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Biodiversity Assessment Report: 1075 Heidelberg-Kinglake Road, Hurstbridge, Victoria



Prepared for Spot Planning
Report 22061, Version 1.0
July 2022

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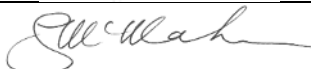
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Version Control

Version	Responsibility	Name	Date	Signature
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1.0	GIS Mapping	Jamie McMahon	July 2022	

Front cover image: Large Swamp Gum at the entrance to the study area (Abzeco 28/06/2022).

Acknowledgements

Abzeco acknowledge the following people for their assistance with this assessment:

- Sam Sawaya – Spot Planning – for project information.
- Shourouk Brookes – Landowner – for approvals, access and site discussions.

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1 Introduction

Abzeco was commissioned by Spot Planning on behalf of the current landowner to conduct a Biodiversity Assessment at 1075 Heidelberg-Kinglake Road, Hurstbridge, Victoria. The assessment was required to inform a planning application with Nillumbik Shire Council (Reference: PA2101369) for the conversion and use of existing buildings as an education facility.

The purpose of the Biodiversity Assessment was to identify and document the extent and condition of native vegetation (patches and/or scattered trees), listed ecological communities and habitat for threatened flora and fauna species, as well as to recommend further investigations if required, in relation to the proposed development.

A Bushfire Management Statement has been provided for the site (SBA Fire 2022), which recommends a BAL29 rating with defensible space of 30 m or to the property boundary. We understand that Council and the Department of Environment, Land, Water and Planning (DELWP) have requested an assessment of the vegetation on site to determine whether there are any permit triggers for the management of vegetation and whether any removal of native vegetation is required that triggers Clause 52.17 (Native Vegetation).

The following report presents the results of the field assessment, discusses potential impacts associated with the proposed works and details relevant Commonwealth, State and local legislative implications and approvals required as part of the project. In particular, the report is intended to inform the planning process, providing an assessment of implications in accordance with the *Guidelines for the removal, destruction and lopping of native vegetation* (the Guidelines, DELWP 2017a). Other relevant legislation requiring consideration is the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), State *Flora and Fauna Guarantee Act 1988* (FFG Act) and *Catchment and Land Protection Act 1994* (CaLP Act).

1.1 Study Area, Surrounding Context & Scope of Works

The entire land parcel has a highly unusual shape that follows the meandering path of Diamond Creek in the north and is bound by Heidelberg-Kinglake Rd to the south (Figure 1). The site is highly encumbered by existing infrastructure, including several large buildings, a former commercial nursery operation (Image 1), carparking areas, outdoor seating areas and formalized garden beds amongst mown lawn. The eastern section of the land parcel is also being used as a small education facility/primary school.

The study area is effectively flat with a very gentle down slope to the north toward Diamond Creek. The land supports no crests, ridges hilltops or slopes exceeding 20% are present. The parcel has direct nexus with the Diamond Creek corridor with the central northern portion of the parcel extending over the creek and into adjacent bushland. Access to the site is gained from Hurstbridge-Kinglake Road to the south and includes a small bridge over a drainage line referred to as Manuka Rd Gully (Image 2). The access way leads to a long linear area of carparking parallel to the main road.

As the proposed works are effectively limited to the conversion of existing buildings, the primary concern of the Biodiversity Assessment is the area of proposed defensible space, which is currently set at 30 m. For the purposes of the application, the study area adopted for the biodiversity assessment has therefore been limited to an area of approximately 50 m around all existing structures.

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Image 1. Existing infrastructure such as the former nursery operation encumbers much of the study area (Abzeco 28/6/2022)



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Image 2. The access way crosses the Manuka Rd Gully drainage line (Abzeco 28/6/2022)

Based on the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool (DELWP 2022a), the study area occurs within the Highlands-Southern Fall bioregion, the Port Phillip and Westernport Catchment Management Authority (PPWCMA) region and the municipality of Nillumbik Shire Council.

The land is predominantly covered under the Rural Conservation Zone – Schedule 3 (RCZ3) although the central northern section is also scheduled to the Public Conservation and Resource Zone (PCRZ). The land is also covered by the Bushfire Management Overlay (BMO) and is partially covered by the Environmental Significance Overlay – Schedule 4 (ESO4) and a Land Subject to Inundation Overlay (LSIO). As the site is greater than 0.4 hectares, any native vegetation proposed for removal is required to address Clause 52.17 (Native Vegetation) of the Nillumbik Shire Council Planning Scheme.

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2 Methods

2.1 Literature Review

Relevant literature and online databases were reviewed prior to the field assessment to obtain information on known ecological values associated with the study area, including the following:

- The DELWP Native Vegetation Information Management (NVIM) Tool (DELWP 2022a) and NatureKit (DELWP 2022b) for modelled data for Location categories (1, 2 and 3), habitat importance mapping for rare and threatened flora and fauna, and the modelled extent of current and historic Ecological Vegetation Classes (EVCs);
- EVC benchmarks for descriptions and characteristics of each bioregion (DELWP 2022c);
- The Victorian Biodiversity Atlas (VBA) for previously documented records of flora and fauna in the locality (DELWP 2022d);
- The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEW) Protected Matters Search Tool (PMST) for matters of National Environmental Significance (NES) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; DCCEW (2022);
- Relevant literature, including the following:
 - The Guidelines (DELWP 2017a) and other explanatory documents relating to measuring value of native vegetation (DELWP 2017b), the Assessor's Handbook (DELWP 2018a), Applicant's Guide (DELWP 2018b) and relevant planning permit exemptions (DELWP 2017c); and,
 - The Bushfire Management Statement (SBA Fire 2022)
- The VicPlan Maps Online (DELWP 2022e) and Vicplan (DELWP 2022f) for the zoning and overlays relevant to the study area;
- The latest Threatened List (DELWP 2022g) under the *Victorian Flora and Fauna Guarantee Act 1988* (FFG Act);
- Aerial photography of the study area.

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2.2 Nomenclature and Taxonomy

Scientific and common names of plants follow the determinations of Walsh and Stajic (2007), the Flora of Victoria Online (VicFlora 2022) and the VBA (DELWP 2022d). Names of plants are generally introduced in-text by use of the common name followed by the scientific name, and subsequently only refer to the common name.

Where an asterisk (*) appears in-text as a prefix to all scientific names (flora and fauna), this indicates the entity to be exotic to Victoria or Australia. A hash (#) prior to a plant scientific name denotes those species native to Australia or Victoria but non-indigenous to the study area or to the relevant vegetation type.

2.3 Field Assessment

The field assessment was conducted on 28 June 2022. The Diameter at Breast Height (DBH) of trees were measured at 1.3 metres above ground height in accordance with the *Guidelines*

(DELWP 2017a), and a list of observed vascular flora species and fauna was compiled, with notes made of any incidental observations of any rare or threatened species or suitable habitat.

Ecological Vegetation Classes (EVCs) were determined using modelled pre-1750s and extant EVC mapping and published descriptions (DELWP 2022b, 2022c). The extent of native vegetation within the study area was mapped using ArcGIS version 10 and Collector™ software, with GPS accuracy of +/-3 metres.

Where a patch of native vegetation was present, a habitat hectare assessment was conducted in accordance with the *Vegetation Quality Assessment Manual: Guidelines for applying the habitat hectares scoring method, Version 1.3* (DSE 2004).

2.4 Biodiversity Assessments under the Guidelines 2017

Clause 52.17 of the Victorian Planning Provisions and the Victorian *Guidelines for the removal, destruction and lopping of native vegetation* (the Guidelines) are publicly available documents covering regulatory and technical requirements of assessing applications that propose to impact native vegetation. Guidelines for the determination of assessment pathways (DELWP 2017a) and the NVIM tool (DELWP 2022a) provide additional supporting information to assess applications that may impact native vegetation.

In accordance with the Guidelines (DELWP 2017a), a native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type. Native vegetation is defined by two categories (patches and scattered trees) as outlined below.

Patch

A patch of native vegetation is either (DELWP 2017a):

- An area of vegetation where at least 25% of the total perennial understory plant cover is native;
- Any area with three (3) or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; or,
- Any mapped wetland included in the Current wetlands map (DELWP 2017a; 2018a).

The extent of patches (in hectares) is determined during a field assessment.

Scattered Trees

A native canopy tree that does not form part of a patch.

Scattered trees are assigned to two size classes (Large or Small) based on the Diameter at Breast Height (DBH) benchmark in the applicable EVC (DELWP 2017a). Trees greater than or equal to the Large tree benchmark DBH are considered Large, while trees below the Large tree benchmark DBH are classified as Small.

A Large tree is assigned a default extent of 0.070 hectares (15 metre radius), while a Small tree has a default extent of 0.031 hectares (10 metre radius; DELWP 2017a; 2018a).

2.4.1 Assessment Pathways

An application to remove, destroy or lop native vegetation must be classified as being in the Basic, Intermediate or Detailed assessment pathway, as defined in the Guidelines (DELWP 2017a). The assessment pathway is determined by the modelled Location category (1, 2 or 3) and extent of native vegetation proposed for removal. The total extent is the combined area in

hectares of patches and any scattered trees. The applicable assessment pathway is used to determine the level of information required to adequately inform the biodiversity and planning application assessment process (DELWP 2017a).

Determination of the assessment pathway based on relevant criteria is summarized in Table 1.

Table 1. Assessment pathway matrix (DELWP 2017a)

Extent of native vegetation	Location 1	Location 2	Location 3
Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
0.5 hectares or more	Detailed	Detailed	Detailed

Note: *The determination of the assessment pathway includes any other native vegetation that was approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged (DELWP 2017a).

The three assessment pathways are defined according to the potential impact on biodiversity in Victoria (DELWP 2017a):

- **Basic** – limited impacts on biodiversity;
- **Intermediate** – could impact on large trees, endangered EVCs, and sensitive wetlands and coastal areas; and,
- **Detailed** – could impact on large trees, endangered EVCs, sensitive wetlands and coastal areas and could significantly impact on habitat for rare or threatened species.

