

# Appendix 8 – Environmental Impact Assessment

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9 Raglan Street and 29 Smith Street  
Daylesford

Vegetation Assessment

*Prepared for*  
Hygge Property

*Prepared by:*  
**Mark Trengove Ecological Services**

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## Document History

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# 1 Introduction

## 1.1 Project Background

This report was commissioned Hygge Property undertake an ecological assessment for the proposed new residential sub-division at 9 Raglan Street and 29 Smith Street Daylesford.

Under Clause 52.17 of the Victorian Planning Scheme, the State has gazetted the Native Vegetation Permitted Clearing Regulations. The regulations 'introduce a risk based approach to assessing applications to remove native vegetation' (DELWP Website vi). Refer to Section 3.3 for further discussion.

## 1.2 Aims

The aims of the study are to -

- Determine the extent of any indigenous vegetation that exists in the study area.
- Describe the vegetation of the study area.
- Undertake an assessment of any native vegetation (patch or scattered tree) that may be impacted on by the proposal.
- Respond to relevant legislation (Clause 52.17, EPBC Act, ESO1, ESO2).
- Prescribe offset requirements for the removal of any native vegetation from the study area.

## 1.3 Study Area

The subject site consists of approximately 2.8 hectares of land located at 9 Raglan Street (approx. 2 ha) and part of 29 Smith Street (approx. 0.8 ha) Daylesford. The study area is the area as defined at Figure 1.

The study area is located within the Hepburn Shire Council, which is located within in the North Central Catchment Management Authority area. The study area is within the Central Victorian Uplands bioregion (DELWP website i). Under the Hepburn Planning Scheme, the study area is zoned General Residential Zone (GRZ1) and is subject to Environment Significance Overlay 1 (ESO1) and Environment Significance Overlay 2 (ESO2).

The study area includes an ephemeral drainage line that flows from south to north across the parts of the two properties. This drainage line is a tributary of Bund Creek. Bund Creek flows into Spring Creek, through the Hepburn Springs area, and is within the Loddon River catchment. Refer to Figure 2 for the location of Bund Creek drainage lines.

Soil types within the study area are comprised of volcanic clay loams.

