2-120 Mollers Lane Leopold

Vegetation Due Diligence Assessment and Biodiversity Assessment Report

A Report to
TGM Group P/L

Prepared by

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1 INTRODUCTION

1.1 Project Background

An area of land of approximately 39.5 ha, located at 2-120 Mollers Lane Leopold, is proposed to be developed for residential use. This report was commissioned by TGM Group P/L to undertake a due diligence assessment of the quantity and significance of any indigenous flora and fauna habitat that might be present in the subject site.

Under Clause 52.17 of the Planning Scheme, the State has gazetted the Native Vegetation Removal Regulations (revised in December 2017). The purpose of Clause 52.17 is to 'avid and minimise the removal of native vegetation' (DELWP Website i). Refer to Section 4.2 for further discussion.

This report (January 2018) is modified to consider an additional impact area (The Bellarine Highway) and to accommodate the revisions in the Native Vegetation Removal Regulations.

1.2 Objectives

The objectives of this investigation are to:

- Describe the flora and fauna habitat values of the land.
- Evaluate the conservation significance of the land.
- Assess any potential impacts of the proposed development.
- Discuss the implications of relevant government policy and legislation.
- Determine any offset requirements.

1.3 Study Area

The study area is comprised of 39.5 ha of land located at 2-120 Mollers Lane Leopold, located within the City of Greater Geelong.

The site is within the Otway Plain bioregion and is located within the Corangamite Catchment Management Authority region (DELWP Website ii).

The site appears to have a history of disturbance, being subject to agricultural and rural living pressures. Areas of relatively degraded indigenous vegetation remain. Two drainage lines that flow from west to east across the study area are part of a system that flows into Lake Connewarre.

The location of the study area is shown on Figure 1.

Note that the adjacent Mollers Lane and Bellarine Highway roadside reserves were also assessed for native vegetation as required and were found to be mostly comprised of exotic vegetation.

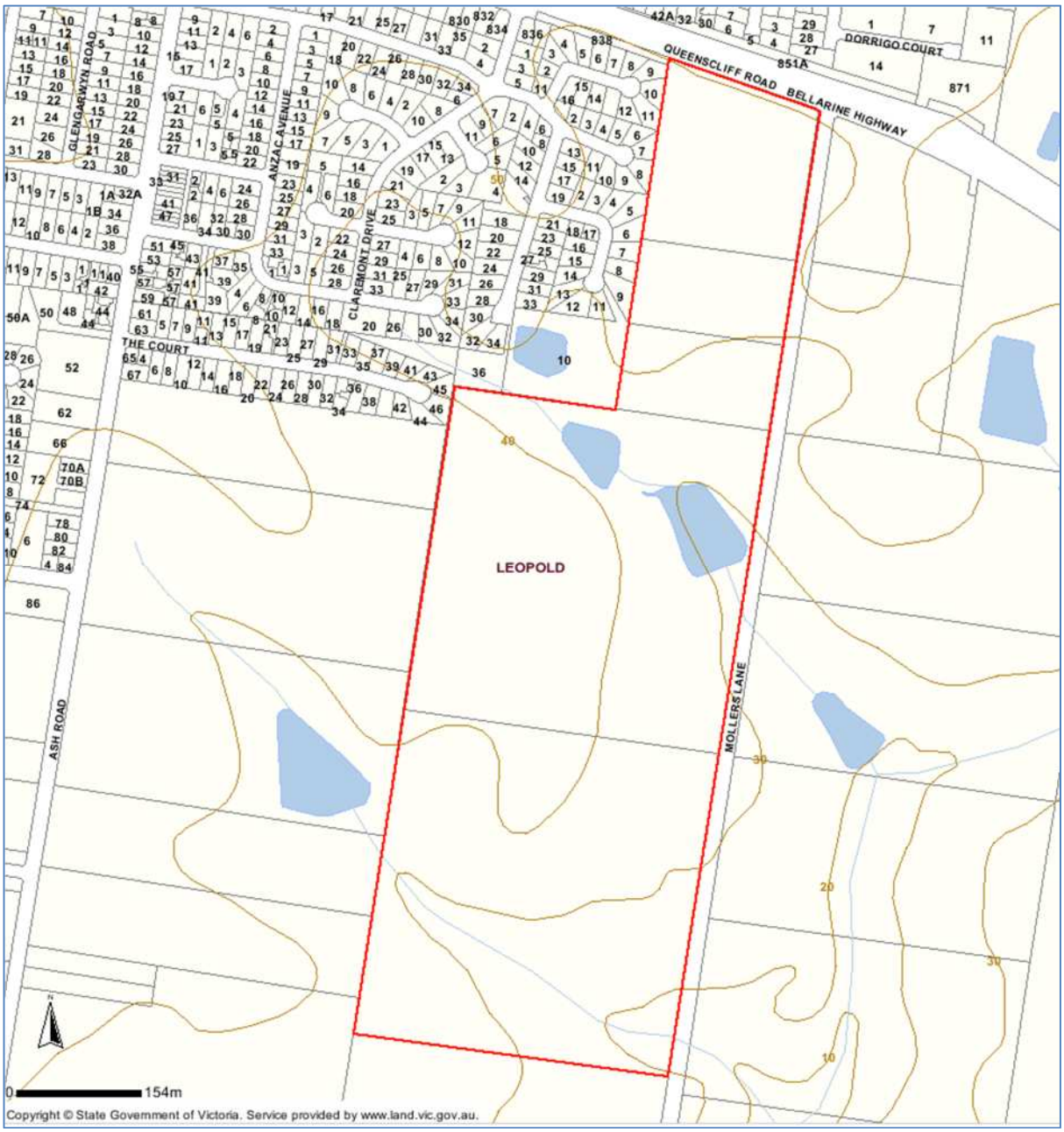


Figure 1. Study area. Location, shown in red outline.

2 METHODS

2.1 Taxonomy

Scientific names for plants follows Vicflora and the Census of Vascular Plants of Victoria (Walsh and Stasjic 2007). 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 and databases, including data from within the Naturekit (DELWP website iv), the Victorian Biodiversity Atlas (DELWP website iii) and the Commonwealth Department of Sustainability, Environment, Water, Populations and Communities (EPBC Website i) were reviewed.

2.3 Field Survey

The site was inspected on foot on the 19th of August 2015, 7th of October 2015, 30th of August 2016 and 19th of January 2018. The entire site was traversed. Records were taken of all indigenous vascular plant species. Native vegetation areas were recorded and mapped. Observations were made of the existing habitat values and dominant exotic vascular plant species.

2.4 Limitations

The assessment was conducted during winter and spring, times of year that, collectively, are suitable for the detection of most flora species likely to occur on site. The study area was mostly unslashed at the time of inspections, aiding the detection and identification of plant species.

The survey includes only vascular flora. Fauna surveys were not undertaken.

Due to the relatively degraded nature of the study area, the site inspection is considered sufficient for the report purposes. As a result there are not considered to be any significant limitations to the study.

2.5 Defining 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 Vegetation

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

Remnant Patch

A remnant patch of 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 at least 20 per cent of the area.

Scattered Trees

A scattered tree is:

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

Habitat Hectares

Habitat hectare (Vegetation Quality Assessment) 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 ii).

3 RESULTS

3.1 Vegetation Condition

The native vegetation of the study area is described as follows:

- 'Scattered tree' and 'remnant patch' of Drooping Sheoke (*Allocasuarina verticillata*) and Golden Wattle (*Acacia pycnantha*) dominated vegetation (*refer to* 4.2).
- Wetland vegetation fringing the constructed dams, assessed as 'remnant patch' vegetation (*refer to* 4.2).
- Wetland vegetation fringing the constructed dam, not assessed as 'remnant patch' vegetation.
- Scattered isolated trees of Golden Wattle (*Acacia pycnantha*) and Late Black Wattle (*Acacia mearnsii*), assessed as non 'remnant patch' or 'scattered tree' vegetation (degraded vegetation).

The exotic vegetation of the study area is described as follows:

- Predominately non-indigenous native and exotic plantations.
- The existing drainage line that degraded and is comprised entirely of exotic vegetation.
- Cropped areas currently either fallow or sown to crops.
- Areas of ruderal weeds.

3.2 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. Classification of EVCs in this report follows Oates and Taranto (2002).

The pre-1750 EVC mapping of the study area undertaken by DELWP (DELWP website i) indicates that the study area was comprised of EVC 175 Grassy Woodland.

The current study records indigenous vegetation that accords with EVC 175 Grassy Woodland.