The three Location categories are shown on the NVIM tool (DELWP 2022a) and indicate the potential risk to biodiversity from removing a small amount of native vegetation (DELWP 2017a). The Location categories have the following attributes:

- **Location 3** – includes locations where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for a rare or threatened species;
- **Location 2** – includes locations that are mapped as endangered EVCs and/or sensitive wetlands and coastal areas (section 3.2.1) and are not included in Location 3; and,
- **Location 1** – includes all remaining locations in Victoria not included within Location categories 2 or 3.

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2.4.2 Native Vegetation Offsets

Offsets are required for any approved removal of native vegetation and are stipulated as a condition on the relevant planning permit. The Guidelines define two types of offsets: General and Species. General offsets are required for all approved removal of native vegetation. Species offsets apply under circumstances where there is proportional impact of the removal of native vegetation on modelled habitat for a rare or threatened species (DELWP 2017a). Where both General and Species offsets are specified, both must be sourced to meet offset requirements.

In addition to General and Species offsets, the offset requirement includes the protection of at least one Large tree for every Large tree being removed. The requirement applies to Large trees in patches as well as scattered trees.

DELWP calculates the offset requirements based on the native vegetation condition scores (from the field-based habitat hectare assessment or the NVIM tool) and modelled biodiversity information. The results are summarised in the Native Vegetation Removal Report (NVRP) provided by DELWP (Attachment 1).

An application to remove native vegetation must include an offset strategy that identifies the required offset is available and how the offset will be secured if a permit is granted. Offsets can be secured by obtaining a credit extract from the Native Vegetation Credit Register or establishing and registering a new offset site (first or third party).

2.5 Avoid and Minimise Statement

An avoid and minimise statement is required for all applications under the Guidelines (DELWP 2017a). The statement should describe any actions taken to avoid and minimise impacts on the biodiversity and other values of native vegetation.

Emphasis is placed on the avoidance and minimisation of impacts to areas of native vegetation that have the most value (DELWP 2017b, 2017c). Areas of higher value are generally those containing large areas, intact or high quality native vegetation (have a high condition score [0.60 or above] and Strategic Biodiversity Value score), areas supporting endangered EVCs, sensitive wetlands or coastal areas, have large and hollow-bearing trees and/or are designated by modelled Location categories 2 or 3 (DELWP 2017a; 2021a).

Other values include the role of native vegetation in ensuring land and water protection, protection of landscape values or Aboriginal cultural heritage values (DELWP 2017c).

The following information should be provided in the statement where relevant:

- Strategic level planning – any regional or landscape scale strategic planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape;
- Site level planning – how the proposed use or development has been sited or designed to avoid and minimise impacts on native vegetation; and,
- That no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.

There are also instances where a statement outlining consideration of avoidance and minimisation of impacts on ecological values is required, such as under various Environmental Significance Overlays and Significant Landscape Overlays.

2.6 Survey Limitations

Biodiversity assessments generally do not capture all flora and fauna species present in the study area. Time and seasonal constraints, the lack of diagnostic features, especially when flora species are not flowering or fauna are transient, can result in some species being absent or overlooked in short-term studies. For example, some rare and threatened orchids only flower intermittently and when not in flower may be very inconspicuous. Observations of fauna species are likewise limited by weather conditions, seasonality and the cryptic nature of some species.

The flora survey was conducted in early winter, which is a sub-optimal period for ecological surveys. However, all observed species displayed adequate material for positive identification, and it is considered unlikely that cryptic or tuber bearing species such as Chocolate Lily *Arthropodium strictum* or orchids would occur as the understorey and dominated by weeds.

is highly modified, compacted
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Targeted surveys for rare or threatened flora and fauna species and detailed zoological survey comprising a range of techniques over different seasons were not conducted, as these tasks were beyond the scope of works.

Despite the stated limitations, the timing of the survey and condition of the vegetation was considered suitable to ascertain the extent and condition of the native vegetation and provide an indication of species diversity in the study area. The overall results of the field assessment are considered sufficient to inform the planning application.

3 Flora Results

3.1 Description of Vegetation

A total of 116 vascular plant species were recorded within the study area, consisting of 35 indigenous species, 68 introduced species and 13 Australian native species (Appendix 1).

Because of the direct nexus of the site to Diamond Creek, the periphery of the land parcel supports numerous large remnant trees to the west and north, as well as some discrete stands of smaller indigenous trees (see Section 3.2). However, the majority of the land is highly modified (including the creek lines) and is encumbered by buildings, carparks, lawns and the adjacent education facility. The southern portion of the site also supports some indigenous canopy trees planted around the periphery of the carparking areas and the Manuka Rd Gully drainage line, (Image 3). Some larger trees are also present, however, they are typically non-indigenous (e.g. Southern Mahogany #*Eucalyptus botryoides* along the driveway – Image 4) (Figure 1).



Image 3. Planted indigenous trees around the carparking area and the Manuka Rd Gully drainage line (Abzeco 28/06/2022).

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Image 4. Non-indigenous Southern Mahogany to either side of the bridge over Manuka Rd Gully (Abzeco 28/06/2022).

Vegetation around all carparking areas and buildings primarily mainly consists of well-maintained lawns of exotic grasses and herbs with planted ornamental trees and shrubs such as Callery Pear **Pyrus calleryana* and Narrow-leaf Bower-wattle #*Acacia cognata* (Image 5). The lawns provide a narrow buffer of approximately 3-4 m to riparian or creek line vegetation to the west, and a wider buffer of between 15-30 m to the north that is inset with formalised garden beds supporting planted natives and a range of weeds (Images 6 & 7).



Image 5. Formalised lawns of exotic grass with planted ornamental trees along the southern façade of the existing building (Abzeco 28/06/2022).



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Image 6. Maintained lawns with formalised seating areas and garden beds in the north (Abzeco 28/06/2022).



Image 7. Formalised garden beds in the north with planted native species including Spiny Mat-rush *Lomandra longifolia* and White Correa #*Correa alba* (Abzeco 28/06/2022).

Understorey vegetation throughout both Manuka Rd Gully drainage line and Diamond Creek is also highly disturbed and supports very few indigenous species. Recent work has been conducted to treat Common Blackberry **Rubus anglocandicans* in Manuka Rd Gully, however, species such as Panic Veldt-grass **Ehrharta erecta* and Angled Onion **Allium triquetrum* are still dominant (Image 8). Extended sections of each bank along Diamond Creek are choked with Wandering Tradescantia **Tradescantia fluminensis*, Soursob **Oxalis pes-caprae* or Common Blackberry, although some sections also support dense Austral Bracken *Pteridium esculentum* (Images 9 & 10)



Image 8. Exotic leaf litter, Angled Onion and recently sprayed Blackberry within Manuka Rd Gully (Abzeco 28/06/2022).

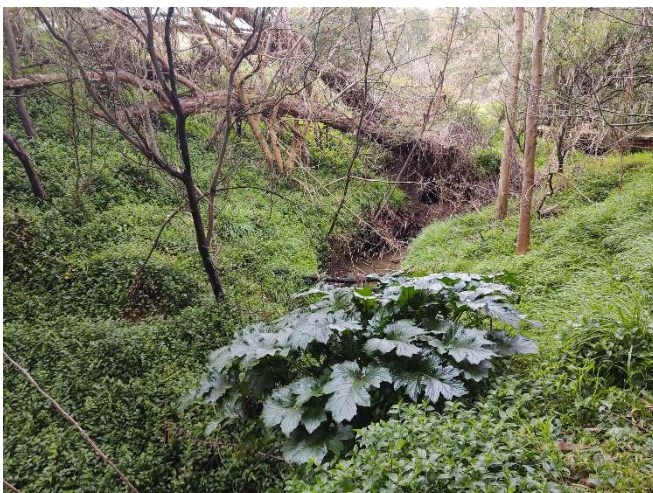


Image 9. Dense Wandering Tradescantia and a single Bears Breeches **Acanthus mollis* at the junction of Manuka Rd Gully and Diamond Creek (Abzeco 28/06/2022).

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Image 10. Dense Soursob and dead Blackberry canes along the Diamond Creek corridor (Abzeco 28/06/2022).

Overall, vegetation quality is poor and predominantly exotic around existing buildings and lawn areas. Substantial improvement in structure, diversity and quality is noticeable with approach to Diamond Creek, due to the presence of Silver Wattle *Acacia dealbata* and Swamp Gum *Eucalyptus ovata*, however, the understorey remains largely dominated by weeds and includes a range of high threat weeds such as Common Blackberry, Soursob, Angled Onion, Spear Thistle *Cirsium vulgare*, Hemlock *Conium maculatum* and Bulbil Watsonia *Watsonia meriana* var. *bulbillifera*.

The grounds also contain many planted Australian native shrubs and trees, which are not considered indigenous to the local area, such as Southern Mahogany, Narrow-leaf Black-peppermint *Eucalyptus nicholii*, Spotted Gum *Corymbia maculata*, Lemon-scented Gum *Corymbia citriodora*, Large-fruit Yellow-gum *Eucalyptus leucoxylon* subsp. *megalocarpa*, Narrow-leaf Bower-wattle, Prickly Paperbark *Melaleuca styphelioides*, Sallow Wattle *Acacia longifolia* subsp. *longifolia* and Ovens Wattle *Acacia pravissima*. Where vegetation removal is required to meet defensible space considerations, woody weeds and planted Australian native shrubs and trees should be the first targets.

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3.2 Patches of Native Vegetation

The study area is modelled as historically supporting three vegetation types: Riparian Forest (EVC 018) associated with Diamond Creek, Swampy Riparian Complex (EVC 126) associated with Manuka Rd Gully, and Valley Grassy Forest (EVC 047) outside of the creek buffers (DELWP 2022a). The Bioregional Conservation Status of Riparian Forest is Least Concern within the Highlands Southern Fall bioregion, while Valley Grassy Forest is considered Vulnerable and Swampy Riparian Complex is Endangered.

The composition of indigenous flora species remaining on site are largely reflective of modelling, with vegetation in the north and west showing characteristic of Riparian Forest, whereas vegetation in the south blends from Swampy Riparian Woodland (EVC 083) associated with Manuka Rd Gully to restored Valley Grassy Forest along the southern boundary line.