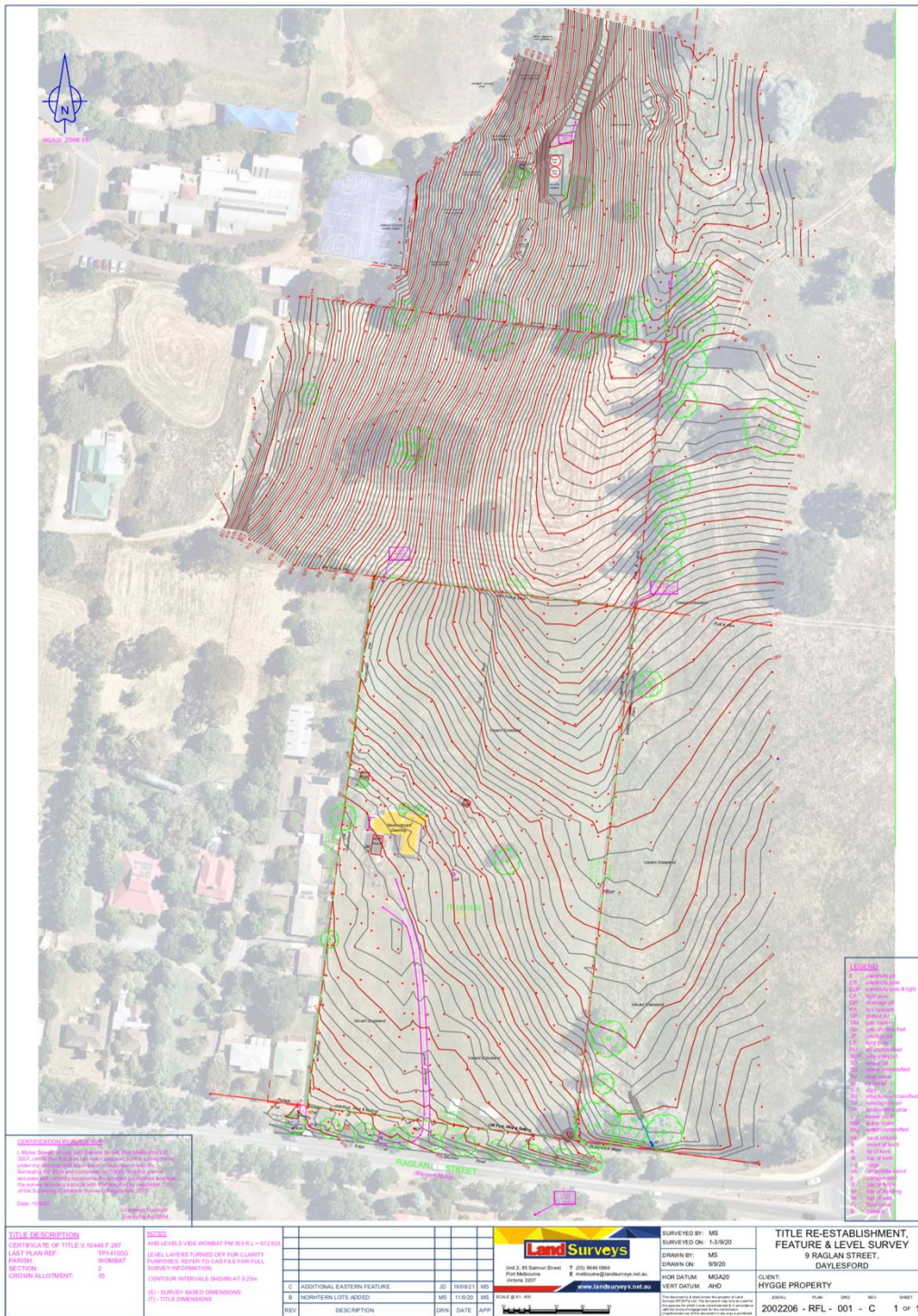
The 9 Raglan Street property slopes gently from the south-west down to the north-east (to the Bund Creek tributary), with a fall of 10 metres over 215 metres distance. The 29 Smith Street property slopes more steeply, from the west down to the east (to the Bund Creek tributary), with a fall of 23 metres over 70 metres distance.

The vegetation of the study area can be described as follows:

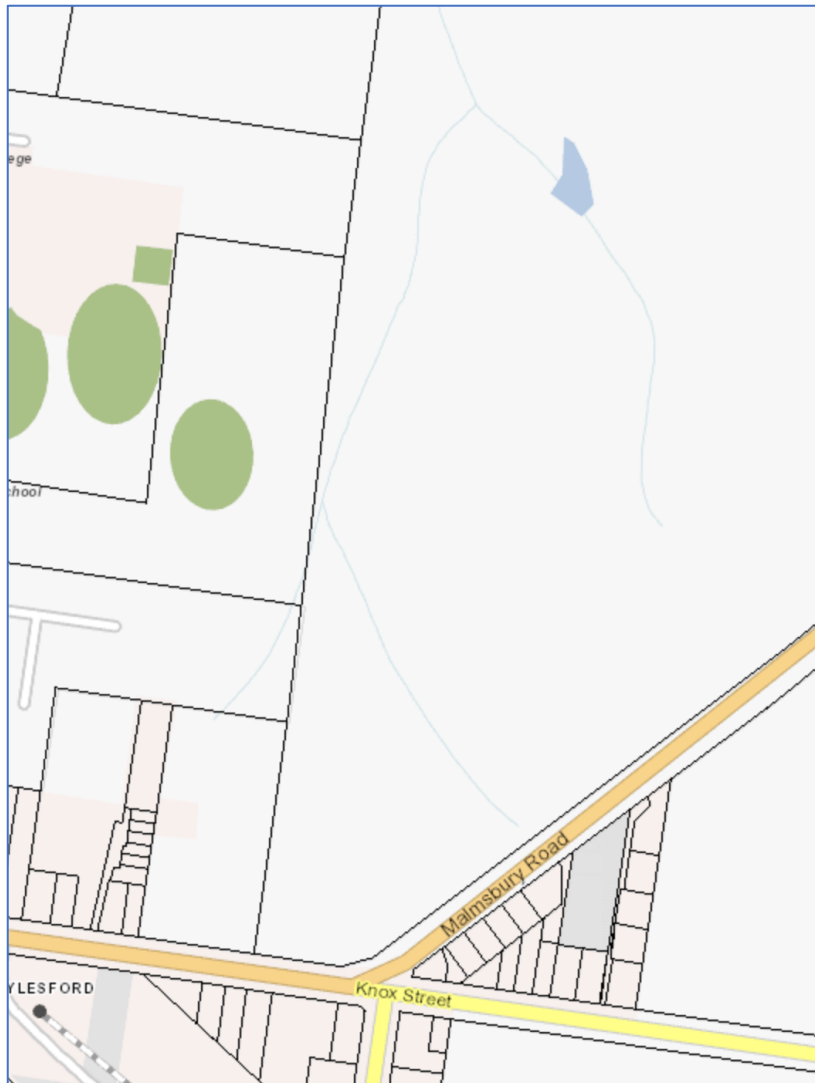
- Disturbed degraded vegetation with predominately exotic plant species.
- Planted exotic and non-local native vegetation.