EVC 175 Grassy Woodland is currently listed as 'Endangered' in the Otway Plain bioregion (DELWP website ii).

Refer to Figure 2 for DELWP pre-1750 EVC mapping.

Figure 2 EVC Distribution

Figure 2. Distribution of EVCs pre-1750. Data by DELWP (DELWP website i).

3.3 Flora

A total of 13 indigenous plant species were recorded from the study area. Refer to Table 1 for a list of indigenous vascular plant species recorded for the study area, conservation status and distribution.

Table 1 Indigenous Vascular Plant Species significance and distribution

Botanical Name	Common Name	Significance	Distribution
Acacia mearnsii	Late Black Wattle	Local	Scattered specimens
Acacia paradoxa	Hedge Wattle	Local	Scattered specimens on Mollers Lane roadside reserve.
Acacia pycnantha	Golden Wattle	Local	Scattered specimens
Allocasuarina verticillata	Drooping Sheoke	Regional	Remnant patch and scattered tree
Crasulla sieberiana	Siebers's Stonecrop	Local	Remnant patch
Eleocharis acuta	Common Spike-rush	Local	Wetland remnant patch
Gahnia radula	Thatch Saw-sedge	Local	Remnant patch located on on Mollers Lane roadside reserve.
Juncus subsecundus	Finger Rush	Local	Wetland remnant patch
Lyciana exocarpii	Harlequin Mistletoe	Regional	Remnant patch and scattered tree (Drooping Sheoke as host)
Rhagodia candolleana	Seaberry Saltbush	Local	Remnant patch and non-remnant patch
Rytidospermum racemosum	Slender Wallaby-grass	Local	Remnant patch
Schoenoplectus tabernaemontani	River Club-rush	Local	Wetland remnant patch
Typha domingensis	Cumbungi	Local	Wetland remnant patch

3.4 Significant Flora

No National or State significant plant species were recorded. Two Regionally significant species, Drooping Sheoke and Harlequin Mistletoe were recorded. The remaining 11 indigenous plant species are of Local conservation significance.

3.5 Fauna habitat

The fauna habitat values of the study area consists of three habitat types (Table 2). Refer to Table 2 for a list of habitat types and an assessment of habitat values for indigenous fauna.

Table 2 Habitats and habitat values

Habitat type	Habitat values
The three constructed dams, including the fringing wetland vegetation.	Local habitat value, provides potential habitat for locally common indigenous fauna species.
Scattered isolated trees and remnant patches of Drooping Sheoke, Golden Wattle and Late Black Wattle.	Local habitat value, provides potential habitat for locally common indigenous fauna species.
Planted areas (shelterbelts and clusters associated with the two dams) consisting of non-indigenous native species.	Local habitat value, provides potential habitat for locally common indigenous fauna species.

Note that two separate reports (Mark Trengove Ecological Services April 2016 and April 2017) provide frog assessments for the constructed dam habitats.

4 LEGISLATION AND GOVERNMENT POLICY

4.1 Commonwealth

4.1.1 Environment Protection and Biodiversity Conservation Act (1999)

The Environment Protection and Biodiversity Conservation (EPBC) Act (1999) was **e**stablished 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'.

The EPBC Act applies to developments and associated activities that have the potential to significantly impact on matters protected under the Act. Under the Act, unless exempt, actions require approval from the Australian Government Minister for Environment and Heritage if they are likely to significantly impact on a 'matter of national environmental significance'. There are currently seven matters of national environmental significance (NES):

- World Heritage properties;
- National Heritage properties;
- nationally listed threatened species and ecological communities;
- listed migratory species;
  Ramsar wetlands of international significance;
- Commonwealth marine areas; and
- nuclear actions (including uranium mining).

Any person proposing to take an action that may, or will, have a significant impact on a matter of national environmental significance must refer the action to the Australian Government Minister for Environment and Water Resources for determination as to whether the action is a 'controlled action' or is not approved.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an ecological community that is listed as 'Critically Endangered' under the EPBC Act (EPBC Website i). The study area once carried vegetation that may have been considered part of this community (the study area is located near to but not within the Victorian Volcanic Plains bioregion).

The drainage line that crosses the site drains into Lake Connewarrre, a Ramsar listed wetland.

4.1.2 Implications

Due to the relatively degraded nature of the study area and small size of the impact area there are not considered to be any implications for the current proposal under the EPBC Act.

The design of the sub-division will be required to demonstrate that there are no consequential impacts upon the Ramsar wetland values of Lake Connewarre from water runoff.

4.2 State Native Vegetation Permitted Clearing Regulations

Under Clause 52.16 and Cluse 52.17 of the Victorian Planning Provisions, the State has recently revised (December 2017) the Native Vegetation Permitted Clearing Regulations 'the Regulations'. The Guidelines 'introduce a risk based approach to assessing applications to remove native vegetation' (DELWP Website i).

The objective for the permitted clearing of native vegetation is that it results in no net loss. This means permitted clearing has a neutral impact on Victoria's biodiversity.

The purpose of Clause 52.17 is to ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. This is achieved by applying the following three step approach in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (Department of Environment, Land, Water and Planning, 2017) the *Guidelines* :

1. Avoid the removal, destruction or lopping of native vegetation.

2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided .

3. Provide an offset to compensate for the biodiversity impact if a permit is granted to re move, destroy or lop native vegetation .

To manage the removal, destruction or lopping of native vegetation to minimise land and water degradation. (DELWP Website i).

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.

4.2.1 Remnant Patch Vegetation

Under the Guidelines, any areas of remnant patch native vegetation that are proposed to be removed are subject to protection/and or recruitment offsets, depending upon the characteristics of the site.

Five areas of remnant patch vegetation, with a combined area of 0.477 ha were recorded for the study area.

4.2.2 Scattered Trees

Under the Guidelines, 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 Otway Plain bioregion, EVC 175 has *Eucalyptus* spp and *Allocasuarina* spp as 'canopy trees'.

For practicality, a standard extent amount (i.e. 0.071 ha) has been developed for scattered trees, based on the habitat hectare assessment method.

A total of 4 scattered trees were recorded for the study area.

4.2.3 Current Survey Results

The results show that the study area carries the following native vegetation:

- Remnant patch vegetation that is either greater than 25% cover for perennial understorey vegetation or has three or more native canopy trees where the canopy foliage cover is at least 20 per cent of the area, (i.e. the vegetation fringing two of the constructed dams and areas of Drooping Sheoke dominated woodland).
- Four scattered trees.

Consequently there are implications for the removal of any remnant patch vegetation under the Regulations.

The areas of native vegetation recorded in the proposed development area are within Location 1 (i.e. least risk) and Location 2 (i.e. medium risk). Refer to Figure 3 for Location Risk mapping. The total extent of native vegetation is 0.763 ha.

4.2.4 Implications

In keeping with the requirements of the Guidelines, the DELWP Native Vegetation Information Management online tool (DELWP Website ii) has been utilized to determine the risk-based pathway and to calculate vegetation losses for the proposal.

An application to remove all of the native vegetation would be assessed to be a Low Risk-based pathway application. Refer to Appendix 2 for a Biodiversity Assessment Report prepared on the assumption that all native vegetation was to be removed.

Vegetation offset requirements (assuming all the native vegetation is to be removed) are as follows:

- Creation of 0.288 biodiversity equivalence units,
- To be achieved within the CCMA region,
- With a minimum strategic biodiversity score of 0.661.

(Assessments prior to December 2017, Appendix 2).

- 0.002 general habitat units.
- To be achieved within the CCMA region,
- With a minimum strategic biodiversity value score of 0.334.

(Assessments post December 2017, Appendix 3- Bellarine Highway roadside reserve).

Refer to Figure 4 for a summary of the offset implications. Refer to Appendix 2 and 3 for the location of native vegetation.