Habitat Zone 1 consists of modified Swampy Riparian Woodland (EVC 083) to either side of the Manuka Rd Gully (Figure 1). The patch is characterised primarily by young River Red-gum *Eucalyptus camaldulensis*, Yellow Box *Eucalyptus melliodora* and Red Box *Eucalyptus polyanthemos* subsp. *vestita*, some of which appear to have been planted, however, the southern section of the patch also supports larger Manna Gum *Eucalyptus viminalis* subsp. *viminalis* that are likely remnant (Image 11). The Manuka drainage line itself is modified and supports planted Spiny

Mat-rush *Lomandra longifolia*, however, additional indigenous ground covers such as Nodding Salt-bush *Einadia nutans* and Variable Willow-herb *Epilobium billardioreanum* are also present. Scattered native grasses such as Weeping Grass *Microlaena stipoides* var. *stipoides* and Slender Wallaby-grass *Rytidosperma racemosum* var. *racemosum* are also present, however, the overall quality of the vegetation is poor, as it is species depauperate with high weed cover, including high-threat weeds (see Image 8).



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Image 11. Habitat Zone 1 straddles the Manuka Rd Gully drainage line and is highly modified (Abzeco 28/06/2022).

Habitat Zone 2 is small and occurs along the southern boundary line (Figure 1). The composition of vegetation is a conglomerate of indigenous species attributable to several EVC's, therefore the historical modelling of Valley Grassy Forest (EVC 047) has been adopted as a default. Species include young specimens of Red Box, Manna Gum and River Red-gum with scattered Spiny Mat-rush, Gold-dust Wattle *Acacia acinacea* and Yarra Burgan *Kunzea leptospermoides* (Image 12). However, the patch occurs in a formalised and mulched garden bed and all vegetation has clearly been planted at the same time as the carpark was established. The entirety of Habitat Zone 2 has therefore been omitted from offset calculations as the vegetation was not planted for conservation purposes and only for amenity as a screen and buffer to the adjacent road. This vegetation also poses a very low fire-risk to the existing buildings, therefore is unlikely to require removal despite being within the designated area of defendable space.



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Image 12. Habitat Zone 2 on the southern boundary is artificial (Abzeco 28/06/2022).

Habitat Zone 3 consists of modified Riparian Forest (EVC 018) and extends along the Diamond Creek corridor to the west and north and beyond (Figure 1). As noted in Section 3.1, the understorey throughout much of the Diamond Creek corridor is choked with exotic species such

as Wandering Tradescantia, Angled Onion and Soursob, along with a host of other high-threat species including Common Blackberry, Bulbil Watsonia, African Cornflag **Chasmanthe floribunda* and Hemlock (see Images 9 & 10). However, small sections of the creek still retain a range of indigenous species including Common Water-ribbons *Cynnogeton procerum*, Slender Knotweed *Persicaria decipiens*, Tall Sedge *Carex appressa* and Green Rush *Juncus gregiflorus*.

More elevated sections of the banks also support dense Austral Bracken and thickets of Silver Wattle, as well as scattered Blackwood *Acacia melanoxylon*, Sweet Bursaria *Bursaria spinosa* and Kangaroo Apple *Solanum aviculare* (Image 13). Indigenous species such as Kidney Weed *Dichondra repens*, Common Cotula *Cotula australis* and Grassland Wood-sorrel *Oxalis perennans* also occur in the periphery of existing lawn areas, although at low cover.



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Image 13. Facing west along Diamond Creek showing Habitat Zone 3 - Riparian Forest (Abzeco 28/06/2022).

Habitat Zone 3 also supports numerous canopy trees, including many large trees, although most are north of Diamond Creek and are not explicitly mapped as they are well outside the area of designated defendable space (Figure 1). However, at least six trees including several large specimens (#8, 22 & 23) are captured within Habitat Zone 3 that overlap with the area of defendable space. Remaining canopy trees south of Diamond Creek include two small trees #9 & 19 (River Red-gum and Manna Gum respectively) and tree #10 (a relatively large Swamp gum that has collapsed and is lying on its side) (Image 14).

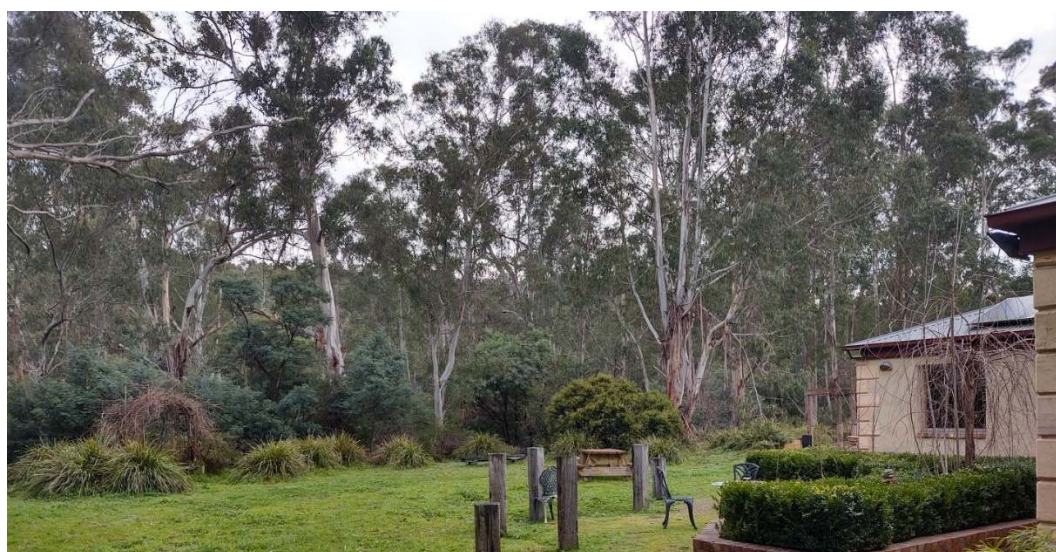


Image 13. Facing north showing lawn buffer and Habitat Zone 3 in background (Abzeco 28/06/2022).



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Image 14. Tree #9 left of image and collapsed Swamp Gum #10 along the western edge of Habitat Zone 3 (Abzeco 28/06/2022).

Habitat Zone 4 consists of modified Riparian Forest (EVC 018) that is composed of approximately seven tall, although semi-mature Manna Gums, with no indigenous shrub layer or understorey components (Figure 1; Image 15). The patch is managed via regular mowing.



Image 15 (left). Habitat Zone 4 consists solely of tall but semi-mature Manna Gums; Image 16 (right). Habitat Zone 5 consists of a small stand of eucalypts of mixed origin (Abzeco 28/06/2022).

Habitat Zone 5 consists of a very discrete area of modified Riparian Forest (EVC 018) located in the north-east section of the study area (Figure 1). The location is actually within the north-west corner of the existing school grounds to the east. Vegetation is composed of approximately eight semi-mature eucalypts, including Manna Gum and Narrow-leaf Peppermint *Eucalyptus radiata*, however, no indigenous shrub layer or understorey components are present (Image 16).

3.3 Scattered Trees

With specific reference to the area of proposed defensible space, the study area supports three small, scattered trees (#2, 4 & 20) in accordance with the *Guidelines* (DELWP 2017a) (Figure 1). The trees are all small and include Yellow Box (#2), River Red-gum (#4) and Manna Gum (#20) (Images 17).

Although outside the area of proposed defensible space, we also note Tree #1 (Swamp Gum) which is an important large old, habitat tree and should not be disturbed (see cover image).

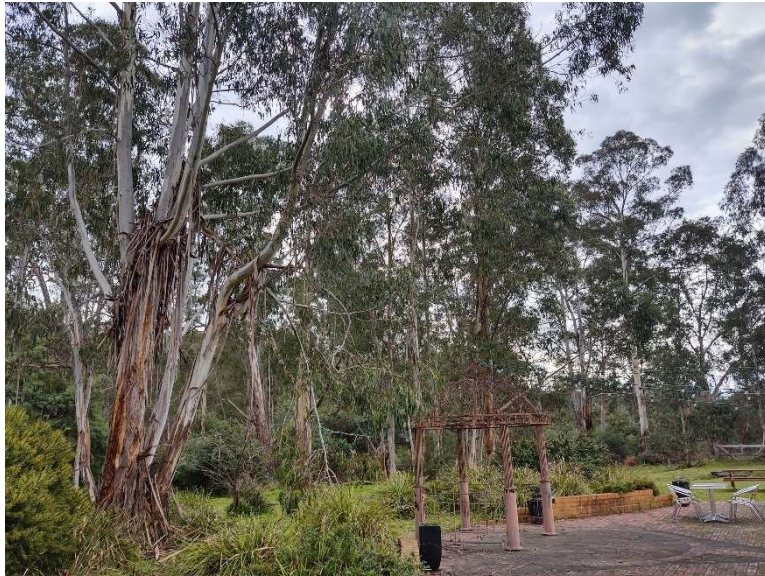


Image 17. Scattered tree #20 (Manna Gum) left of image (Abzeco 28/6/2022).

3.4 Vegetation Quality Assessment (Habitat Hectares)

Habitat Zones 1, 3, 4 & 5 were assessed in accordance with the VQA methodology (DSE 2004; Table 2). Zones 3, 4 & 5 are all representative of Riparian Forest, while zone 1 is considered representative of Swampy Riparian Woodland.

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Table 2. Habitat hectare assessment results

Habitat Zone			HZ1	HZ3	HZ4 & HZ5
Bioregion			HSF	HSF	HSF
EVC Name			Swampy Riparian Woodland	Riparian Forest	Riparian Forest
EVC Number			083	018	018
EVC Conservation Status			Vulnerable	Least Concern	Least Concern
		Max. Score			
Site Condition	Large Old Trees	10	0	10	0
	Canopy Cover	5	0	3	0
	Understorey	25	5	5	5
	Lack of Weeds	15	4	4	4
	Recruitment	10	0	1	0
	Organic Litter	5	5	5	5
	Logs	5	0	3	0
	EVC Multiplier		N/A	N/A	N/A
	Subtotal		14	31	14
Landscape	Patch Size		1	1	1
	Neighbourhood		2	2	2
	Distance to Core Ares		0	0	0
Landscape Value		25	3	3	3
Habitat Points		100	17	34	17
Habitat Score		/100	0.17	0.34	0.17
Large Tree Count			0	3	0

Notes: HZ – Habitat Zone; HSF – Highlands Southern Fall bioregion; EVC - Ecological Vegetation Class; ha – Hectare; N/A – Not applicable.