Areas of native vegetation dominated by mature Manna Gum and Blackwood occur on the subject property and on the adjacent property to the east. This vegetation is located beyond the impact area and is not implicated (Table 3 and Figure 3).

Refer to Figure 1 for the location of the study area.



**Figure 1.** Study area location and 1 metre contour intervals. The central section, 17 Smith Street, is not included.



**Figure 2.** Bund Creek (DELWP NVIM data).

## ***1.4 Potential Impacts***

The area of potential impact is comprised of proposed new residential sub-division.

It is assessed that under Clause 52.17 a permit to remove native vegetation will not be required. However a permit to remove vegetation will be required under ESO1.



## **2 Survey Methods**

### **2.1 Taxonomy**

Scientific names for plants follow the Flora of Victoria (RBG website). Common names for plants follow the Flora of Victoria Vols 2-4 (Walsh and Entwisle 1994-1999).

### **2.2 Literature and Database Review**

Relevant literature, online resources and databases were reviewed to provide an up to date assessment of ecological values associated with the study area and surrounds, including:

- The Victorian Department of Environment, Land, Water and Planning (DELWP) NVIM tool (DELWP website i) for:
  - Modelled data for remnant vegetation patches and habitat for rare or threatened species and
  - the extent of historic and current Ecological Vegetation Classes (EVC)s
- Aerial photography of the study area (Google maps).

### **2.3 Field methodology vegetation assessment**

The site was inspected on foot on the 26<sup>th</sup> of November 2021. The entire site was traversed. Records were taken of all indigenous and exotic vascular plant species. Observations were made of the existing habitat values.

### **2.4 Limitations**

The assessment was conducted during spring, a time of year that is suitable for the detection of most flora species likely to occur on site. Due to the degraded nature of the study area and the favourable conditions for survey, the site inspection is considered to be sufficient to assess the ecological values of the proposed impact site. As a result, there are not considered to be any significant limitations to the finding of the study.

The survey includes only vascular flora. As Habitat Hectare assessments were not required (*refer to 3.3*) non-vascular flora (mosses, lichens, fungi, etc.) were not recorded. Fauna was not surveyed.

### **2.5 Defining Vegetation Significance**

A number of criteria are applied in order to assess the significance of flora species and vegetation communities. The definition of the criteria is detailed in Appendix 1.

## **2.6 Defining and Assessing Native Vegetation**

Native vegetation in Victoria has been defined by DELWP as belonging to two categories. These are:

### **Patch native vegetation**

Patch native vegetation is either:

- any area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native
- any area with three or more native canopy trees where the canopy foliage cover is overlapping.
- Areas of current wetlands as mapped by DELWP.

