

8 December 2022

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Dear Thomas

Biodiversity assessment King Street, Concord West

Project no. 38380

Biosis Pty Ltd was commissioned by Billberga to complete a biodiversity assessment to describe the ecological values and constraints associated with the proposed development at 1 King Street Concord West (Figure 1 in Appendix A). Biosis understands that Billberga proposes to develop a mixed-use commercial and residential development with basement parking (the project) as part of development application (DA) to be assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Works proposed for the subject site include the demolition of existing infrastructure, and removal of vegetation to aid the construction of the new development (Figure 2 and Figure 3).

The objective of this flora and fauna assessment is to determine the presence of any threatened ecological communities (TECs) within the study area and, where applicable, assess the impacts of the project on any threatened species, populations and/or ecological communities (entities), or their habitat, listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Biodiversity Conservation Act 2016* (BC Act)

Background

The study area is approximately 3.1 hectares and is defined as lot boundary of lot. The study area is within City of Canada Bay Local Government Area (LGA). The clearing threshold under the BC Act is 0.25 hectares. The study area is not located within the Biodiversity Values Map and Threshold Tool (BV Map) (DPE 2022a).

The surrounding land use consists of commercial, industrial, and residential development as well a public open space. Vegetation in the area has been heavily modified due to previous clearing for the development of various forms of infrastructure and the introduction of exotic plant species for use in gardens and parks.

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Method

Database and literature review

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

- Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool for matters protected by the EPBC Act.
- NSW Department of Planning and Environment (DPE) BioNet Atlas of NSW Wildlife, for items listed under the BC Act.
- NSW DPE Biodiversity Values Map and Threshold Tool, to determine Biodiversity Values Mapping.
- NSW DPI WeedWise database for *Biosecurity Act 2015* listed priority weeds for the Greater Sydney Local Land Services (LLS) region.
- Vegetation of the Sydney Metro area mapping (DPE 2016).

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).
- *Biosecurity Act 2015* (Biosecurity Act).
- State Environmental Planning Policy (Biodiversity and Conservation) 2021.
- *Canada Bay Local Environmental Plan 2017*.
- *Canada Bay Development Control Plan 2013*.

Field investigation

A field investigation of the study area was undertaken on 18 November 2022 by Todd Horton. Vegetation within the study area was surveyed using the random meander technique (Cropper 1993) over 5 person hours.

General classification of native vegetation in NSW used in this report is based on the classification system in Keith (2004), which uses three groupings of vegetation: vegetation formation, vegetation class and vegetation type, with vegetation type the finest grouping. The grouping referred to in this report is Plant Community Type (PCT) as defined by the Biodiversity Assessment Method (BAM) (DPIE 2020).

The vegetation types, within the study area, were stratified into PCTs broadly based on previous vegetation mapping, and the vegetation boundaries marked with a hand-held GPS in the field. Appropriate PCTs were selected on the basis of species composition and structure, known geographical distribution, landscape position, underlying geology, soil type, and any other diagnostic features.

A habitat-based assessment was completed to determine the presence of suitable habitat for threatened species previously recorded (DPE 2022b) or predicted to occur (DCCEEW 2022) 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.

Results

Current land use of the study area and surrounding areas includes industrial and residential land as well as public open spaces. Vegetation within the study area consisted of planted native and exotic species. Fauna habitat within the study area was limited to foraging, as no hollows, rock outcrops/caves or man-made sheltering and breeding habitat was present. Two priority weeds were present on site (Table 4).

Blacktown soil landscape was present across the study area. Blacktown soil landscape consists of Wianamatta Group– Ashfield Shale consisting of laminite and dark grey siltstone and Bringelly Shale which consists of shale, with occasional calcareous claystone, laminite and coal. This unit is occasionally underlain by claystone and laminite lenses within the Hawkesbury Sandstone such as at Duffys Forest. The landscape is represented by gently undulating rises on Wianamatta Shale with local relief 10–30 metres and slopes generally <5 %, but up to 10 %. Crests and ridges are broad (200–600 metres) and rounded with convex upper slopes grading into concave lower slopes. Rock outcrop is absent.