3.4.1 Significant Flora Species

No EPBC Act listed flora species were recorded in the study area. Two FFG Act listed flora species (Spotted Gum #*Corymbia maculata* and Large-fruit Yellow-gum #*Eucalyptus leucoxylon* subsp. *megalocarpa*) were identified within the study area. However, neither species is considered indigenous to the local area, and both have been planted.

The VBA contains previous records for seven EPBC Act-listed species and an additional 17 FFG Act-listed flora species within a 5 km radius of the study area (DELWP 2022d). None of the records pertain to the immediate study area and are primarily relevant to larger parks, reserves and river corridors throughout the broader landscape such as the Dunmoochin area to the north or Boomers Reserve to the east.

The majority of records are relatively old, dating to the 1990's or earlier, however, recent records are available for Matted Flax-lily *Dianella amoena*, Crimson Spider-orchid *Caladenia concolor*, Wine-lipped Spider-orchid *Caladenia oenochila*, Little-pink Spider-orchid *Caladenia roseella*, Velvet Spider-orchid *Caladenia viridiflora*, and Yellow Spider-orchid *Caladenia viridiflora*.

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Apple-berry *Billardiera scandens* s.s., Pale-flower Crane's-bill *Geranium* sp. 3, Slender Stylewort *Levenhookia sonderi* and Floodplain Fireweed *Senecio campylocarpus* (DELWP 2022d).

Listed shrubs and trees such as Yarra gum *Eucalyptus yarraensis* and Round-leaf Pomaderris *Pomaderris vacciniifolia* can be ruled out based on the current survey as they are distinctive and easily detected. Some suitable habitat is present for listed aquatic-based species such as Floodplain Fireweed, however, the high density of weeds within the creek corridor is a strong limiting factor. Given the highly modified condition of understorey vegetation throughout the site, including within the creek corridor, it is considered unlikely that listed flora species such as Matted Flax-lily and orchids (e.g. Little Pink Spider-orchid and Emerald-lip Greenhood) would occur. The formalised garden setting around the existing buildings has been repeatedly mown for many years and was until recently part of an outdoor hospitality setting.

The PMST search contains six additional EPBC Act listed flora species that have not been previously recorded in the local area, however, are considered to have the potential to occur including, River Swamp Wallaby-grass *Amphibromus fluitans*, Maroon Leek-orchid *Prasophyllum frenchii* and Swamp Everlasting *Xerochrysum palustre* (DCCEW 2022). The vast majority of the nominated species are orchids, which are considered unlikely to occur. Suitable habitat is in theory present for semi-aquatic species, however, vegetation structure and composition is highly modified and dominated by weeds.

As much of the land study area is encumbered by existing infrastructure and the surrounding grounds are regularly maintained, it is highly unlikely that these areas would support threatened flora species. Vegetation within the Diamond Creek corridor has greater complexity and structure, as well as connectivity to more intact areas, however, the reach associated with the study area is highly modified with large sections blanketed by high-threat weeds. The study area is therefore considered unlikely to support any EPBC or FFG Act-listed flora species.

Significant impacts to listed flora species are therefore considered unlikely and targeted surveys for listed flora species are not recommended as part of the proposed works.

3.5 Determination of Listed Ecological Communities

The PMST report (DCCEW 2022) lists one Threatened Ecological Community as having the potential to occur within five kilometres of the study area:

- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.*

Native vegetation within the study area does not correspond to the descriptions or condition thresholds of the above ecological community. There are also no FFG Act-listed communities present in the study area as per community descriptions (DELWP n.d).

4 Fauna Results

4.1 Fauna Habitat

The quality and estimated value of habitat for fauna within the study area was determined by assessment against the criteria described below.

Habitat quality classification

Low: Habitat areas classed as being of low quality are usually fragmented and have lost most structural elements such as tussock/hummock forming grasses or sedges, inter-tussock spaces,

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understorey shrubs, logs, rocks and hollow-bearing trees. Connectivity with higher quality patches may be limited or absent. Such patches are generally weed infested, have little or no natural regeneration and remaining indigenous species are under threat from invasive exotic species. No species of conservation significance are known or likely to occur there.

Moderate: Some structural elements have been lost, and invasive species may not be dominant over indigenous species but pose a significant threat. There is some connectivity with adjacent habitat of equal or greater quality. The patch may provide suitable habitat for fauna of conservation significance known or likely to occur in the area.

High: Most structural elements for fauna are present, understorey species are generally healthy and most life forms may be present. The patch is part of a mosaic of reasonably contiguous vegetation with connectivity to other areas of habitat. The patch provides suitable habitat for fauna of conservation significance known or likely to occur in the area, even if dominated by weeds.

4.2 Habitat Types and Assessment of Quality

Habitat within the study area consists of relatively open forest with some shrub layer and modified understorey in the north and west, modified aquatic habitat along the Diamond Creek corridor, and small areas exotic open lawn around the existing buildings. Although modified, a near contiguous cover of canopy trees occurs around the northern periphery of the property that is associated with the Diamond Creek corridor and provides connectivity and dispersal opportunities for many common fauna species to other areas of suitable habitat in the local area. Larger eucalypt specimens are likely to support small hollows and fissures suitable for roosting and/or breeding by common birds, arboreal mammals and micro-bats, and indeed tree #22, which is a large stag, was occupied by a pair of Galahs *Eolophus roseicapilla* at the time of assessment. Many of the tree trunks show claw marks from Common Brushtail Possum *Trichosurus vulpecula* and Ringtail Possum *Pseudocheirus peregrinus*, and possibly also Sugar Glider *Petaurus breviceps* and Phascogale *Phascogale tapoatafa*. A wide range of common bird species were observed moving through the site including, Eastern Rosella *Platycercus eximius*, Australian King Parrot *Alisterus scapularis*, Laughing Kookaburra *Dacelo novaeguineae*, Grey Butcherbird *Cracticus torquatus*, Rainbow Lorikeet *Trichoglossus moluccanus*, Noisy Miner *Manorina melanocephala* and Superb Fairy-wren *Malurus cyaneus*.

Although canopy trees provide relatively high-quality habitat, understorey vegetation is predominantly simplified and either dominated by weeds (e.g. lawn areas) or smothered by weeds (in the case of much of the Diamond Creek corridor). Understorey habitat quality is therefore considered low quality and suitable only to species adapted to highly modified environments such as Australian Magpie *Cracticus tibicen* and Little Raven *Corvus mellori*.

4.3 Habitat Suitability for Rare and Threatened Fauna

No EPBC Act or FFG Act-listed fauna species were recorded during the field assessment. The VBA contains previous records for nine EPBC Act-listed and an additional 18 FFG Act-listed fauna species within a five kilometre radius of the study area (DELWP 2022d). None of the records pertain to the immediate study area with most attributable to larger parks, reserves and river corridors throughout the broader landscape such as the Dummoochin area to the north and Boomers Reserve to the east.

The majority of EPBC listed fauna records relate to Gang Gang Cockatoo *Callocephalon fimbriatum* and White-throated Needletail *Hirundapus caudacutus*, although a small number of recent records

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are also available for Regent Honeyeater *Anthochaera phrygia*, Swift Parrot *Lathamus discolor* and Grey-headed Flying-fox *Pteropus poliocephalus* (DELWP 2022d). Additional EPBC Act-listed species such as Growling Grass Frog *Litoria raniformis*, Murray Cod *Maccullochella peelii* and Eltham Copper Butterfly *Paralucia pyrodiscus lucida* have not been recorded since the early 1990's.

Relatively recent (post 2010) records are available for several FFG Act-listed species including, Eastern Great Egret *Ardea alba modesta*, Hardhead *Aythya australis*, Little Eagle *Hieraaetus morphnoides*, Hooded Robin *Melanodryas cucullata*, Barking Owl *Ninox connivens*, Powerful Owl *Ninox strenua*, Brush-tailed Phascogale *Phascogale tapoatafa*, Southern Toadlet *Pseudophyrne semimarmorata* and Common Dunnart *Sminthopsis murina murina*.

In its current state, the Diamond Creek corridor is unsuitable for species such as Hardhead, although Eastern Great Egret may opportunistically forage in more open or accessible sections of the creek. Suitable habitat for foraging is also available for Powerful Owl, Barking Owl and Brush-tailed Phascogale, and the site shares some connectivity to additional areas of more intact and contiguous woodland and forest, which supports numerous large and hollow bearing trees. It is possible that EPBC Act-listed species such as Swift Parrot *Lathamus discolor* and Grey-headed Flying-fox *Pteropus poliocephalus*, may also opportunistically utilise or move through the study area for foraging purposes.

However, vegetation in the study area is not considered to represent critical or limiting habitat for any listed fauna species and a significant impact to Commonwealth or FFG Act-listed fauna species is considered unlikely. Targeted surveys for listed fauna species are therefore not recommended as part of the application.

The PMST contains 19 additional EPBC Act listed species that have not been previously recorded in the local area but are considered to have the potential to occur in the local area, including Greater Glider *Petauroides volans*, Spot-tailed Quoll *Dasyurus maculatus maculatus*, Southern Brown Bandicoot *Isodon obesulus obesulus*, Striped Legless Lizard *Delma impar* and Golden Sun Moth *Synemon plana* (DCCEW 2022). All PMST nominated species are considered unlikely to occur within the study area or surrounds due to a lack of suitable habitat or lack of connectivity to known populations.

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- Large Tree
 - Large Tree - Stag
 - Large Tree - collapsed
 - @ Native Tree
 - Small Tree
- EVC / Habitat Zone
- Riparian Forest
 - Swampy Riparian Woodland
 - Valley Grassy Forest (potential loss)
- Vegetation loss
- Patch (A-F)
 - Scattered Tree
 - Stand of Southern Mahogany
 - Proposed development
 - Defendable Space (30m)
 - Property boundary

Figure 1
Study Site and Vegetation Removal
1075 Heidelberg-Kinglake Road,
Hurstbridge



0 20 Meters

Date: 18/07/2022 Scale: 1:800 (A4)
Created by: JM GDA 1994 MGA Zone 55
Job: 22061
File: OD_22061_Hurstbridge
Note: Location of property boundaries, watercourse, roads and topography indicative only.