### **Scattered tree native vegetation**

Scattered tree native vegetation is:

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

### **Habitat hectares**

Habitat hectares (Vegetation Quality Assessment v1.3) is a site-based measure that combines extent and condition of native vegetation. The current condition of native vegetation is assessed against a benchmark for its Ecological Vegetation Class (EVC). EVCs are classifications of native vegetation types. The benchmark for an EVC describes the attributes of the vegetation type in its mature natural state, which reflects the pre-settlement circumstances. The condition score of native vegetation at a site can be determined through undertaking a habitat hectare assessment.

The habitat hectares of native vegetation is calculated by multiplying the current condition of the vegetation (condition score) by the extent of native vegetation. (DELWP Website vi).

## 3 Results

### 3.1 Ecological Vegetation Class

Ecological Vegetation Classes (EVCs) are the primary level of classification of vegetation communities within Victoria. An EVC contains one or more plant (floristic) community and represents a grouping of vegetation communities with broadly similar ecological attributes.

The EVC mapping of the study area undertaken by DELWP (DELWP website i) indicates that the study area and immediate surrounds contains vegetation that aligns with the characteristics of EVC 23 Herb-rich Foothill Forest.

The bioregional conservation status of EVC 23 Herb-rich Foothill Forest is 'Depleted'. Depleted is defined as an EVC where between 30-50% of pre-European extent remains.

The current survey recorded no native vegetation that accords with EVC 23 Herb-rich Foothill Forest.

Refer to Figure 3 for the distribution of pre 1750 EVCs (DELWP website i). Refer below (3.3) for further discussion.



**Figure 3.** Distribution of pre 1750 EVCs (DELWP data).

## 3.2 Flora

### 3.2.1 Indigenous Plant Species

No indigenous (native) vascular plant species were recorded for the study area.

Refer to Table 1 for a list of naturalised vascular plant species; including status recorded this survey. Refer to Table 2 for a list of tree species recorded this survey. Refer to Plates 1-6 for photographs of the vegetation existing conditions.

### 3.2.2 Exotic Plant Species

**Table 1 Dominant Naturalised Exotic Plant Species recorded this assessment.**

Botanical Name	Common Name	Status
<i>Agrostis capillaris</i>	Creeping Bent-grass	Exotic
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	Exotic
<i>Bromus</i> spp.	Brome	Exotic
<i>Cirsium vulgare</i>	Spear Thistle	Exotic
<i>Cretageus monogyna</i>	Hawthorn	Exotic
<i>Cytisus scoparius</i>	English Broom	Exotic
<i>Dactylis glomeratus</i>	Cock's-foot Grass	Exotic
<i>Holcus lanatus</i>	Yorkshire Fog-grass	Exotic
<i>Hypochaeris radicata</i>	Flatweed	Exotic
<i>Lolium</i> spp.	Rye-grass	Exotic
<i>Phalaris aquatica</i>	Canary-grass	Exotic
<i>Pittosporum undulatum</i>	Sweet Pittosporum	Exotic
<i>Rosa rubiginosa</i>	Briar Rose	Exotic
<i>Rubus laciniatus</i>	Blackberry	Exotic
<i>Rumex crispus</i>	Curled Dock	Exotic
<i>Silybum marinum</i>	Variiegated Thistle	Exotic

**Table 1.** Botanical name, common name, status.

**Table 2 Trees**

Tree #	Botanical Name	Common Name	Status	52.17 Implications
1	<i>Morus nigra</i>	Mulberry	Exotic	Nil
2	<i>Fraxinus</i> spp.	Ash	Exotic	Nil
3	<i>Plantanus</i> spp.	Plane	Exotic	Nil
4	<i>Plantanus</i> spp.	Plane	Exotic	Nil
5	<i>Plantanus</i> spp.	Plane	Exotic	Nil
6	<i>Plantanus</i> spp.	Plane	Exotic	Nil
7	<i>Plantanus</i> spp.	Plane	Exotic	Nil
8	<i>Quercus</i> spp.	Oak	Exotic	Nil
9	<i>Plantanus</i> spp.	Plane	Exotic	Nil
10	<i>Plantanus</i> spp.	Plane	Exotic	Nil

**Table 2.** Trees, botanical name, common name, status, and implications for Clause 52.17. Refer to Figure 3 for location of trees.