Vegetation communities

Prior to the field investigation, Biosis confirmed that various native vegetation communities including three TECs have been mapped in the broader landscape (Tozer 2003, EES 2020), these include:

- PCT 920 - *Mangrove Forests in estuaries of the Sydney Basin Bioregion and South East Corner Bioregion* consistent with the Threatened Ecological Community (TEC) *Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Endangered, BC Act) and *Subtropical and Temperate Coastal Saltmarsh* (Vulnerable, EPBC Act).
- PCT 1126 - *Saltmarsh in estuaries of the Sydney Basin Bioregion and South East Corner Bioregion* consistent with the TEC *Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions* (Endangered, BC Act) and *Subtropical and Temperate Coastal Saltmarsh* (Vulnerable, EPBC Act).
- PCT 1281 - *Turpentine - Grey Ironbark open forest on shale in the lower Blue Mountains, Sydney Basin Bioregion* consistent with the TEC *Sydney Turpentine-Ironbark Forest in the Sydney Basin Bioregion* (Critically Endangered, EPBC and BC Act).

A key focus of the field investigation was to assess the vegetation of the study area against the final determinations for the above listed TECs to determine presence or absence.

The vegetation of the study area was found to comprise two communities; Planted Native and Urban Native Exotic. The structure, floristic composition and condition of these communities are described below.

Planted Native

This community was present in a low condition throughout the study area and covers an area of approximately 0.25 hectares. The community consisted of predominantly planted native vegetation, endemic to NSW as defined by the BAM, within garden beds or as hedging throughout sections of the study area (Photo 1 and Photo 2).

The canopy included a variety of planted Myrtaceae species such as Blue gum *Eucalyptus saligna*, Grey Gum *Eucalyptus punctata*, Tallowwood *Eucalyptus microcorys*, Swamp Mahogany *Eucalyptus robusta*, Red Bloodwood *Corymbia gummifera* and Broad-leaved Paperbark *Melaleuca quinquenervia*. Other canopy species included Swamp Oak *Casuarina glauca* and River oak *Casuarina Cunninghamia*. The midstorey consisted of a variety of hedging species including Lilly Pilly *Acmena smithii*, Christmas Bush *Ceratopetalum gummiferum* and Blueberry Ash *Elaeocarpus reticulatus*. The ground layer was dominated by mass plantings of Spiny-headed Mat-rush

Lomandra longifolia and small occurrences of Kidney weed *Dichondra repens* and Scurvy weed *Commelina cyanea*.

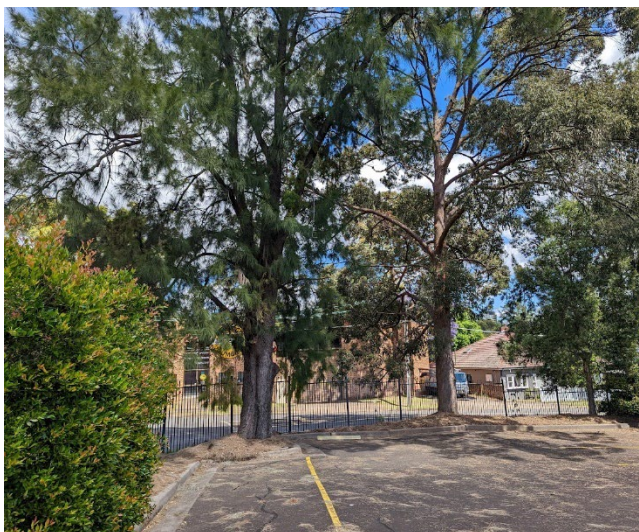


Photo 1 Native vegetation within study area



Photo 2 Native vegetation with the study area

Urban Native Exotic

This community was present in a low condition throughout the study area and covers an area of approximately 0.31 hectares. The community consisted of species native to Australia but not native to NSW as well as a variety of exotic species in the form of scattered trees, hedging, mass plantings and occurrences of spreading weeds (Photo 3 and Photo 4).