Figure 3 Location Risk Mapping

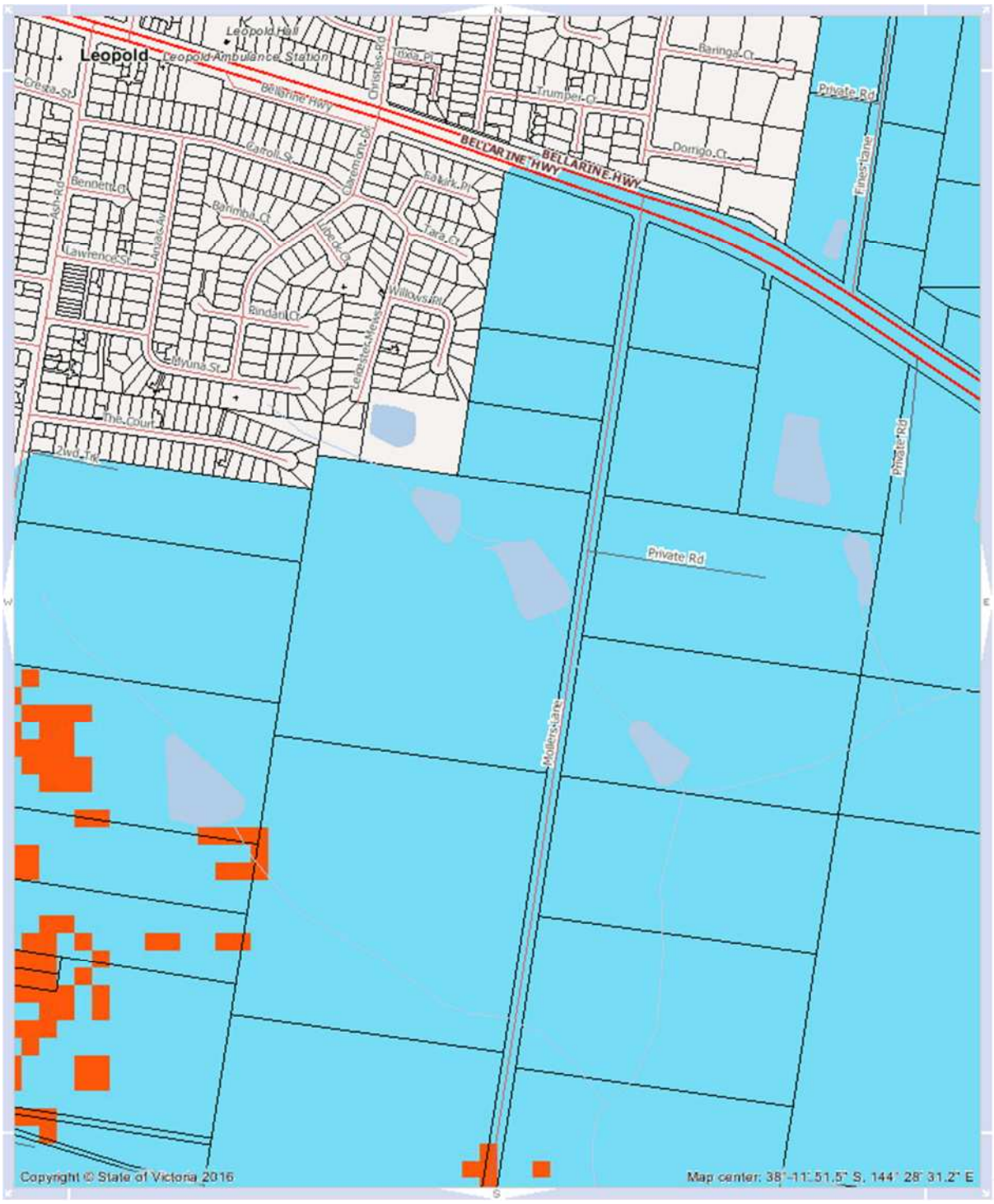


Figure 3. Distribution of vegetation according to 'Location Risk'. Blue equates to 'Location Risk A' (i.e. Least Risk). Orange equates to 'Location Risk C' (i.e. Highest Risk). (DELWP Website i). The study area is sited within areas of Location Risk A and Location Risk C. The areas of native vegetation are sited within Location Risk A. An application to remove less than 1 ha of native vegetation within Location Risk A is deemed a Low Risk application (mapping prior to December 2017).

Figure 4 Offset Implications

Date of issue: 12 May 2017

Time of issue: 14:48:40

Property address	42-90 MOLLERS LANE LEOPOLD 3224 92-120 MOLLERS LANE LEOPOLD 3224 2-20 MOLLERS LANE LEOPOLD 3224 Address unknown

Summary of marked native vegetation

Risk-based pathway	**Low**
Total extent	0.759 ha
Remnant patches	
1	0.225 ha
2	0.196 ha
3	0.038 ha
4	0.016 ha
Scattered trees	4 trees
Location risk	A

See Appendix 1 for risk-based pathway details

Offset requirements

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

Offset type	General offset
Offset amount (general biodiversity equivalence units)	0.288
Offset attributes	
Vicinity	Corangamite Catchment Management Authority (CMA)
Minimum strategic biodiversity score	0.661
Strategic biodiversity score of marked native vegetation	0.826

See Appendix 2 for offset requirements details

Figure 4. Summary of Biodiversity Assessment Report findings (prior to December 2017).

Refer to Appendix 2 for the Biodiversity Assessment Report.

5 CONCLUSIONS

Background

An area of land of approximately 39.5 ha, located at 2-120 Mollers Lane Leopold, is proposed to be developed for residential use. This due diligence report was commissioned to assess the quantity and significance of any indigenous flora and fauna habitat that might be present in the subject site.

Results

A total of two regionally significant and eleven locally significant indigenous vascular plant species were recorded from the study area.

Areas of relatively degraded indigenous vegetation that accords with Ecological Vegetation Classes 175 Grassy Woodland were recorded. EVC 175 Grassy Woodland is currently listed as 'Endangered' in the Otway Plain bioregion.

The native vegetation of the study area is described as follows:

- 'Scattered tree' and 'remnant patch' of Drooping Sheoke and Golden Wattle dominated vegetation.
- Wetland vegetation fringing the constructed dams, assessed as 'remnant patch' vegetation.
- Wetland vegetation fringing the constructed dams, not assessed as 'remnant patch' vegetation.
- Scattered isolated trees of Golden Wattle and Late Black Wattle, assessed as non 'remnant patch' or 'scattered tree' vegetation (degraded vegetation).

The exotic vegetation of the study area is described as follows:

- Predominately non-indigenous native and exotic plantations.
- Cropped areas currently either fallow or sown.
- Areas of ruderal weeds.

Areas of the study area are of Local faunal habitat value, providing potential habitat for locally common indigenous fauna species.

Implications

Due to the relatively degraded nature of the study area and small size of the impact area there are not considered to be any implications for the Grassy Eucalypt Woodland of the Victorian Volcanic Plain ecological community under the EPBC Act. The design of the sub-division will be required to demonstrate that there are no consequential impacts upon the Ramsar wetland values of Lake Connewarre from water runoff.

In keeping with the State Native Vegetation Permitted Clearing Regulations, an application to remove all of the recorded native vegetation would be assessed as a Low Risk-based pathway application. Refer to Appendix 2 Biodiversity Assessment Report.

The total extent of native vegetation is 0.759 ha. Vegetation offset requirements (assuming a permit of the removal all the native vegetation was sought) are as follows:

- Creation of 0.288 biodiversity equivalence units,
- To be achieved within the CCMA region,
- With a minimum strategic biodiversity score of 0.661.

(Assessments prior to December 2017, Appendix 2).

- 0.002 general habitat units.
- To be achieved within the CCMA region,
- With a minimum strategic biodiversity value score of 0.334.

(Assessments post December 2017, Appendix 3- Bellarine Highway roadside reserve).

Limitations

Due to the relatively degraded nature of the study area, the site inspection is considered sufficient for the report purposes. As a result there are not considered to be any significant limitations to the study.

Appendix 1 - ASSESSING CONSERVATION SIGNIFICANCE

Conservation significance is assessed at a range of scales, including global, international, national, state, regional and local. Criteria used for determining the conservation significance of flora and fauna at national to local scales are presented below for botanical and zoological 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 threatened in Victoria, as listed by Gullan et al. (1990), NRE (2000a) or more recently in the unpublished records of the Flora Information System (NRE), or 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 Biodiversity assessment report

Biodiversity assessment report

Biodiversity information for applications for permits to remove native vegetation under clause 52.16 or 52.17 of the Victoria Planning Provisions

Date of issue: 12 May 2017

Time of issue: 14:48:40

Property address	42-90 MOLLERS LANE LEOPOLD 3224 92-120 MOLLERS LANE LEOPOLD 3224 2-20 MOLLERS LANE LEOPOLD 3224 Address unknown

Summary of marked native vegetation

Risk-based pathway	**Low**
Total extent	0.759 ha
Remnant patches	
1	0.225 ha
2	0.196 ha
3	0.038 ha
4	0.016 ha
Scattered trees	4 trees
Location risk	A

See Appendix 1 for risk-based pathway details

Offset requirements

If a permit is granted to remove the marked native vegetation, a requirement to obtain a native vegetation offset will be included in the permit conditions. The offset must meet the following requirements:

Offset type	General offset
Offset amount (general biodiversity equivalence units)	0.288
Offset attributes	
Vicinity	Corangamite Catchment Management Authority (CMA)
Minimum strategic biodiversity score	0.661
Strategic biodiversity score of marked native vegetation	0.826

See Appendix 2 for offset requirements details

Biodiversity assessment report Page 1

Biodiversity assessment report

Next steps

This proposal to remove native vegetation must meet the application requirements of the low risk-based pathway and it will be assessed in the low risk-based pathway.