**Figure 3.** Location of trees. Manna Gums are located beyond the impact area. Plantation is mixed non-local native spp (*Eucalyptus spp*, *Acacia spp*, *Auarcaria*).

Areas of native vegetation dominated by mature Manna Gum and Blackwood occur on the subject property to the north of the proposed sub-division and on the adjacent property, 4719 Midland Highway, to the east. This vegetation is located beyond the impact area and is not implicated (Table 3 and Figure 3). Refer to Table 3 for native tree data including DBH and TPZ calculations.

**Table 3 Native trees beyond the impact area**

Tree #	Botanical Name	DBH (cm)	TPZ (m)	Clause 52.17 Impact
A	<i>Eucalyptus viminalis</i>	1200	14.4	No impact
B	<i>Eucalyptus viminalis</i>	2200	15	No impact

**Table 3.** Native trees, botanical name, diameter at breast height (DBH), tree protection zone (TPZ) and implications for Clause 52.17.

Tree protection zones are calculated in accordance with Australian Standard AS4970-2009 *Protection of trees on development sites*. Refer to Appendix 3.

### 3.2.3 Significant Plant Species

No native plant species were recorded. Refer to Table 1 and Appendix 1.

### 3.2.4 Condition of the Vegetation

The vegetation of the study area is described as follows:

- **Relatively degraded exotic vegetation.** This vegetation occurs across the majority of the study area (the former farming land) and is dominated by pasture grasses and ruderal weeds,
- Exotic specimen trees and non-local native plantations.

### 3.3 State Native Vegetation Permitted Clearing Regulations

#### 3.3.1 Description

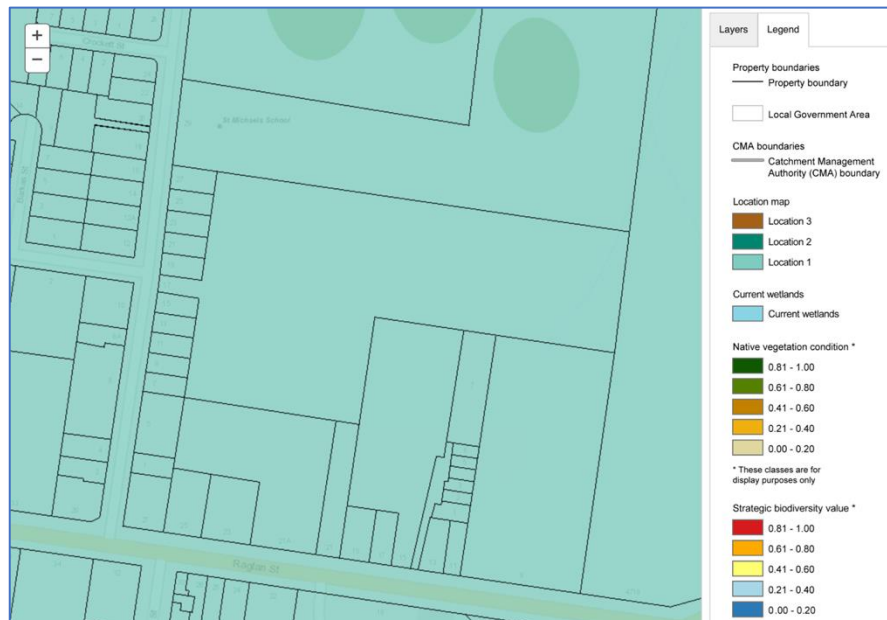
Under Particular Provision (Native Vegetation Clause 52.17) the State has gazetted the Native Vegetation Permitted Clearing Regulations. The Regulations introduce a risk based approach to assessing applications to remove native vegetation (DELWP website vi).