The canopy consisted of species such as Jacaranda *Jacaranda mimosifolia*, Juniper *Juniper* sp., European Ash *Fraxinus excelsior*, Celtis sp., Black Tupelo *Nyssa sylvatica*, Black locust *Robina pseudoacacia* and Common Yellowwood *Afrocarpus falcatus*. The midstorey consisted of Juniper *Juniper* sp., Buxus *Buxus microphylla*, Philodendron sp, and Viburnum sp. whilst the ground layer consisted of Clivia *Clivia miniata*, Star Jasmine *Trachelospermum jasminoides* and Juniper *Juniper horizontalis*. A variety of invasive weed species were also present throughout the study area including Madeira Vine *Anredera cordifolia*, Morning glory *Ipomoea indica*, Green Cestrum *Cestrum parqui*, Hairy Fleabane *Erigeron bonariensis*, Farmer's friend *Bidens pilosa* and Prickly lettuce *Lactuca serriola*.

A photograph of a modern, single-story building with large glass windows and a curved roofline, surrounded by greenery and trees under a blue sky with clouds. The building appears to be a public or institutional structure, possibly a library or community center, given its architectural style. The foreground shows a paved area with white parking lines. The sky is bright blue with scattered white clouds. The overall scene is bright and sunny.

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An assessment of the habitat values of the study area is provided in Table 2 for threatened flora species and below for threatened fauna species.

Assessment of habitat for threatened fauna species

Fauna habitat within the study area is limited to a small number of canopy tree species providing potential foraging habitat for highly mobile disturbance tolerant fauna species. The study area is in a highly urbanised area and while fauna may utilise vegetation as part of larger dispersal movements, the study area does not likely to support habitat suitable for persistence. Similar habitat occurs throughout the urban landscape and likely provides connectivity to higher quality habitat, including areas reserved within parks and riparian corridors.

Little Lorikeet, Swift Parrot, Regent Honeyeater and Grey-headed Flying-fox are highly mobile species which can utilise urban environment on occasion to forage. The various species such as *Corymbia gummifera*, *Melaleuca quinquenervia* as well as other flowering perennial species recorded in the study area may provide suitable foraging habitat for these nectivorous species.

The project will require the removal of approximately 0.08 ha of foraging habitat and is therefore, unlikely to impact these species based on the removal of a small area of heavily modified and degraded potential foraging habitat relative to the abundance of foraging habitat within the locality. The study area also lacks hollows and other important breeding habitat features important to these species. Therefore, no further assessment for these species is required.

No caves, hollows or man-made structures suitable for threatened bat habitat were present on site for threatened bat species. The extent of the work is not likely to significantly reduce the available foraging habitat for these species as most are edge or open-space foragers. Yellow-bellied Sheath-tail-bat forages over open spaces and high above the canopy, foraging habitat for this species is not likely to be impacted by the proposed works. Greater Broad-nosed Bat and Large Bent-wing Bat may forage in open areas while Little Bent-winged Bat prefers well-timbered areas and is likely to forage primarily in denser vegetation outside of the study area. This species may occur only on occasion or during flight to/from roosts and foraging habitat. Southern Myotis forage over water and are therefore foraging habitat for this species will not be impacted by the proposed works.

Given the potential minor modification through removal of approximately 0.14 hectares of planted native vegetation and the occurrence of greater foraging habitat within the vicinity of the study area, it is unlikely the proposed works will result in significant reduction to foraging habitat for these species. Potential roosting habitat is not expected to be impacted and no further assessment is required.

Based on the size of the study area, the survey effort is considered comprehensive to assess habitat presence for the species outlined above. Taking all of these factors into consideration, there is a low likelihood of impact for the above listed nomadic species.