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5 Proposed Native Vegetation Removal

The study area is primarily modelled as Location 1, however, much of the area currently supporting built structures is modelled as Location 2 (DELWP 2022a). Because the site supports existing buildings that were constructed prior to 10 September 2009, the landowner has existing rights to exemptions for the removal of native vegetation under the 10/30 rule in accordance with Clause 52.12 (Bushfire Protection Exemptions). This means that all vegetation within 10 m of existing buildings can be removed without a permit, and all understorey vegetation within 30 m of the existing buildings can be managed for fire safety without a permit.

Losses or impacts have therefore been calculated by first clipping out all vegetation within a 10 m buffer of existing buildings, and then treating the next 20 m (i.e. up to 30 m) as partial loss of canopy species only, as there are existing rights to manage understorey vegetation up to 30 m from the existing buildings. The 30 m buffer also coincides with the recommended defensible space distance of 30 m.

Under this scenario, total losses are equivalent to 0.269 hectares and 3 small scattered trees. Losses must also include three Large Trees (#8, 22 & 23) within HZ3, as they fall within the 30 m area of defensible space. The application will be assessed under the Intermediate pathway.

Note: Vegetation within Habitat Zone 2 has been planted for amenity and not conservation, therefore can be removed without a permit. In addition, the vegetation is located along the southern boundary and is separated from the building by the carparking area and also buffered to the south by the main arterial road, therefore the vegetation should not pose a fire-risk and does not need to be removed.

Similarly, vegetation along the northern edge of Habitat Zone 1 can most likely be retained as it has suitable separation from the existing building by the asphalted road and does not pose a significant fire risk.

A summary of the proposed vegetation removal is provided below (Table 3) and the Native Vegetation Removal Report (NVRP) obtained via submission of data to DELWP is provided as Attachment 1.

Table 3. Summary of Proposed Native Vegetation Removal

Location Category (DELWP 2017a)	2
Patch of native vegetation (hectares)	0.178
Number of Large trees in patches	3
Scattered Trees (total number and hectares)	3 / 0.09 (without overlap)
Large	0
Small	3
Total extent	0.268*
Assessment Pathway	Intermediate
Strategic Biodiversity Value	0.940

Note: the difference of 0.001 ha is due to rounding effects

5.1 Offset Requirements

The offset requirement for the proposed development is as follows:

- 0.064 General Habitat Units (GHU),
- Minimum Strategic Biodiversity Value (SBV) of 0.716;

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- **3 large tree**; and,
- The required offset must be located within the PPWCMA region or Nillumbik Shire Council.

There are no proportional impacts on any rare or threatened species, therefore Species offsets are not required (Attachment 1). The offsets must be secured prior to the commencement of any works. A summary of the offset requirements is provided in Table 4.

Table 4. Offset requirements for proposed clearance of vegetation

General Offset		
Offset Amount (General Habitat Units)		0.064
Large Trees		
Large Tree offset requirement (number)		3
Offset Attributes		
Vicinity	The offset site must be located within the same Catchment Management Authority (CMA) boundary or the same municipal district as the native vegetation to be removed.	Port Phillip and Westernport CMA or Nillumbik Shire Council
Minimum Strategic Biodiversity Value (SBV) score	The SBV score of the offset site must be at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed	0.716

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5.2 Offset Strategy

It is expected that the required General offset in the PPWCMA or Nillumbik Shire Council can be readily sourced through an accredited Broker. At the time of preparation of this report, the required offset was available on the Native Vegetation Offset Register (NVOR) via an accredited Broker and a valid offset costing provided.

5.3 Avoidance and Minimisation Statement

The footprint of the existing buildings is not proposed for alteration. Instead, the building must undergo some minor adjustments such as altering the current doors from wooden framed to metal to bring it up to an appropriate Bushfire Attack Level rating.

The landowner also has existing rights to manage vegetation for bushfire protection under the 10/30 rule, which has been undertaken in the past as evidenced by the lawned area with formalised garden beds in the north. Vegetation losses associated with the proposed 're-development' of the site as an education facility should therefore be minimal as much of the defensible space area already meets bushfire standards in terms of fuel composition, structure and canopy separation.

Under the 10/30 rule, tree #10 (collapsed Swamp Gum) can be removed, as well as the inner edges of Habitat Zone 4. However, it may not be necessary to remove any of HZ4 as the understorey is already managed and the trees are growing in a discrete cluster and are effectively acting as a single large tree. Similarly, the small cluster of trees comprising Habitat Zone 5 can likely be retained as they are effectively acting as a single tree. Both zones also have suitable separation from nearby canopy vegetation due to the surrounding lawn and the Diamond Creek corridor.

Similarly, vegetation along the northern edge of Habitat Zone 1 can most likely be retained as it has suitable separation from the existing building by the asphalted road and does not pose a significant fire risk.

Additional vegetation considered lost as a precautionary measure within the designated area of defensible space, can also likely be safely retained, as there is suitable canopy separation between trees (e.g. trees #2, 4 & 20). Large trees #18, 21, 22 & 23 can also be retained, despite being either within or closely associated with the area of defensible space, as they have suitable canopy separation. It is highly recommended that tree #22 (stag) is retained as it supports hollows and a pair of Galahs.

Understorey vegetation within the remaining area of proposed defensible space (e.g. HZ3) can be managed under the 10/30 rule, therefore impacts (if required) can be largely restricted to exotics trees such as Loquat *Eriobotrya japonica*, Australian native trees such as Southern Mahogany and indigenous understorey trees such as Silver Wattle. Most of the vegetation within the designated area of defensible space is already modified and under management, therefore losses are partial only.

Under the current plan, total losses are less than 0.5 hectares, the vegetation is not considered to be critical or limiting habitat for any rare or threatened species and the proposed losses only trigger a general offset and no species offset.

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6 Legislation and Regulations

The key biodiversity protection legislation and regulations potentially relevant to the study are the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), the *Catchment and Land Protection Act 1994* (CaLP Act), and the Manningham Council planning scheme (DELWP 2022f). The Guidelines (DELWP 2017a) is the principal document that informs biodiversity regulation under the planning scheme.

Implications and requirements associated with the relevant legislation are summarised below.

6.1 *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the primary Commonwealth legislation for environment protection. Under the EPBC Act, an action will require approval from the Commonwealth Minister for the Environment if it has, will have, or is likely to have a significant impact on a matter of National Environmental Significance (NES) and it is not subject to certain specified exceptions.

Matters of NES trigger the Commonwealth's environmental assessment and approval responsibilities. These matters are: World Heritage properties, National Heritage Places, Ramsar wetlands of international importance, nationally listed threatened species and ecological communities, migratory species protected under international agreements, the Commonwealth marine environment, the Great Barrier Reef Marine Park, nuclear actions and water resources (coal seam gas development and large coal mining development).

If a project is likely to have a potential significant impact on a matter of NES, a referral to the Commonwealth Minister for the Environment is required. If the Minister considers it likely that a

proposed action may have a significant impact on matters of NES, the action may be considered 'controlled' and requires a detailed assessment and the grant of a permit to proceed (DOE 2013).

Implications

EPBC Act-listed flora and fauna species were not recorded in the study area. While there may be some impact to foraging habitat for fauna species such as Gang Gang Cockatoo, Swift Parrot and Grey-headed Flying-fox, critical or limiting habitat is not present in the study area and EBPC Act-listed fauna species are not considered resident or dependent on the site. As such, a significant impact to matters of NES is considered highly unlikely and a referral to the Commonwealth Minister for the Environment is not recommended as part of the proposed development.

6.2 Flora and Fauna Guarantee Act 1988

The *Flora and Fauna Guarantee Act 1988* (FFG Act) is the primary State legislation for the protection of native plants, animals and ecological communities on public land and water in Victoria. Species and ecological communities can be listed as threatened under the Act based on determination by an independent Scientific Advisory Committee. Threatening processes may also be listed.

Vegetation communities, plants, animals and other taxa may be listed under the FFG Act if they are known to be in decline or under the threat of extinction. Listing is intended to protect threatened taxa or communities from further threats to their survival on public land in Victoria. Threatened taxa are listed under Section 10 (Schedule 2) of the Act. Whilst not immediately threatened, a number of species, genera and families of plants are protected under Section 46 of the Act to protect them from unauthorised clearing, harvesting and collection on public land.

A permit under the FFG Act is required to take (kill, injure, disturb or collect) Restricted Use Protected Flora (under Sections 47 and 47A), Generally Protected Flora (under Sections 47B and 47C) and listed fish (under Section 52) from public land. A permit is required to take components of listed ecological communities on public land.

Implications

Two FFG Act listed flora species (Spotted Gum #*Corymbia maculata* and Large-fruit Yellow-gum #*Eucalyptus leucoxylon* subsp. *megalocarpa*) were identified within the study area, however, both species are non-indigenous and have been planted. No additional flora or fauna species protected or listed under the FFG Act were observed within the study area and none are expected to occur.

The FFG Act applies to land owned or managed by a public authority and in this instance the land tenure is private, therefore a permit to remove listed or protected flora species or communities under the FFG Act is not required.

6.3 Catchment and Land Protection Act 1994

The *Catchment and Land Protection Act 1994* (the CaLP Act) seeks to protect Victorian land and water resources from degrading processes.

Under the Act, Landowners are required to conserve soil, protect water resources, eradicate 'Controlled' and 'Prohibited' weeds, eradicate pest animals and avoid actions that may result in land degradation on neighboring properties. In certain instances, landowners may be served

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with a Land Management Notice that may prohibit or regulate land use, or specify management actions required to be undertaken on their property.

Implications

At least seven noxious weed species are present within the study area, including Angled Onion, Bridal Creeper **Asparagus asparagoides*, Spear Thistle **Cirsium vulgare*, Hemlock, Soursob, Common Blackberry and Bulbil Watsonia (Appendix 1).