If you wish to remove the marked native vegetation you are required to apply for a permit from your local council.

The Biodiversity assessment report should be submitted with your application for a permit to remove native vegetation you plan to remove, lop or destroy.

The Biodiversity assessment report provides the following information that is required to be provided with your application for a permit to remove native vegetation:

- The location of the site where native vegetation is to be removed.
- The area of the patch of native vegetation and/or the number of any scattered trees to be removed.
- Maps or plans containing information set out in the *Permitted clearing of native vegetation - Biodiversity assessment guidelines*.
- The risk-based pathway of the application for a permit to remove native vegetation.
- The strategic biodiversity score of the native vegetation to be removed.
- The offset requirements should a permit be granted to remove native vegetation.

If you have undertaken any permitted clearing on your property within the last five years contact DELWP to confirm offset requirements.

Additional information is required when submitting an application for a permit to remove native vegetation. Refer to the *Permitted clearing of native vegetation - Biodiversity assessment guidelines* for a full list of application requirements.

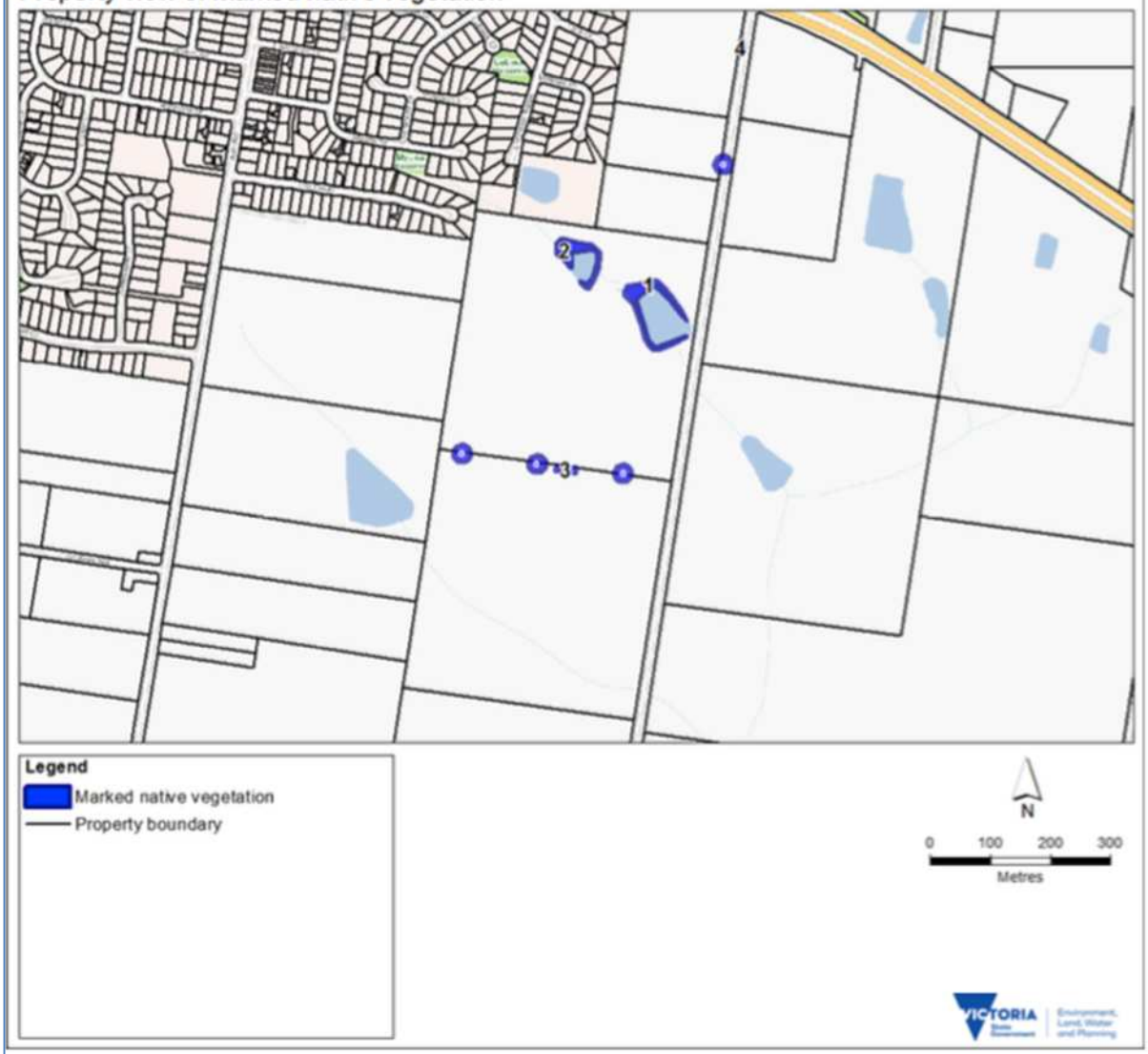
Biodiversity assessment report

Maps of marked native vegetation

Marked native vegetation to be removed, lopped or destroyed

Biodiversity assessment report

Property view of marked native vegetation



See Appendix 3 for biodiversity information maps

Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

For more information contact the DELWP Customer Service Centre 136 186

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This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

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 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.

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Biodiversity assessment report

Appendix 1 - Risk-based pathway details

Risk-based pathway	**Low**
Total extent	0.759 ha
Remnant patches	
1	0.225 ha
2	0.196 ha
3	0.038 ha
4	0.016 ha
Scattered trees	4 trees
Location risk	A

Why is the risk-based pathway low?

The following table explains how the risk-based pathway is determined:

Extent	Location A	Location B	Location C
< 0.5 hectares	Low	Low	High
≥ 0.5 hectares and < 1 hectares	Low	Moderate	High
≥ 1 hectares	Moderate	High	High

The marked native vegetation is located entirely within Location A and has a total extent of greater than or equal to 0.5 hectares but less than 1 hectare.

At this location, native vegetation removal of this size is not expected to have a significant impact on the habitat of any rare or threatened species. As a result, an application for the removal of this native vegetation must meet the requirements of, and will be assessed in, the low risk-based pathway.

For further information on location risk please see *Native vegetation location risk map factsheet.* For information on the determination of the risk-based pathway see *Permitted clearing of native vegetation – Biodiversity assessment guidelines.*

Have you received a planning permit to remove native vegetation in the last five years?

If you have undertaken any permitted clearing on your property within the last five years, the extent of this past clearing must be included in the total extent of your current permit application. The risk-based pathway for your application requirements and assessment pathway is determined using the combined extent of permitted clearing within the last five years and proposed clearing.

If the risk-based pathway determined from this combined extent is low, contact DELWP to confirm offset requirements.

Biodiversity assessment report

Appendix 2 - Offset requirements details

If a permit is granted to remove the marked native vegetation the permit condition will include the requirement to obtain a native vegetation offset. This offset must meet the following requirements:

Offset type	General offset
Offset amount (general biodiversity equivalence units)	0.288
Offset attributes	
Vicinity	Corangamite Catchment Management Authority (CMA)
Minimum strategic biodiversity score	0.661
Strategic biodiversity score of marked native vegetation	0.826

Native vegetation to be removed		
Total extent (hectares) for calculating habitat hectares	0.759	This is the total area of the marked native vegetation in hectares. The total extent of native vegetation is an input to calculating the habitat hectares of a site and in calculating the general biodiversity equivalence score. Where the marked native vegetation includes scattered trees, each tree is converted to hectares using a standard area calculation of 0.071 hectares per tree.
Condition score*	0.307	This is the weighted average condition score of the marked native vegetation. This condition score has been calculated using the *Native vegetation condition map*. The condition score of native vegetation is a site-based measure of how close the native vegetation is to its mature natural state, as represented by a benchmark reflecting pre-settlement circumstances. The *Native vegetation condition map* is a modelled layer based on survey data combined with a benchmark model and a range of other environmental data.
Habitat hectares	0.233	Habitat hectares is a site-based measure that combines extent and condition of native vegetation. The habitat hectares of native vegetation is equal to the current condition of the vegetation (condition score) multiplied by the extent of native vegetation. Habitat hectares = total extent x condition
Strategic biodiversity score	0.826	This is the weighted average strategic biodiversity score of the marked native vegetation. This strategic biodiversity score has been calculated using the *Strategic biodiversity map*. The strategic biodiversity score of native vegetation is a measure of the native vegetation's importance for Victoria's biodiversity, relative to other locations across the landscape. The *Strategic biodiversity map* is a modelled layer that prioritises locations on the basis of rarity and level of depletion of the types of vegetation, species habitats, and condition and connectivity of native vegetation.