Table 1 Assessment of habitat for threatened flora species

Species	Local distribution and habitat requirements	Likelihood of occurrence or impact
<i>Acacia pubescens</i>	Has been recorded approximately 1.2 km from the study area. Downy Wattle is a medium sized shrub found in a variety of open forest and woodland communities, all of which have a strong alluvium and shale influence.	The habitat requirements of this species are present within the study area and the survey took place during late November, within the optimal flowering period of this species. The field survey did not record this species.
<i>Callistemon linearifolius</i>	Netted Bottlebrush has been recorded approximately 2.2 km from the study area.	The habitat requirements of this species are present within the study area and the survey

Species	Local distribution and habitat requirements	Likelihood of occurrence or impact
	This species is a medium sized shrub found in a variety of communities along the coast of Eastern NSW.	took place during late November, within the optimal flowering period of this species. The field survey did not record this species.
<i>Dillwynia tenuifolia</i>	Has been recorded approximately 1.4 km from the study area. <i>Dillwynia tenuifolia</i> is a low growing shrub found within a variety of forest communities associated with tertiary alluvium and laterised clays within the Sydney Basin.	The habitat requirements of this species are present within the study area and the survey took place during late November, within the optimal flowering period of this species. The field survey did not record this species.
<i>Epacris purpurascens</i> var. <i>purpurascens</i>	Has been recorded approximately 1.3 km from the study area. <i>Epacris purpurascens</i> var. <i>purpurascens</i> is a conspicuous species found in sclerophyll forest, heath scrubland and swamps, all of which have a strong shale influence.	The habitat requirements of this species are not present in the study area and the field investigation did not record this species.
<i>Wahlenbergia multicaulis</i>	An endangered population of this species has been recorded 1.2 km south-west of the study area. Tadgell's Bluebell is a conspicuous species that grows on poorly drained laterite soils particularly in areas with high levels of natural and anthropogenic disturbance	The habitat requirements of this species are present within the study area and the survey took place during late November, within the peak flowering period of this species. The field survey did not record this species.
<i>Wilsonia backhousei</i>	Narrow-leafed <i>Wilsonia</i> has been recorded approximately 430 m from the study area. This species and small low growing shrub that found in damp areas on the margins of salt marshes and lakes.	The habitat requirements of this species are highly present within the surrounding the land however not present within the study area. The survey took place during late November, within the optimal flowering period of this species. The field survey did not record this species.

Based on the size of the study area, the survey effort is considered comprehensive to assess the presence of the flora species outlined in Table 2. Taking all of these factors into consideration, there is a low likelihood of occurrence for the above listed species.

Priority weeds

Two priority weeds for the Greater Sydney LLS region, which includes the Canada Bay LGA, have been recorded in the study area, and are listed in Table 4, along with their associated Biosecurity Duty in accordance with the Biosecurity Act.

The General Biosecurity Duty as outlined in the Biosecurity Act states:

All plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.

Table 2 Priority weeds within the study area

Scientific name	Common name	Relevant biosecurity duty
<i>Anredera cordifolia</i>	Madeira Vine	General Biosecurity Duty

Scientific name	Common name	Relevant biosecurity duty
<i>Cestrum parqui</i>	Green Cestrum	General Biosecurity Duty

To prevent biosecurity impacts from occurring because of the presence of the above listed priority weeds within the study area, all practical steps should be taken to control and eradicate the two weed species from the study area as per the relevant biosecurity duties outlined above, or prior to or during any future vegetation removal.

Impact assessment

The proposed development works involve the following impacts to ecological features:

- 0.14 ha of Planted Native vegetation clearance.

Environment Protection and Biodiversity Conservation Act 1999

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's key piece of environmental legislation. The EPBC Act applies to developments and associated activities that have the potential to significantly impact on Matters of National Environmental Significance (MNES) protected under the Act. Under the EPBC Act, activities that have potential to result in significant impacts on MNES must be referred to the commonwealth minister for the Environment and Energy for assessment.