Landowners have a legal responsibility under the Act to control declared noxious weeds and ensure spreading of weeds is limited and managed during construction works.

6.4 Wildlife Act 1975 and Wildlife Regulations 2002 (Victoria)

The *Wildlife Act 1975* and *Wildlife Regulations 2002* is the primary legislation in Victoria providing for the management and protection of wildlife. The objective of the Act is to regulate the conduct of those involved in working with wildlife and establish procedures for the protection and conservation of wildlife and prevention of species extinctions.

Implications

Although several trees are considered lost for offsetting purposes, most trees currently on site can be retained. Nevertheless, any trees proposed for removal should first undergo pre-clearance checks for fauna by a qualified zoologist as they may support hollows, fissures or nests.

All persons engaged in the salvage, translocation and/or handling of native fauna during any construction works must have a management authorization under the *Wildlife Act 1975*.

6.5 Planning and Environment Act 1987 (The Guidelines 2017)

In Victoria, a permit is required to remove, destroy or lop native vegetation. Regulation of planning proposals with potential impacts to native vegetation is governed by Clause 12.01 (Biodiversity) and Clause 52.17 (Native Vegetation) of Victorian planning schemes. Clause 52.17 references the requirements of the Victorian *Guidelines for the removal, destruction, or lopping of native vegetation* (the Guidelines, DELWP 2017a), which is an incorporated document under Clause 72.04 of all planning schemes (DELWP 2022f).

In accordance with the relevant planning scheme clauses, the Guidelines seek to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation (DELWP 2017a).

Strategic planning plays a primary role in avoiding and minimising the impacts of uses and developments on native vegetation. In Victoria, the three-step approach for ensuring the objective of no net loss is achieved at the permit level are (DELWP 2017a):

- Avoid the removal, destruction or lopping of native vegetation;
- Minimise impacts on Victoria's biodiversity from the removal, destruction and lopping of native vegetation; and,
- Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

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Referral of Planning Applications

The relevant responsible authorities are required to assess permit applications for the removal, destruction or lopping of native vegetation. The responsible authority is the relevant Council. Under Clause 66 (Referral and Notice Provisions) of planning schemes, DELWP is a recommending referral authority where one or more of the following requirements are met:

- To remove, destroy or lop native vegetation in the Detailed Assessment Pathway;
- To remove, destroy or lop native vegetation if a Property Vegetation Plan applies to the site; or,
- To remove, destroy or lop native vegetation on Crown land which is occupied or managed by the responsible authority.

6.5.1 Implications of the Native Vegetation Clause 52.17

As the proposed development will impact native vegetation, a planning permit to remove, destroy or lop native vegetation is required under Clause 52.17 of the Nillumbik planning scheme.

6.5.2 Nillumbik Shire Council Planning Scheme

The land is predominantly covered under the Rural Conservation Zone – Schedule 3 (RCZ3) although the central northern section is also scheduled to the Public Conservation and Resource Zone (PCRZ). The land is also covered by the Bushfire Management Overlay (BMO) and is partially covered by the Environmental Significance Overlay – Schedule 4 (ESO4) and a Land Subject to Inundation Overlay (LSIO).

Relevant aspects of the zoning and overlays are discussed in further detail below.

Schedule 3 to Clause 35.06 Rural Conservation Zone (RCZ3)

The RCZ3 relates specifically to Conservation Values with the specific aim:

To ensure land use changes do not have an adverse impact on the landscape or strategic environmental values of the land.

Implications

The planning application does not involve subdivision or alteration to the existing buildings and floor area, nor does it involve earthworks. Therefore, there are no relevant ecological implications under the RCZ3.

Bushfire Management Overlay (BMO)

Purpose

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.

To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.

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To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.

Application requirements

Unless a schedule to the overlay specifies different requirements, an application must be accompanied by:

- *A bushfire hazard site assessment including a plan that describes the bushfire hazard within 150 metres of the proposed development. The description of the hazard must be prepared in accordance with Sections 2.2.3 to 2.2.5 of AS3959:2009 Construction of buildings in bushfire prone areas (Standards Australia) excluding paragraph (a) of section 2.2.3.2. Photographs or other techniques may be used to assist in describing the bushfire hazard.*
- *A bushfire hazard landscape assessment including a plan that describes the bushfire hazard of the general locality more than 150 metres from the site. Photographs or other techniques may be used to assist in describing the bushfire hazard. This requirement does not apply to a dwelling that includes all of the approved measures specified in Clause 53.02-3.*
- *A bushfire management statement describing how the proposed development responds to the requirements in this clause and Clause 53.02. If the application proposes an alternative measure, the bushfire management statement must explain how the alternative measure meets the relevant objective.*

If in the opinion of the responsible authority any part of these requirements is not relevant to the assessment of an application, the responsible authority may waive, vary or reduce the requirement.

Implications

A Bushfire Management Statement and Plan has been provided for the site (SBA Fire 2022), which recommends a BAL29 rating with defensible space of 30 m or to the property boundary.

If approved bushfire standards must be maintained across the property in accordance with the BMS.

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Schedule 4 to Clause 42.01 Environmental Significance Overlay (ESO4)

WATERWAYS

Statement of environmental significance

The waterways within the Shire of Nillumbik are an integral element of the environmental systems that support biodiversity, and directly impact on freshwater environments. Waterways also often provide relatively undisturbed habitat corridors between larger areas of remnant vegetation. The many threatened flora and fauna species identified as existing in the Shire rely, to a great extent, on the catchment areas of watercourses in the Shire. These areas need to be protected from inappropriate development.

Environmental objective to be achieved

To maintain environmental flows and improve the quality of water within watercourses.

To maintain the capacity of watercourses to carry natural flows.

To prevent erosion of banks, stream beds and adjoining land and the siltation of watercourses, drains and other features.

To protect and enhance the diversity, integrity and health of local flora and fauna habitats within and along watercourses.

To ensure that development (including fill) does not occur on land liable to flooding.

To ensure that subdivision and development is compatible with the environmental values of watercourses.

To provide for the retention, restoration and revegetation of local native species.

To protect natural landforms and geological features.

To ensure that the scenic qualities and visual character of waterway corridors are not compromised by the inappropriate siting of buildings, the placement of fill or lack of screening vegetation.

To restore those sections of waterway corridors which have been previously modified to create artificial beds, banks and landforms.

Permit requirement

A permit is not required to construct a building in a residential zone if it is no greater than 6 metres in height above ground level.

A permit is not required to remove, destroy or lop any vegetation if:

- The vegetation is identified as a pest plant in the Shire of Nillumbik Environmental Weed List 2009 as incorporated in this scheme.
- The vegetation is dead. This exemption does not apply to standing dead trees with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level.
- The vegetation is *Kunzea leptospermoides* (Yarra Burgan) and is being removed for fire prevention purposes.
- The vegetation has been planted or grown for aesthetic or amenity purposes, including: agroforestry (the simultaneous and substantial production of forest and other agricultural products from the same land unit), shelter belts, woodlots, street trees, gardens or the like.

This exemption does not apply if public funding was provided to assist in planting or managing the vegetation and the terms of the funding did not anticipate removal or harvesting of the vegetation

Implications

Any vegetation management actions undertaken within or adjacent to the Diamond Creek corridor as part of defensible space preparations must ensure that the actions do not compromise the integrity of the creek in terms of water flow, erosion and siltation, diversity and habitat provision. Many species may be treated or removed without a permit as they are nominated on the Shire of Nillumbik Environmental Weed List 2009. However, it is strongly recommended that weed removal works factor in revegetation with suitable indigenous species to prevent erosion and recolonisation by weeds.

Woody vegetation to the north is relatively well-spaced with up to 30 m separation from the Diamond Creek corridor, therefore very little native vegetation should require removal, although some thinning of Silver Wattle may be required in the north-west. However, vegetation to the west is likely to require thinning as the buffer to the existing building is relatively narrow (< 5-10 m). Any works in this section, such as removal of trees #9 & 10, will be close to the Manuka Rd Gully drainage line and should be conducted with care.

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Land Subject to Inundation Overlay (LSIO)

Decision guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider, as appropriate:

- The Municipal Planning Strategy and the Planning Policy Framework.
- Any local floodplain development plan.
- Any comments from the relevant floodplain management authority.
- The existing use and development of the land.
- Whether the proposed use or development could be located on flood-free land or land with a lesser flood hazard outside this overlay.
- Alternative design or flood proofing responses.
- The susceptibility of the development to flooding and flood damage.
- The potential flood risk to life, health and safety associated with the development. Flood risk factors to consider include:
 - The frequency, duration, extent, depth and velocity of flooding of the site and accessway.
 - The flood warning time available.
 - Tidal patterns.
 - Coastal inundation and erosion.
 - The danger to the occupants of the development, other floodplain residents and emergency personnel if the site or accessway is flooded.
- The effect of the development on redirecting or obstructing floodwater, stormwater or drainage water and the effect of the development on reducing flood storage and increasing flood levels and flow velocities.
- The effect of the development on river, marine and coastal health values including wetlands, natural habitat, stream stability, erosion, environmental flows, water quality, estuaries and sites of scientific significance.
- Any other matters specified in a schedule to this overlay

Implications

Although the proposed education facility is within the LSIO, it is already constructed and only requires superficial modifications to meet bushfire construction standards. There will also be no terraforming or earthworks and therefore no change to current drainage or flow patterns.