Biodiversity assessment report

General biodiversity equivalence score	0.192	The general biodiversity equivalence score quantifies the relative overall contribution that the native vegetation to be removed (the marked native vegetation) makes to Victoria's biodiversity. It is calculated as follows: General biodiversity equivalence score = habitat hectares × strategic biodiversity score

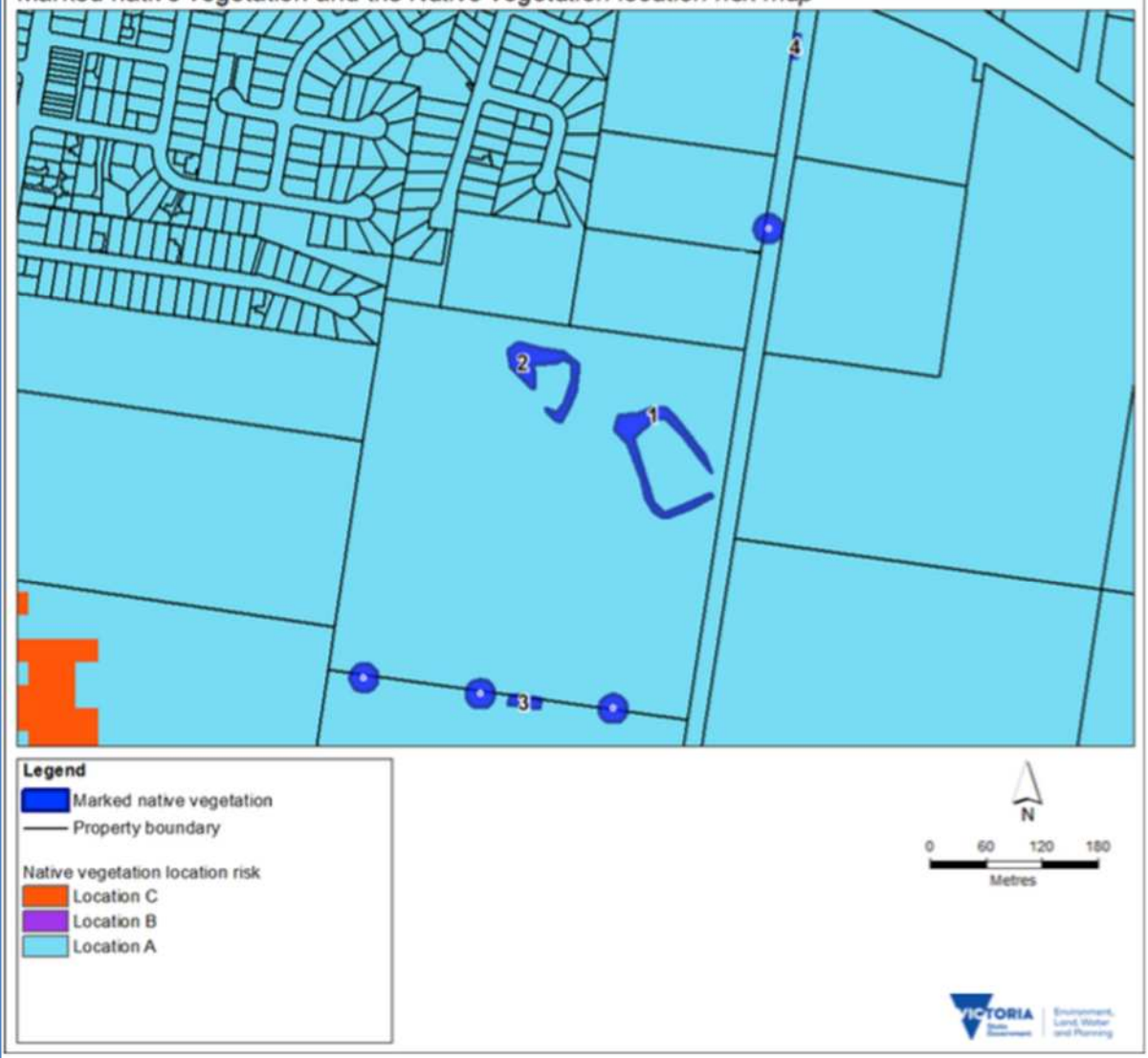
* Offset requirements for partial clearing: If your proposal is to remove parts of the native vegetation in a remnant patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the *condition score*, and an update to the following calculations that the biodiversity assessment tool has provided: *habitat hectares, general biodiversity equivalence score* and *offset amount*.

Offset requirements		
Offset type	General offset	A general offset is required when a proposal to remove native vegetation is not deemed, by application of the specific-general offset test, to have a significant impact on habitat for any rare or threatened species. All proposals in the low risk-based pathway will require a general offset.
Risk factor for general offsets	1.5	There is a risk that the gain from undertaking the offset will not adequately compensate for the loss from the removal of native vegetation. If this were to occur, despite obtaining an offset, the overall impact from removing native vegetation would result in a loss in the contribution that native vegetation makes to Victoria's biodiversity. To address the risk of offsets failing, an offset risk factor is applied to the calculated loss to biodiversity value from removing native vegetation.
Offset amount (general biodiversity equivalence units)	0.288	This is calculated by multiplying the general biodiversity equivalence score of the native vegetation to be removed by the risk factor for general offsets. This number is expressed in general biodiversity equivalence units and is the amount of offset that is required to be provided should the application be approved. This offset requirement will be a condition to the permit for the removal of native vegetation. Risk adjusted general biodiversity equivalence score = general biodiversity equivalence score $_{clearing}$ × 1.5
Minimum strategic biodiversity score	0.661	The strategic biodiversity score of the offset site must be at least 80 per cent of the strategic biodiversity score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic value that is comparable to, or better than, the native vegetation to be removed.
Vicinity	Corangamite CMA	The offset site must be located within the same Catchment Management Authority boundary as the native vegetation to be removed.