No threatened ecological communities or threatened species listed under the EPBC Act were recorded or assessed to have a medium or greater potential to occur within the study area. On the basis of criteria outlined in Commonwealth of Australia (2013) it is considered unlikely that a significant impact on a Matter of NES would result from the project. Therefore, a EPBC Act Referral is not required to be prepared.

Biodiversity Conservation Act 2016

No threatened ecological communities or threatened species listed under the BC Act have a medium or greater likelihood of occurring within the study area.

Biodiversity Offsets Scheme

The proposed works does not trigger the Biodiversity Offset Scheme (BOS) under the BC Act as described in Table 5 below, and consideration of the BOS is not warranted, and a Biodiversity development Assessment report (BDAR) is not required.

Table 3 Biodiversity Offset Scheme assessment

BOS Trigger	Yes/No	Justification
Clearing threshold	No	The total clearing of native vegetation (0.14 ha) does not exceed the minimum clearing threshold of 0.25 ha.
BV Map	No	The project will not impact on areas mapped within the BV Map.
Significant impact	No	The project is unlikely to result in a significant impact on threatened species, populations or communities listed under the BC Act.

State Environmental Planning Policies

Biodiversity and Conservation SEPP 2021

Chapter 2: Vegetation in non-rural areas

This chapter aims to protect the biodiversity values of trees and other vegetation in non-rural areas of NSW and to preserve the amenity of non-rural areas through the preservation of trees and other vegetation by ensuring that the BOS will apply to all clearing of native vegetation that exceeds the offset thresholds in urban areas and environmental conservation zones that do not require development consent.

This chapter applies to land zoned IN1 – General Industrial in the Canada Bay City LGA as defined in Clause 2.3. Consent is required for clearance of vegetation within land zones and LGAs to which this chapter applies therefore this biodiversity assessment has been prepared to meet the requirements of this chapter.

Chapter 4: Koala Habitat Protection 2021

Chapter 4 Koala Habitat Protection aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

The study area is located within the Canada Bay City Council (Council) LGA. Canada Bay City Council is not listed under Schedule 2, Chapter 4 of SEPP, and is therefore not subject to the requirements laid out by the policy.

Development Control Plans/Local Environmental Plans

Canada Bay Development Control plan 2013

- Development is to comply with the provisions contained in part B6 Urban Forest under Council's DCP.

Canada Bay Local Environmental Plan 2013

The study area is currently zoned as IN1 – General Industrial. The main objective of this zone is:

- *To provide a wide range of industrial and warehouse land uses.*
- *To encourage employment opportunities.*
- *To minimise any adverse effect of industry on other land uses.*
- *To support and protect industrial land for industrial uses.*

Assuming the measures to reduce impacts to ecological values outlined in the recommendations section of this report are implemented, the proposed works do not contradict the objectives of the LEP for land within the study area.

Recommendations

Given there are requirements for removal of native vegetation including canopy trees for the project, the focus of the recommendations is to minimise disturbance to any surrounding native vegetation and fauna habitat. These recommendations are:

- To the fullest extent practicable, minimise disturbance to any native vegetation surrounding the study area.

- Where possible, any trees to be retained should be protected in accordance with Australian Standard AS4970 – 2009 Protection of trees on development sites, during construction, operation and decommissioning of the site compound.
- In the unlikely event that unexpected threatened species are identified during the project, works should cease and an ecologist contacted.
- Soil transportation should be minimised within, into or out of the study area to reduce the spread of weeds.
- Two priority weeds within the Canada Bay Council LGA were identified within the study area (Table 4). Appropriate measures should be implemented to minimise the spread of these species.
- Appropriate erosion and sediment control measures should be installed at all sites to avoid sedimentation of receiving water bodies or other indirect impacts to surrounding biodiversity values.

I trust that this advice is of assistance to you however please contact me if you would like to discuss any elements of this ecological advice further.

Yours sincerely,



Todd Horton
Botanist

References

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Appendices

Appendix A. Figures