7 Conclusions and Recommendations

The following requirements should be considered as part of proposed development:

- No flora or fauna species, or ecological communities listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) are relevant to the study area. As such, a referral under the EPBC Act is not required;
- Two FFG Act listed flora species (Spotted Gum #*Corymbia maculata* and Large-fruit Yellow-gum #*Eucalyptus leucoxylon* subsp. *megalocarpa*) were identified within the study area, however, both species are non-indigenous and have been planted.
- No further FFG Act listed flora, fauna or listed communities are considered relevant to the study area and the land is also of private tenure therefore a permit under the Act is

not required. Targeted surveys are not recommended to further inform the proposed development;

- A planning permit to remove, destroy or lop native vegetation is required under Clause 52.17 of the Nillumbik Shire planning scheme (*Planning and Environment Act 1987*) as part of the proposed development;
- Under the current development plan the required offset is **0.064 General Habitat Units (GHU)** and **3 large tree**. The required offset must have a **minimum Strategic Biodiversity Value score (SBV) of 0.716** and must be located within either **Nillumbik Shire Council or Port Phillip and Westernport Catchment Management Authority (PPWCMA)**;
- Any trees proposed for removal that are suspected to support hollows, nests or possum dreys must undergo pre-clearance fauna checks by a qualified zoologist prior to any works;
- If required, ensure a qualified Wildlife Handler is present on site immediately prior to and during tree removal to capture and locally translocate displaced fauna, as well as provide guidance on appropriate lengths and selection of log sections for future re-use as vertical habitat and hollow logs;
- The colonisation and spread of all *Catchment and Land Protection Act 1994* (CaLP Act) listed noxious weeds must be controlled during and post construction. The spread of weeds during construction should be managed through appropriate hygiene protocols for machinery, vehicles and personnel; and,
- Any landscaping and revegetation works should use plants that are indigenous to Nillumbik Shire Council and/or the local provenance.

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Appendix 1. Flora species list

Legend:

- * – Introduced/exotic species;
- # – native to Australia or Victoria but non-indigenous to the study area;
- vu – Listed as Vulnerable under the FFG Act 1988,;
- cr – Listed as Critically Endangered under the FFG Act 1988,;
- W – Weed of National Significance (WoNS);
- C – Weed listed as regionally controlled under the CaLP Act;
- R – Weed listed as regionally restricted under the CaLP Act.

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Origin	Scientific name	Common Name	Status
	<i>Acacia acinacea</i> s.s.	Gold-dust Wattle	
#	<i>Acacia cognata</i>	Narrow-leaf Bower-wattle	
	<i>Acacia dealbata</i>	Silver Wattle	
#	<i>Acacia longifolia</i> subsp. <i>longifolia</i>	Sallow Wattle	
	<i>Acacia melanoxylon</i>	Blackwood	
#	<i>Acacia pravissima</i>	Ovens Wattle	
	<i>Acaena novae-zelandiae</i>	Bidgee-widgee	
*	<i>Acanthus mollis</i>	Bear's Breach	
*	<i>Acer negundo</i>	Box-elder Maple	
*	<i>Acer palmatum</i>	Japanese Maple	
*	<i>Acetosella vulgaris</i>	Sheep Sorrel	
*	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	Agapanthus	
*	<i>Agrostis capillaris</i>	Brown-top Bent	
*	<i>Allium triquetrum</i>	Angled Onion	R
	<i>Allocasuarina verticillata</i>	Drooping Sheoak	
*	<i>Aphanes arvensis</i>	Parsley Piert	
*	<i>Arctotheca calendula</i>	Cape weed	
*	<i>Asparagus asparagoides</i>	Bridal Creeper	C, W
*	<i>Betula pendula</i>	Silver Birch	
*	<i>Bromus catharticus</i> var. <i>catharticus</i>	Prairie Grass	
	<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	Sweet Bursaria	
*	<i>Buxus sempervirens</i>	English Box	
#	<i>Callistemon salignus</i>	Willow Bottlebrush	
*	<i>Cardamine hirsuta</i> s.l.	Common Bitter-cress	
	<i>Carex appressa</i>	Tall Sedge	
#	<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>	River Oak	
*	<i>Cenchrus clandestinus</i>	Kikuyu	
*	<i>Cerastium glomeratum</i> s.s.	Sticky Mouse-ear Chickweed	
*	<i>Chasmanthe floribunda</i>	African Cornflag	
*	<i>Chenopodium album</i>	Fat Hen	
*	<i>Cirsium vulgare</i>	Spear Thistle	C
	<i>Clematis microphylla</i> s.s.	Small-leaved Clematis	
*	<i>Coleonema pulchellum</i>	Pink Diosma	
*	<i>Conium maculatum</i>	Hemlock	C
#	<i>Correa alba</i>	White Correa	
	<i>Correa reflexa</i>	Common Correa	
#	<i>Corymbia citriodora</i> subsp. <i>citriodora</i>	Lemon-scented Gum	
#	<i>Corymbia maculata</i>	Spotted Gum	vu
	<i>Cotula australis</i>	Common Cotula	
	<i>Cynogeton procerum</i> (narrow floating leaf variant)	Common Water-ribbons	
*	<i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch	

Origin	Scientific name	Common Name	Status
*	<i>Cyperus eragrostis</i>	Drain Flat-sedge	
*	<i>Dactylis glomerata</i>	Cocksfoot	
	<i>Dianella tasmanica</i>	Tasman Flax-lily	
	<i>Dichondra repens</i>	Kidney-weed	
*	<i>Ehrharta erecta</i>	Panic Veldt-grass	
	<i>Einadia nutans</i> subsp. <i>nutans</i> (s.s.)	Nodding Saltbush	
	<i>Epilobium billardioreanum</i>	Variable Willow-herb	
*	<i>Eriobotrya japonica</i>	Loquat	
#	<i>Eucalyptus botryoides</i>	Southern Mahogany	
	<i>Eucalyptus camaldulensis</i>	River Red-gum	
#	<i>Eucalyptus leucoxylon</i> subsp. <i>megalocarpa</i>	Large-fruit Yellow-gum	cr
	<i>Eucalyptus melliodora</i>	Yellow Box	
#	<i>Eucalyptus nicholii</i>	Narrow-leaf Black-peppermint	
	<i>Eucalyptus ovata</i> subsp. <i>ovata</i>	Swamp Gum	
	<i>Eucalyptus polyanthemus</i> subsp. <i>vestita</i>	Red Box	
	<i>Eucalyptus radiata</i> subsp. <i>radiata</i>	Narrow-leaf Peppermint	
	<i>Eucalyptus rubida</i>	Candlebark	
	<i>Eucalyptus viminalis</i> subsp. <i>viminalis</i>	Manna Gum	
	<i>Euchiton japonicus</i> s.s.	Creeping Cudweed	
*	<i>Euphorbia peplus</i>	Petty Spurge	
*	<i>Fumaria bastardii</i>	Bastard's Fumitory	
*	<i>Galium aparine</i>	Cleavers	
	<i>Geranium</i> sp. 5	Naked Crane's-bill	
#	<i>Grevillea rosmarinifolia</i> hybrids	Rosemary Grevillea hybrids	
*	<i>Hedera helix</i>	English Ivy	
*	<i>Helminthotheca echioides</i>	Ox-tongue	
*	<i>Hypochaeris radicata</i>	Flatweed	
*	<i>Jasminum</i> spp.	Jasmine	
	<i>Juncus gregiflorus</i>	Green Rush	
	<i>Juncus subsecundus</i>	Finger Rush	
	<i>Kunzea leptospermoides</i>	Yarra Burgan	
*	<i>Lactuca serriola</i>	Prickly Lettuce	
	<i>Lomandra longifolia</i> subsp. <i>longifolia</i>	Spiny-headed Mat-rush	
*	<i>Lysimachia arvensis</i>	Pimpernel	
*	<i>Malus</i> spp.	Apple	
*	<i>Malva parviflora</i>	Small-flower Mallow	
*	<i>Medicago arabica</i>	Spotted Medic	
*	<i>Medicago minima</i>	Little Medic	
#	<i>Melaleuca styphelioides</i>	Prickly Paperbark	
	<i>Melicytus dentatus</i> s.s.	Tree Violet	
*	<i>Mentha pulegium</i>	Pennyroyal	
	<i>Microlaena stipoides</i> var. <i>stipoides</i>	Weeping Grass	
*	<i>Modiola caroliniana</i>	Red-flower Mallow	
*	<i>Olea europaea</i>	Olive	
	<i>Oxalis perennans</i>	Grassland Wood-sorrel	
*	<i>Oxalis pes-caprae</i>	Soursob	R
*	<i>Oxalis purpurea</i>	Large-flower Wood-sorrel	
*	<i>Paspalum dilatatum</i>	Paspalum	
	<i>Persicaria decipiens</i>	Slender Knotweed	
*	<i>Plantago coronopus</i>	Buck's-horn Plantain	
*	<i>Plantago lanceolata</i>	Ribwort	
*	<i>Polycarpon tetraphyllum</i>	Four-leaved Ailanth	
*	<i>Prunella vulgaris</i>	Self-heal	

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Origin	Scientific name	Common Name	Status
	<i>Pteridium esculentum</i> subsp. <i>esculentum</i>	Austral Bracken	
*	<i>Pyrus calleryana</i>	Callery Pear	
*	<i>Rapistrum rugosum</i>	Giant Mustard	
*	<i>Romulea rosea</i>	Onion Grass	
*	<i>Rosa</i> spp.	Rose	
*	<i>Rubus anglocandicans</i>	Common Blackberry	C, W
*	<i>Rumex crispus</i>	Curled Dock	
	<i>Rytidosperma racemosum</i> var. <i>racemosum</i>	Slender Wallaby-grass	
	<i>Solanum aviculare</i>	Kangaroo Apple	
*	<i>Solanum nigrum</i> s.s.	Black Nightshade	
*	<i>Sonchus asper</i> s.s.	Rough Sow-thistle	
*	<i>Sonchus oleraceus</i>	Common Sow-thistle	
*	<i>Sporobolus africanus</i>	Rat-tail Grass	
*	<i>Tradescantia fluminensis</i>	Wandering Jew	
*	<i>Trifolium repens</i> var. <i>repens</i>	White Clover	
*	<i>Urtica urens</i>	Small Nettle	
*	<i>Verbena bonariensis</i> s.l.	Purple-top Verbena	
*	<i>Veronica persica</i>	Persian Speedwell	
*	<i>Vinca major</i>	Blue Periwinkle	
*	<i>Vulpia myuros</i>	Rat's-tail Fescue	
*	<i>Watsonia meriana</i> var. <i>bulbillifera</i>	Bulbil Watsonia	C
*	<i>Wisteria floribunda</i>	Japanese Wisteria	

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Attachment 1. Native Vegetation Removal Report

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Native vegetation removal report

This report provides information to support an application to remove, destroy or lop native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report **is not an assessment by DELWP** of the proposed native vegetation removal. Native vegetation information and offset requirements have been determined using spatial data provided by the applicant or their consultant.