Biodiversity assessment report

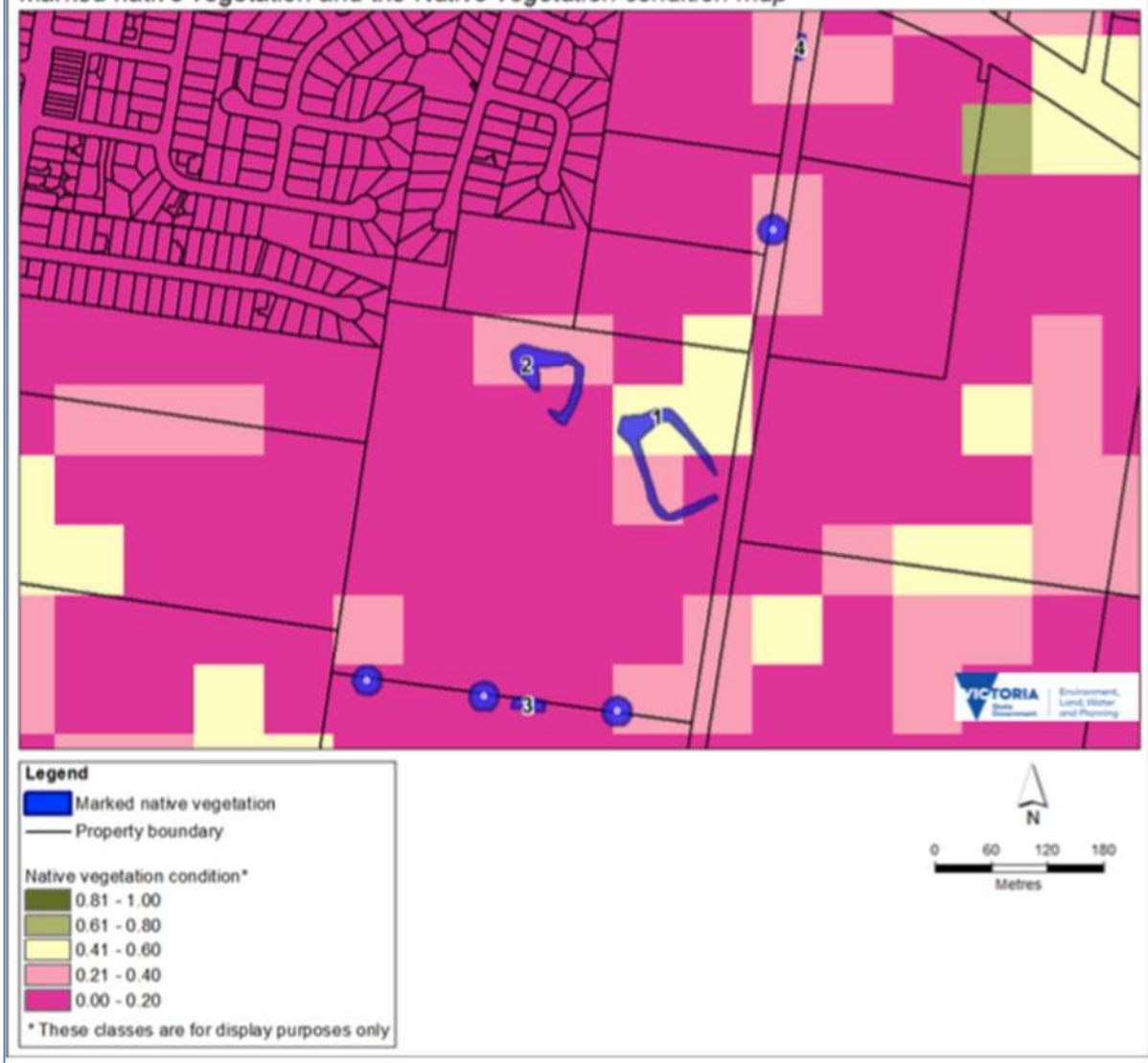
Appendix 3 - Biodiversity information maps

Marked native vegetation and the *Native vegetation location risk map*



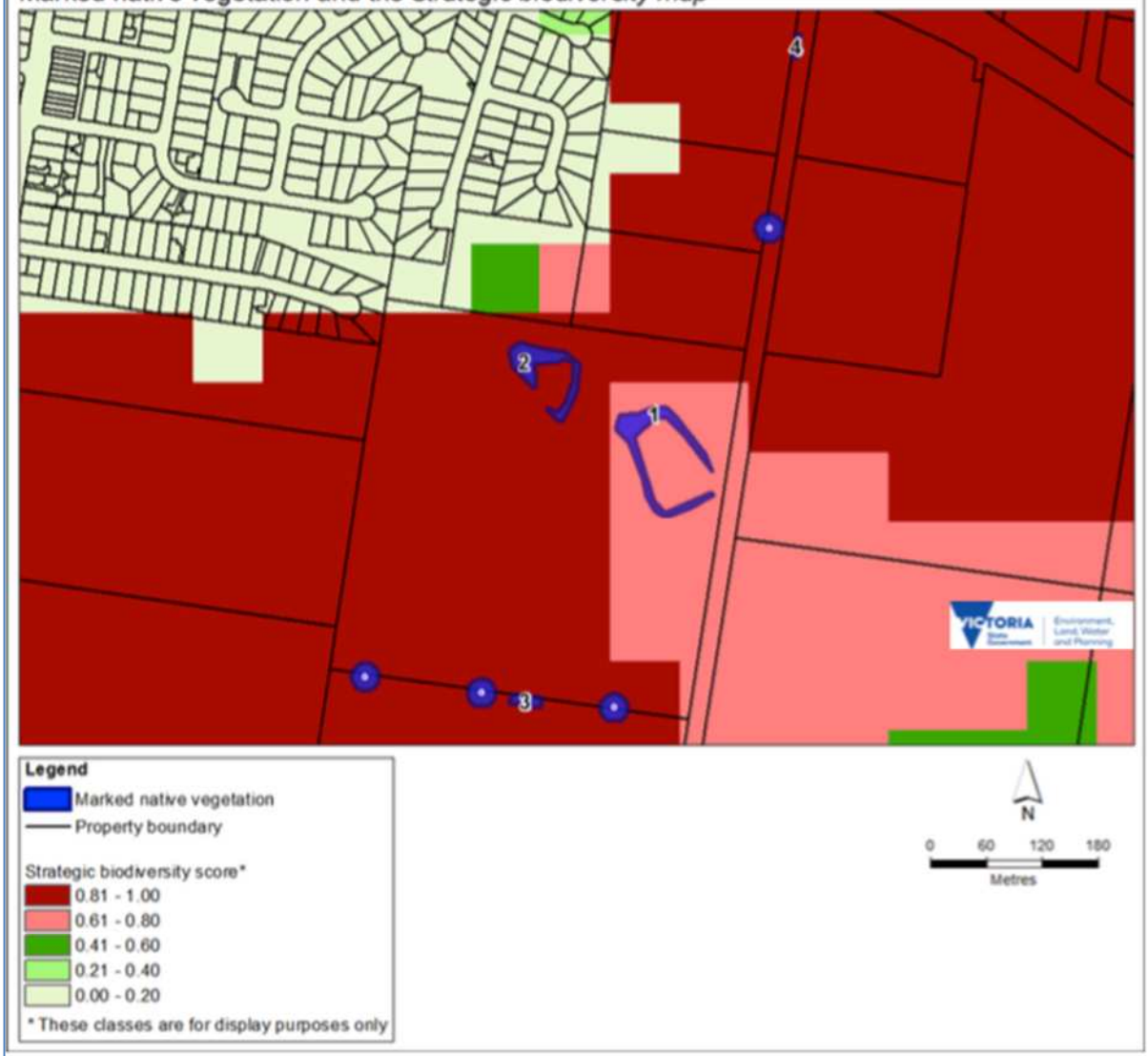
Biodiversity assessment report

Marked native vegetation and the *Native vegetation condition map*



Biodiversity assessment report

Marked native vegetation and the *Strategic biodiversity map*



Appendix 3 Native vegetation removal report

Native vegetation removal report

A report to support an application to remove, destroy or lop native vegetation in the **Intermediate** Assessment Pathway using the modelled condition score

This report provides information to support an application to remove native vegetation in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation*. The report is not an assessment by DELWP or local council of the proposed native vegetation removal. Biodiversity information and offset requirements have been calculated using modelled condition scores contained in the *Native vegetation condition map*.

Date and time: **24 January 2018 11:33 AM**

Lat./Long.: -38.1930474621192,144.478776930278

Native vegetation report ID: 327-20180124-004

Address: Address unknown

Assessment pathway

The assessment pathway and reason for the assessment pathway

Assessment pathway	**Intermediate Assessment Pathway**
Extent of past plus proposed native vegetation removal	0.002 hectares
No. large trees	0 large tree(s)
Location category	Location 2 The native vegetation is in an area mapped as an Endangered Ecological Vegetation Class. Removal of less than 0.5 hectares of native vegetation will not have a significant impact on any habitat for a rare or threatened species.

Offset requirement

The offset requirement that will apply if the native vegetation is approved to be removed

Offset type	General offset
Offset amount	0.002 general habitat units
Offset attributes	
Vicinity	Corangamite Catchment Management Authority (CMA) or Greater Geelong City Council
Minimum strategic biodiversity value score	0.344
Large trees	0 large tree(s)

Native vegetation removal report – report ID 327-20180124-004

Native vegetation removal report

Biodiversity information about the native vegetation

Description of any past native vegetation removal

Any native vegetation that was approved to be removed, or was removed without the required approvals, on the same property or on contiguous land in the same ownership, in the five year period before the application to remove native vegetation is lodged is detailed below.

Permit/PIN number	Extent of native vegetation (hectares)
None entered	0 hectares

Description of the native vegetation proposed to be removed

Extent of all mapped native vegetation	0.002 hectares
Condition score of all mapped native vegetation	0.550
Strategic biodiversity value score of all mapped native vegetation	0.430
Extent of patches native vegetation	0.002 hectares
1	0.002 hectares
2	0.000 hectares
Extent of scattered trees	0 hectares
No. large trees within patches	0 large tree(s)
No. large scattered trees	0 large tree(s)
No. small scattered trees	0 small tree(s)

Additional information about trees to be removed, shown in Figure 1

Tree ID	Tree circumference (cm)	Benchmark circumference (cm)	Scattered / Patch	Tree size
N/A				

Other information

Applications to remove, destroy or lop native vegetation must include all the below information. If an appropriate response has not been provided the application is not complete.

