-5 Key threatening processes

Key Threatening Processes		
BC Act	**EPBC Act**	**Relevance**
Clearing of native vegetation	Land clearance	Native vegetation would be removed as part of the Project (refer **Figure 16-3**). However, this would be limited to landscaped/planted vegetation and weed species. Weed control and management would reduce the potential for the spread of weeds.
Invasion of native plant communities by exotic perennial grasses	N/A	Exotic perennial grasses were recorded within and surrounding the Project area and can benefit from disturbance to natural vegetation. Weed management and landscaping activities generally would help prevent these exotic species from spreading.
Anthropogenic climate change	Loss of climatic habitat caused by anthropogenic emissions of greenhouse gases	The use of machinery and plant equipment would contribute to emissions of greenhouse gases through fuel combustion. The implementation of specified work hours and plant management measures during periods when not in use would manage emissions produced (refer **Chapter 19** of this EIS).

16.5 Management and mitigation

16.5.1 Overview

A CEMF would be implemented for the Project (refer **Appendix D** of this EIS). The CEMF describes the approach to environmental management, monitoring and reporting during construction. Specifically, it lists the requirements to be addressed by the construction contractor in developing the CEMP, sub-plans, and other supporting documentation for each specific environmental aspect.

A Flora and Fauna Management Sub-Plan to the CEMP would be developed in line with Section 6.8 of the CEMF.

This section includes a compilation of the performance outcomes as well as mitigation measures, including those that would be included in the Flora and Fauna Management Sub-Plan.

16.5.2 Performance outcomes

The performance outcomes for the Project in relation to biodiversity are as follows:

- impacts are avoided to flora and fauna not already identified in this EIS
- flora and fauna habitat is retained/impacts avoided, or enhanced where possible
- impacts to threatened ecological communities or endangered species are offset in accordance with the requirements of the TfNSW *Vegetation Offset Guide* (TfNSW, 2019b)
- weeds and plant pathogens are managed in accordance with TfNSW's *Weed Management and Disposal Guideline* (TfNSW, 2019f) and the *Biosecurity Act 2015*.

The Project would be designed, constructed and operated to achieve these performance outcomes.

16.5.3 Mitigation measures

A list of mitigation measures which would be implemented during the construction of the Project are provided in **Table 16-6**. It should be noted that mitigation measures contained in other chapters of this EIS would also assist in mitigating indirect impacts to flora and fauna (e.g. in relation to management of sedimentation, stormwater runoff, dust and noise). The Flora and Fauna Sub-Plan would be developed with consideration to this.

Table 16-6 Mitigation measures

ID	Mitigation measure	Applicable location(s)
Construction		
B1	A Flora and Fauna Management Sub-Plan would be prepared and implemented as part of the CEMP.	Project area
B2	Should the detailed design determine the need to remove or trim additional trees not identified in this EIS, the construction contractor would be required to complete the TfNSW Tree Removal Application Form and submit it to TfNSW for approval.	Project area
B3	Disturbance of vegetation would be limited to the minimum necessary to construct the Project. Trees nominated to be removed would be clearly demarcated onsite prior to construction, to avoid unnecessary vegetation removal.	Project area
B4	A qualified and experienced fauna spotter/ecologist would be engaged to inspect trees prior to and during removal and trimming to relocate any fauna that may be present in each tree. This process should be documented (including photos) for record keeping.	Project area
B5	Where space restrictions allow, Tree Protection Zones (TPZs) would be established around trees to be retained, using an appropriate physical demarcation. Tree protection would be undertaken in line with AS 4970-2009 Protection of Trees on Development Sites and would include exclusion fencing of TPZs. Where TPZs are not feasible, alternative measures would be implemented including branch and trunk protection. An arborist would be consulted if necessary.	Project area
B6	All workers involved in tree removal/trimming would be provided with a specific induction relevant to this task prior to commencing work.	Project area
B7	Equipment would be stored, stockpiled and refuelled within the identified construction ancillary facilities.	Project area
B8	Vegetation offsets and/or landscaping would be undertaken in accordance with the *Vegetation Offset Guide* (TfNSW, 2019b).	Project area
B9	Plant equipment would be turned off when not in use to avoid noise and air impacts to nearby fauna.	Project area

ID	Mitigation measure	Applicable location(s)
Construction		
B10	Weed control measures, consistent with TfNSW's *Weed Management and Disposal Guideline* (TfNSW, 2019f), would be developed and implemented as part of the Flora and Fauna Management Sub-Plan to manage the potential dispersal and establishment of weeds during the construction phase of the Project. This would include the management and disposal of weeds in accordance with the *Biosecurity Act 2015*.	Project area
B11	Works must be stopped if any previously undiscovered threatened flora or fauna species or communities are discovered during works. An assessment of the impact and any required approvals must be obtained before proceeding.	Project area
B12	WIRES should be consulted if any injured fauna are encountered, or any fauna is otherwise found within the construction areas and is impeding work.	Project area
B13	Inspections would be undertaken at least every three months for weed infestations and to assess the need for control measures. Any weeds identified would be managed in accordance with the relevant guidelines.	Project area

Following the implementation of the above mitigation and management measures, the Project is expected to have no residual impact on biodiversity, noting that trees to be removed during construction would be offset in the surrounding area under the TfNSW *Vegetation Offset Guide* (TfNSW, 2019b). Therefore, there are no cumulative impacts on biodiversity expected. Further consideration of cumulative impacts with regard to other environmental aspects of the Project are addressed in **Chapter 23** of this EIS.