The objective for the permitted clearing of native vegetation (*refer to 2.6*) is that it results in no net loss. This means permitted clearing has a neutral impact on Victoria’s biodiversity.

When native vegetation removal is permitted, an offset must be secured which achieves a no net loss outcome for biodiversity. To achieve this, the offset makes a contribution to Victoria’s biodiversity that is equivalent to the contribution made by the native vegetation that was removed. The type and amount of offset required depends on the native vegetation being removed and the contribution it makes to Victoria’s biodiversity.

Under the Native Vegetation Permitted Clearing Regulations, any ‘patch’ or ‘scattered tree’ native vegetation that is proposed to be removed is subject to protection/and or recruitment offsets, depending upon the characteristics of the site.

Refer to Figure 4 for the distribution of vegetation in the study area according to ‘Location’. Implications for the current proposal are discussed as follows.



**Figure 4.** Distribution of vegetation according to ‘Location’. Light green equates to ‘Location 1’ (i.e. least risk) (DELWP Website i). The study area is sited within Location 1.

### 3.3.2 Patch Native Vegetation

Under the Native Vegetation Permitted Clearing Regulations, any areas of patch native vegetation that are proposed to be removed are subject to protection/and or recruitment offsets, depending upon the characteristics of the site.

No areas of patch native vegetation were recorded for the study area.

### 3.3.3 Scattered Tree Native Vegetation

Under the Native Vegetation Permitted Clearing Regulations, any scattered native canopy trees that are proposed to be removed are subject to protection/and or recruitment offsets, depending upon the characteristics of the site. Within the CVU bioregion, EVC 23 has *Eucalyptus* spp as 'canopy trees'.

No areas of scattered tree native vegetation were recorded for the study area.

*The subject land is zoned for residential purposes, and is located within the Daylesford Structure Plan's identified township boundary, earmarked for future residential development. The subdivision layout has created lot sizes which align with Council's preferred density of the area, with an effort to avoid any detrimental impact upon the manna gums.*



### **3.4 Commonwealth**

#### **3.4.1 Environment Protection and Biodiversity Conservation Act (1999)**

The Environment Protection and Biodiversity Conservation (EPBC) Act (1999) was established to 'promote the conservation of biodiversity by providing strong protection for listed species and communities in the Commonwealth and for protected areas, Ramsar sites, Commonwealth Reserves, conservation zones and World Heritage sites, etc.' No listed EPBC Act ecological communities or species are recorded for the study area.

#### **Implications**

The removal of vegetation would not require referral under the EPBC Act as the vegetation is exotic. Consequently, there is not considered to be any implications for the current proposal under the EPBC Act.

### **3.5 ESO1 Proclaimed Catchment Protection**

#### **Statement of environmental significance**

*Hepburn Shire is situated in the Central Highlands at the source of a number of catchments linked to Port Phillip Bay or the Murray River. Protection of the quality of this water has significant local and regional implications, especially where these catchments provide domestic water supply.*

#### **Environmental objective to be achieved**

*To protect the quality of domestic water supplies within the Shire and the broader region.*

*To maintain and where practicable enhance the quality and quantity of water within watercourses.*

*To prevent increased runoff or concentration of surface water leading to erosion or siltation of watercourses.*

*To prevent erosion of banks, streambeds adjoining land and siltation of watercourses, drains and other features.*

*To prevent pollution and increased turbidity and nutrient levels of water in natural watercourses, water bodies and storages.*

#### **Vegetation**

*A permit is not required to remove, destroy, or lop vegetation, including dead vegetation unless the removal, destruction or lopping involves:*

*Any vegetation on site area greater than 1 ha. Vegetation within 30 metres of a waterway.*

*([http://planningschemes.dpcd.vic.gov.au/schemes/hepburn/ordinance/42\\_01s01\\_hepb.pdf](http://planningschemes.dpcd.vic.gov.au/schemes/hepburn/ordinance/42_01s01_hepb.pdf))*

#### **Implications**

The subject land is zoned for residential purposes and is located within the Daylesford Structure Plan's identified township boundary, earmarked for future residential development. The subdivision layout has created lot sizes which align with Council's preferred density of the area, with an effort to avoid any detrimental impact upon the Manna Gums.