Photographs of the native vegetation to be removed

Recent, dated photographs of the native vegetation to be removed must be provided with the application. All photographs must be clear, show whether the vegetation is a patch of native vegetation or scattered trees, and identify any large trees. If the area of native vegetation to be removed is large, provide photos that are indicative of the native vegetation.

Ensure photographs are attached to the application. If appropriate photographs have not been provided the application is not complete.

Topographical and land information

Description of the topographic and land information relating to the native vegetation to be removed, including any ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan. **This is an application requirement and your application will be incomplete without it.**

Site is relatively flat. No ridges, crests and hilltops, drainage lines, wetlands and waterways, steep slopes, low lying areas, saline discharge areas and areas of existing erosion within area or likely to be impacted on.

Avoid and minimise statement

This statement describes what has been done to avoid the removal of, and minimise impacts on the biodiversity and other values of native vegetation. **This is an application requirement and your application will be incomplete without it.**

Part of the Leopold East Urban Growth Area.

Vegetation clearance cannot be avoided as road widening at this point is required to provide safe access to the growth area.

No feasible opportunities exist to minimise impacts.

Defendable space statement

Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required if your application also includes an application under the Bushfire Management Overlay.

not applicable

Offset statement

An offset statement that demonstrates that an offset is available and describes how the required offset will be secured. **This is an application requirement and your application will be incomplete without it.**

A 3rd party offset will be secured as required when the final offset requirements are determined by the planning process. As the requirement is for a general offset with a relatively low strategic biodiversity value score it is recognised that such offsets are readily available.

Next steps

Applications to remove, destroy or lop native vegetation must address all the application requirements specified in *Guidelines for the removal, destruction or lopping of native vegetation.* If you wish to remove the mapped native vegetation you are required to apply for a permit from your local council. This *Native vegetation removal report* must be submitted with your application and meets most of the application requirements. The following needs to be added as applicable.

Property Vegetation Plan

Landowners can manage native vegetation on their property in the longer term by developing a Property Vegetation Plan (PVP) and entering in to an agreement with DELWP.

If an approved PVP applies to the land, ensure the PVP is attached to the application.

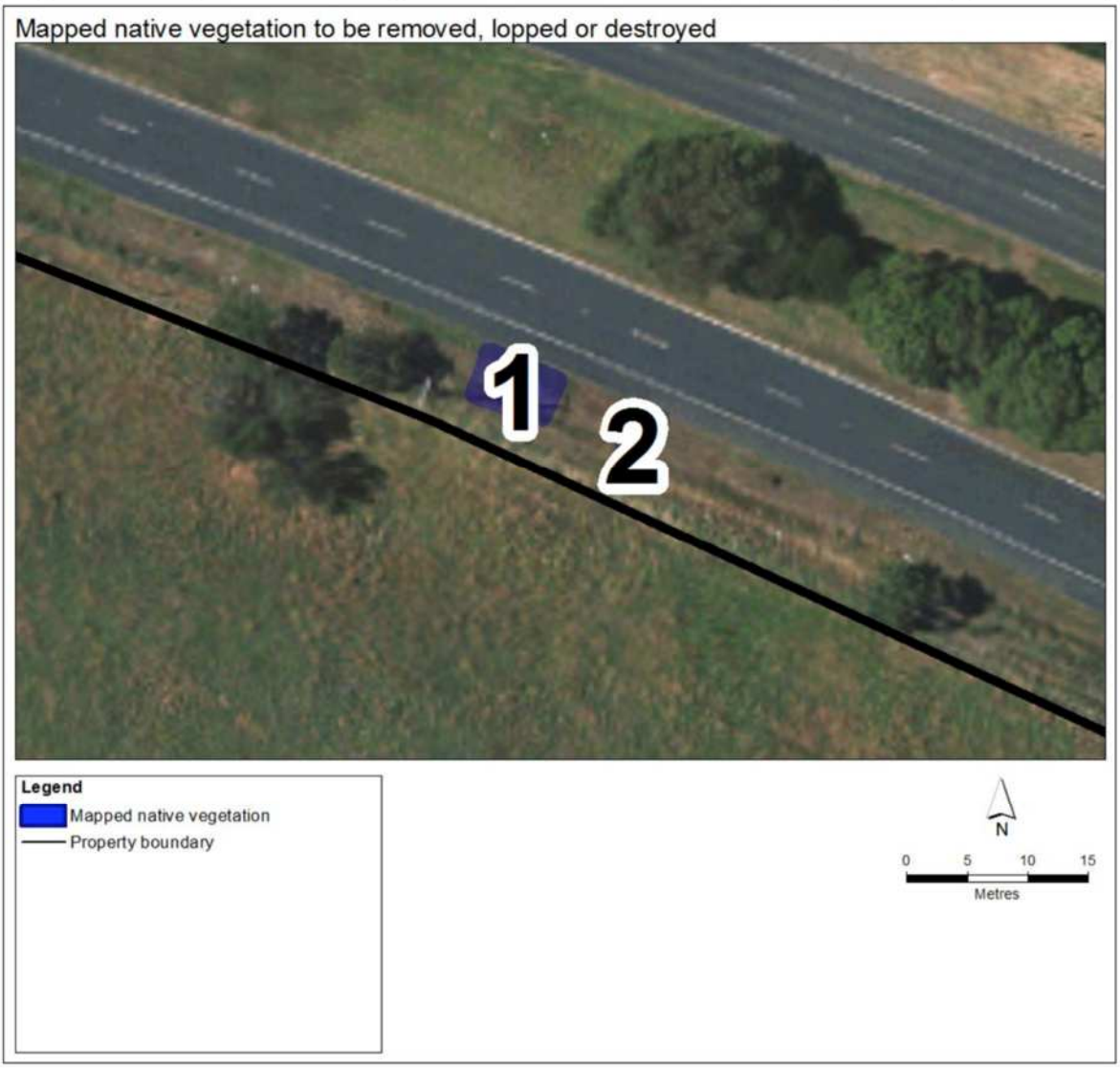
Applications under Clause 52.16

An application to remove, destroy or lop native vegetation is under Clause 52.16 if a Native Vegetation Precinct Plan (NVPP) applies to the land, and the proposed native vegetation removal is not in accordance with the relevant NVPP. If this is the case, a statement that explains how the proposal responds to the NVPP considerations must be provided.

If the application is under Clause 52.16, ensure a statement that explains how the proposal responds to the NVPP considerations is attached to the application.