Date of issue: 18/07/2022

Time of issue: 9:22 pm

Report ID: ABZ_2022_024

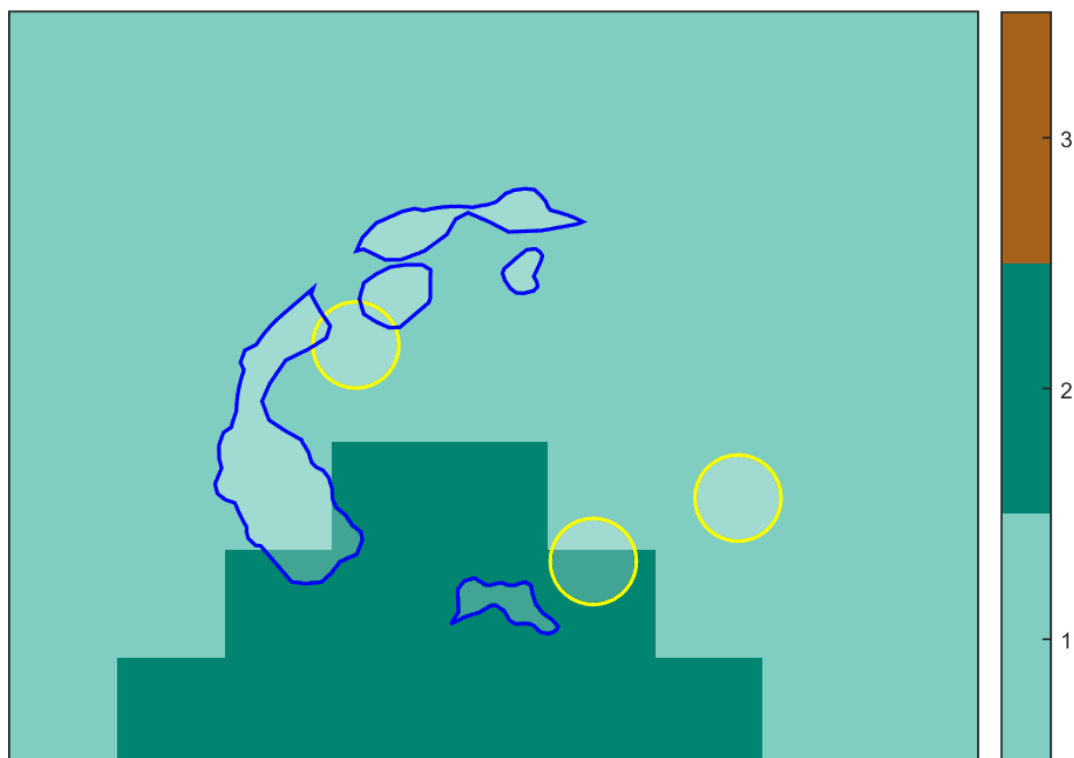
Project ID

Abzeco22061_VegLoss_VG94_V3_2022Jul18

Assessment pathway

Assessment pathway	Intermediate Assessment Pathway	This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright
Extent including past and proposed	0.269 ha	
Extent of past removal	0.000 ha	
Extent of proposed removal	0.269 ha	
No. Large trees proposed to be removed	3	
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.	

1. Location map



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Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

General offset amount ¹	0.064 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Nillumbik Shire Council
Minimum strategic biodiversity value score ²	0.716
Large trees	3 large trees

NB: values within tables in this document may not add to the totals shown above due to rounding

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

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¹ The general offset amount required is the sum of all general habitat units in Appendix 1.

² Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required

Next steps

Any proposal to remove native vegetation must meet the application requirements of the Intermediate Assessment Pathway and it will be assessed under the Intermediate Assessment Pathway.

If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. Council will refer your application to DELWP for assessment, as required. **This report is not a referral assessment by DELWP.**

This *Native vegetation removal report* must be submitted with your application for a permit to remove, destroy or lop native vegetation.

Refer to the *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) for a full list of application requirements. This report provides information that meets the following application requirements:

- The assessment pathway and reason for the assessment pathway
- A description of the native vegetation to be removed (met unless you wish to include a site assessment)
- Maps showing the native vegetation and property
- The offset requirements determined in accordance with section 5 of the Guidelines that apply if approval is granted to remove native vegetation.

Additional application requirements must be met including:

- Topographical and land information
- Recent dated photographs
- Details of past native vegetation removal
- An avoid and minimise statement
- A copy of any Property Vegetation Plan that applies
- A defensible space statement as applicable
- A statement about the Native Vegetation Precinct Plan as applicable
- An offset statement that explains that an offset has been identified and how it will be secured.

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Obtaining this publication does not guarantee that an application will meet the requirements of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes or that a permit to remove native vegetation will be granted.

Notwithstanding anything else contained in this publication, you must ensure that you comply with all relevant laws, legislation, awards or orders and that you obtain and comply with all permits, approvals and the like that affect, are applicable or are necessary to undertake any action to remove, lop or destroy or otherwise deal with any native vegetation or that apply to matters within the scope of Clauses 52.16 or 52.17 of the Victoria Planning Provisions and Victorian planning schemes.

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Appendix 1: Description of native vegetation to be removed

All zones require a general offset, the general habitat units each zone is calculated by the following equation in accordance with the Guidelines:

General habitat units = extent x condition x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)

The general offset amount required is the sum of all general habitat units per zone.

Native vegetation to be removed

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-D	Patch	hsf_0018	Least Concern	0	yes	0.085	0.018	0.018	0.940		0.002	General
1-E	Patch	hsf_0018	Least Concern	0	yes	0.085	0.006	0.006	0.940		0.001	General
1-A	Patch	hsf_0083	Vulnerable	0	yes	0.085	0.016	0.016	0.940		0.002	General
1-B	Patch	hsf_0018	Least Concern	2	yes	0.170	0.033	0.033	0.940		0.008	General
1-C	Patch	hsf_0018	Least Concern	1	yes	0.170	0.105	0.105	0.828		0.024	General
1-T4	Scattered Tree	hsf_0047	Vulnerable	0	no	0.200	0.031	0.031	0.940		0.009	General
1-T2	Scattered Tree	hsf_0047	Vulnerable	0	no	0.200	0.031	0.031	0.940		0.009	General
1-T20	Scattered Tree	hsf_0018	Least Concern	0	no	0.200	0.031	0.028	0.924		0.008	General

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Appendix 2: Information about impacts to rare or threatened species' habitats on site

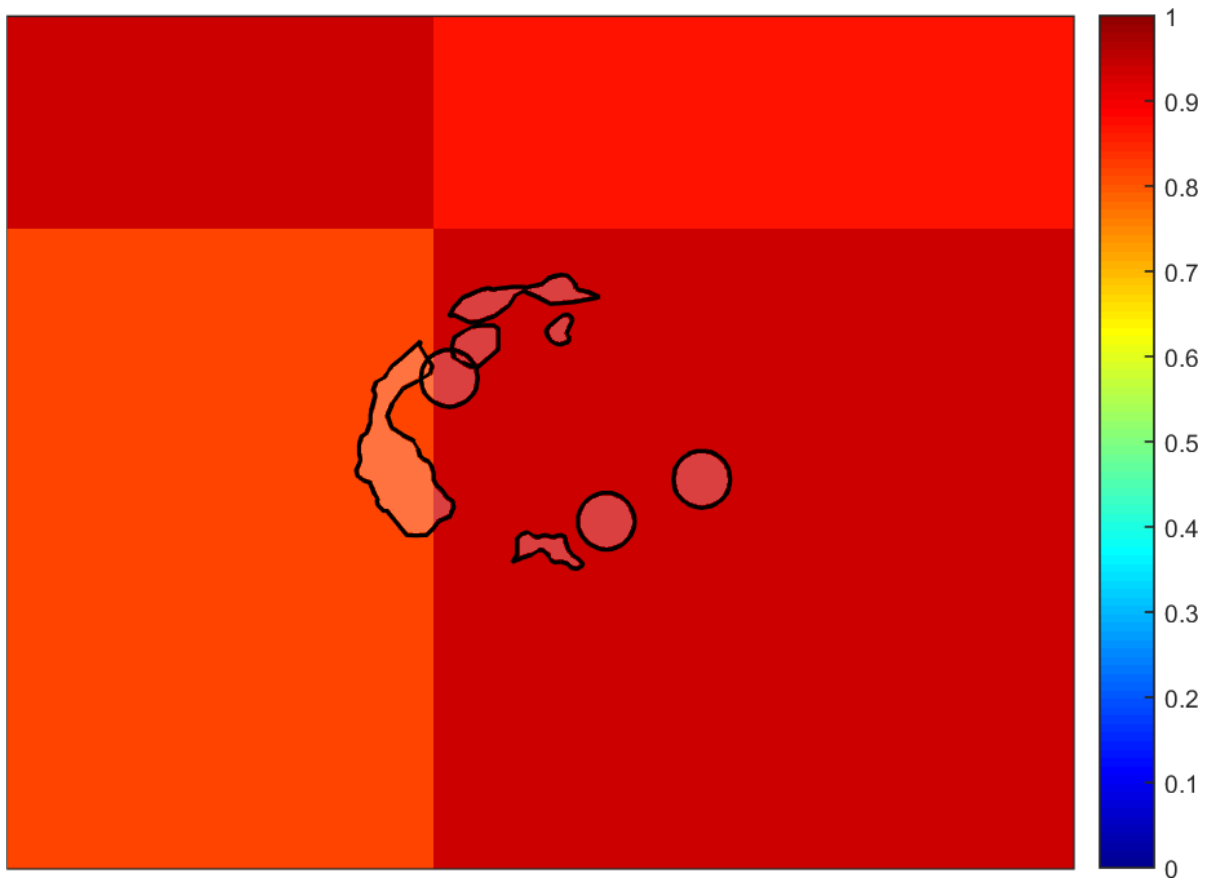
This is not applicable in the Intermediate Assessment Pathway.

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Appendix 3 – Images of mapped native vegetation

2. Strategic biodiversity values map



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