Note that all the proposed Lots are to be connected to the deep sewer.

Under ESO1 a permit will be required for the removal of vegetation as the vegetation is more than 1 ha in size and is within 30 from a waterway (Bund Creek).

### **3.5 ESO2 Mineral Springs and Groundwater Protection**

#### ***Statement of environmental significance***

*The mineral springs that occur within the Hepburn Shire have natural, cultural and economic significance. The protection of the springs, their aquifers and their environs from the impacts of waste disposal and drainage is a fundamental component of the future management of this asset.*

#### ***Environmental objective to be achieved***

*To protect the mineral springs, their aquifers and their environs from the impacts of effluent and drainage.*

*To protect water bores that provide town water supply.*

([http://planningschemes.dpcd.vic.gov.au/schemes/hepburn/ordinance/42\\_01s02\\_hepb.pdf](http://planningschemes.dpcd.vic.gov.au/schemes/hepburn/ordinance/42_01s02_hepb.pdf))

#### **Implications**

The subject land is zoned for residential purposes and is located within the Daylesford Structure Plan's identified township boundary, earmarked for future residential development. The subdivision layout has created lot sizes which align with Council's preferred density of the area, with an effort to avoid any detrimental impact upon the Manna Gums.

It is assessed that the removal of vegetation, as proposed, is unlikely to impact upon the values of ESO2.

## 4 Conclusions

The subject site consists of approximately 2.8 hectares of land located at 9 Raglan Street 29 Smith Street Daylesford. The study area is the entire property of 9 Raglan Street and part of 29 Smith Street.

This report finds that the study area is comprised of naturalised exotic vegetation as well as planted exotic and non-local native trees.

Under Clause 52.17, a planning permit to remove native vegetation would not be required from the Hepburn Shire Council.

Removal of the vegetation of the study area would not have implications for the relevant Commonwealth (i.e., EPBC Act) legislation.

A permit for the removal of vegetation will be required under ESO1 from the Hepburn Shire Council.

There are no significant limitations to the findings of this report.

## 5 References

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## **Appendix 1 - Assessing conservation significance**

Conservation significance is assessed at a range of scales, including national, state, regional and local. Criteria used for determining the conservation significance of flora at national to local scales are presented below for botanical conservation significance.

### **Botanical Significance**

**National** botanical significance applies to an area when it supports one or more of the following attributes:

a population of at least one nationally threatened plant species listed by Briggs and Leigh (1996) or plant species listed on the schedules to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

A nationally threatened ecological community listed on the schedules of the *Environment Protection and Biodiversity Conservation Act 1999*.

**State** botanical significance applies to an area when it supports one or more of the following attributes:

A population of at least one plant species on the schedules to the Victorian *Flora and Fauna Guarantee Act 1988*.

An ecological community considered threatened in Victoria through its listing on the schedules of the *Flora and Fauna Guarantee Act 1988*.

**Regional** botanical significance applies to an area that supports one or more of the following attributes:

Supports a population of one or more regionally depleted species defined in a valid regional assessment of biodiversity (eg. Regional Native Vegetation Plan, Environment Conservation Council Report or Comprehensive Regional Assessment documents).

An ecological vegetation class that is considered endangered or vulnerable in a particular bioregion (based on Conn 1993 and the Regional Native Vegetation Plan), in which case the area is of **High Regional** significance.

An ecological vegetation class that is considered depleted in a particular bioregion (based on Conn 1993 and the Regional Native Vegetation Plan), in which case it is of **Regional** significance.

**Local** botanical significance applies to all remnant native vegetation that does not meet the above criteria. In much of Victoria native vegetation has been so depleted by past clearing and disturbance that all remaining vegetation must be considered to be of at least local conservation significance.

## Appendix 2 Determining the Tree Protection Zone

### Determining the Tree Protection Zone (TPZ)

The radius of the TPZ is calculated for each tree by multiplying its DBH x 12. TPZ = DBH x 12 (Australian Standard AS4970-2009 *Protection of trees on development sites*)

Where

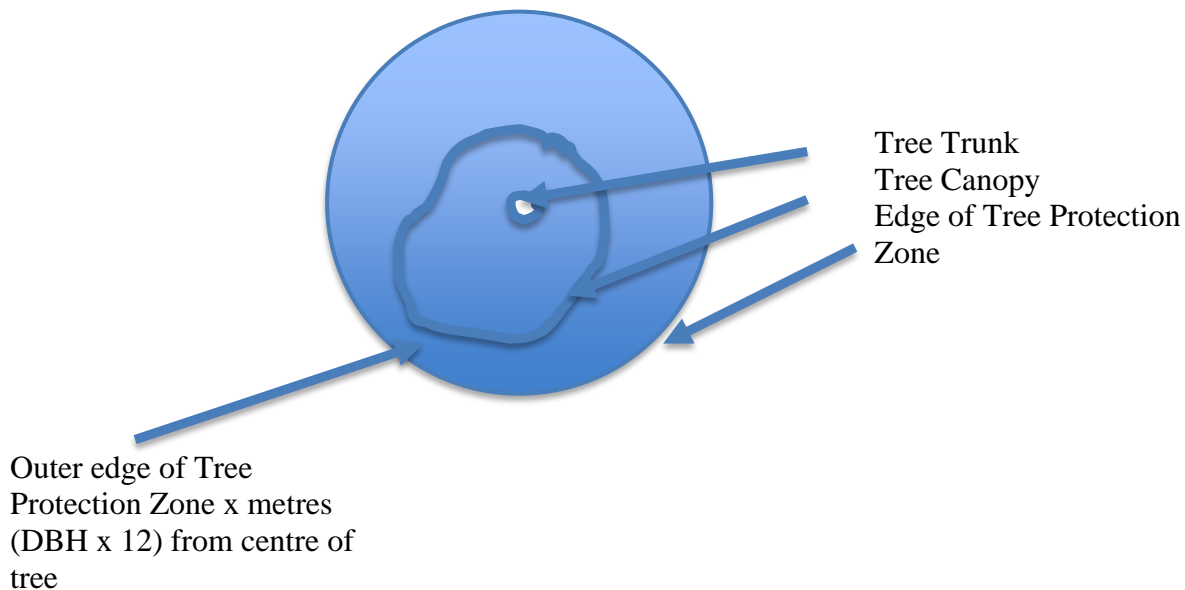
DBH = trunk diameter measured at 1.4 metres above ground.

Radius is measured from the centre of the stem at ground level.

A TPZ should not be less than 2 metres no greater than 15 metres (except where crown protection is required.). Some instances may require variations to the TPZ.

A tree is deemed to be impacted upon if greater than 10% of the TPZ area is to be disturbed.

### Indicative Size of Tree Protection Zone



**Plates 1–8 Vegetation existing conditions**



**Plate 1.** 9 Raglan Street. Exotic vegetation, typical conditions.



**Plate 2.** 9 Raglan Street. Bund Creek drainage line at the north eastern sector.



**Plate 3.** 9 Raglan Street. Exotic vegetation, typical conditions. Mulberry tree.





**Plate 4.** 29 Smith Street. Native Manna Gum and Blackwood located beyond the study area.



**Plate 5.** 4719 Midland Highway. Native Manna Gum and Blackwood located on adjacent property beyond the study area. Bund Creek drainage line is located at the base of the tree.



**Plate 6.** 29 Smith Street. Exotic vegetation, typical conditions.



**Plate 7.** 29 Smith Street. Plantation of non-local native vegetation.



**Plate 8.** 29 Smith Street. Exotic vegetation, typical conditions. *Plantanus* spp. trees.