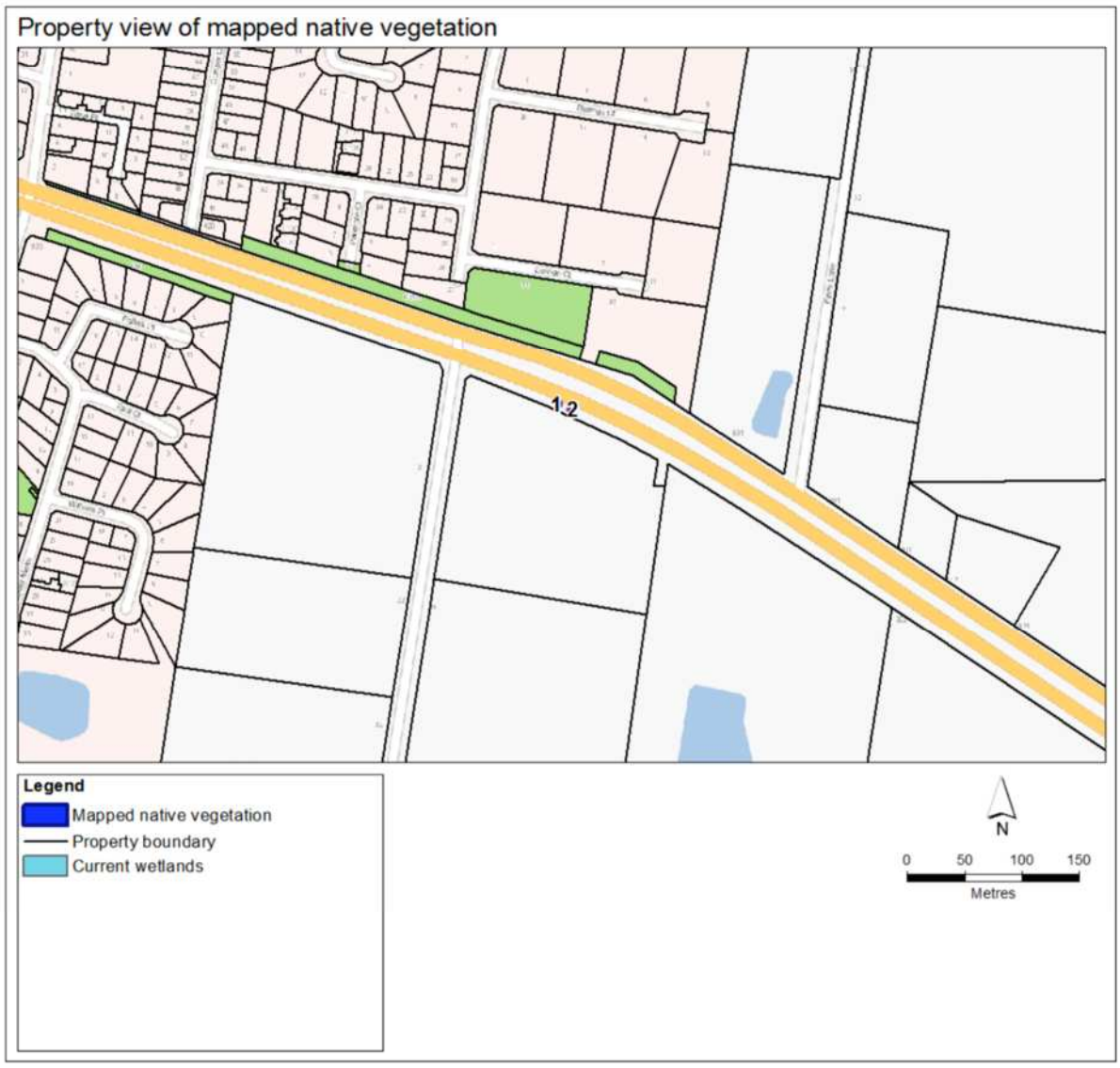
Native vegetation removal report

Figure 1 – Map of native vegetation to be removed, destroyed or lopped



Native vegetation removal report – report ID 327-20180124-004

Figure 2 – Map of property in context



Native vegetation removal report – report ID 327-20180124-004

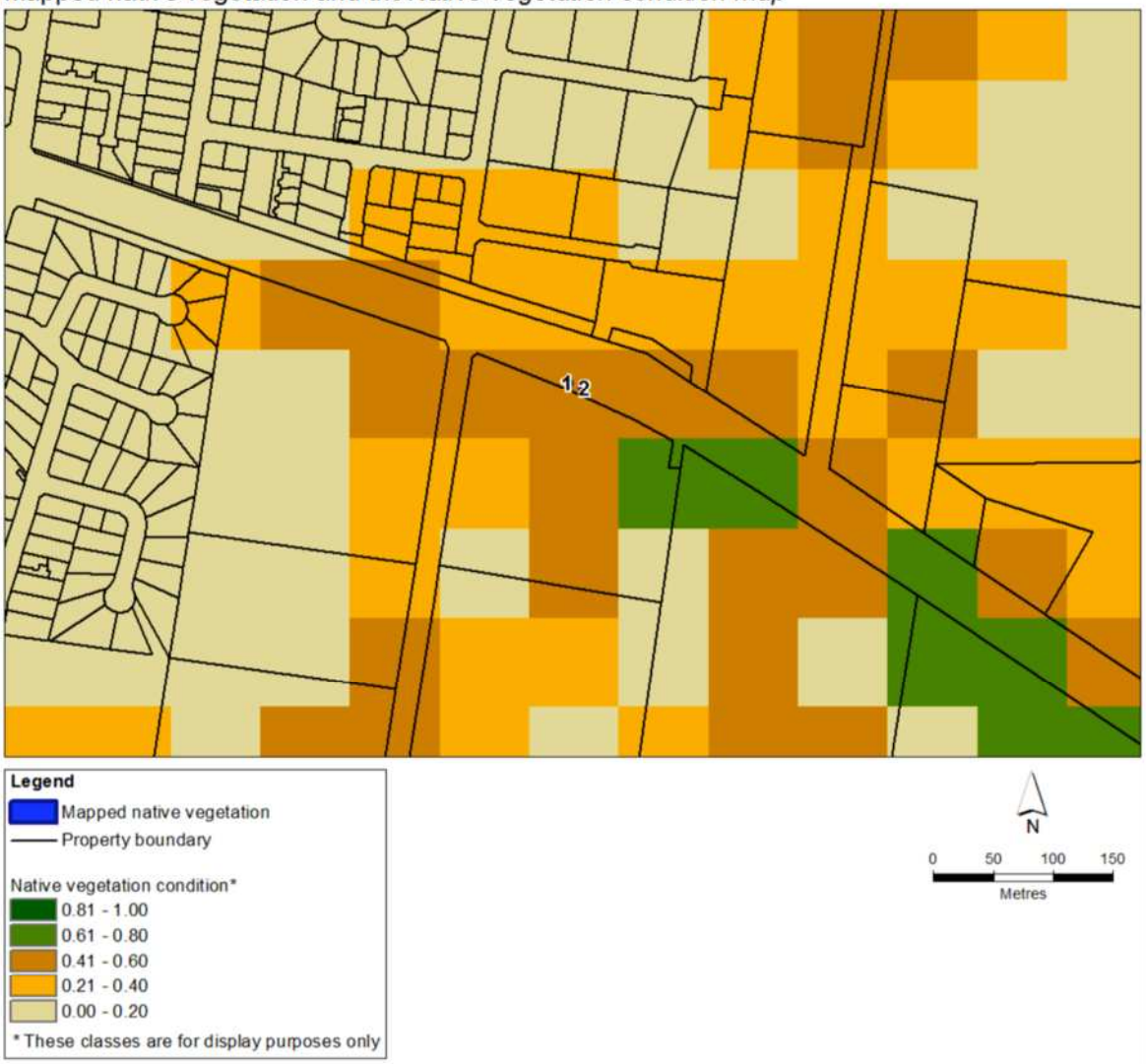
Figure 3 – Biodiversity information maps

Mapped native vegetation and the *Native vegetation location map*

Native vegetation removal report – report ID 327-20180124-004

Native vegetation removal report

Mapped native vegetation and the *Native vegetation condition map*



Native vegetation removal report – report ID 327-20180124-004

Native vegetation removal report

Mapped native vegetation and the *Strategic biodiversity value map*

Native vegetation removal report – report ID 327-20180124-004

Appendix 1 - Details of offset requirements

Native vegetation to be removed

Extent of all mapped native vegetation (for calculating habitat hectares)	0.002	The area of land covered by a patch of native vegetation and/or a scattered tree, measured in hectares. Where the mapped native vegetation includes scattered trees, each tree is assigned a standard extent and converted to hectares. A small scattered tree is assigned a standard extent defined by a circle with a 10 metre radius and a large scattered tree a circle with a 15 metre radius. The extent of all mapped native vegetation is an input to calculating the habitat hectares.
Condition score*	0.550	The condition score of native vegetation is a site-based measure that describes how close native vegetation is to its mature natural state. The condition score is the weighted average condition score of the mapped native vegetation calculated using the *Native vegetation condition map*.
Habitat hectares	0.001	Habitat hectares is a site-based measure that combines extent and condition of native vegetation. It is calculated by multiplying the extent of native vegetation by the condition score: ***Habitat hectares = extent x condition score***
Strategic biodiversity value score	0.430	The strategic biodiversity value score represents the complementary contribution to Victoria's biodiversity of a location, relative to other locations across the state. This score is the weighted average strategic biodiversity value score of the mapped native vegetation calculated using the *Strategic biodiversity value map*.
General landscape factor	0.715	The general landscape factor is an adjusted strategic biodiversity value score. It has been adjusted to reduce the influence of landscape scale information on the general habitat score.
General habitat score	0.001	The general habitat score combines site-based and landscape scale information to obtain an overall measure of the biodiversity value of the native vegetation. The general habitat score is calculated as follows: ***General habitat score = habitat hectares x general landscape factor***

* **Offset requirements for partial removal:** If your proposal is to remove parts of the native vegetation in a patch (for example only understorey plants) the condition score must be adjusted. This will require manual editing of the condition score and an update to the calculations that the native vegetation removal tool has provided: habitat hectares, general habitat score and offset amount.

Offset requirements

Offset type	General offset	A general offset is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species. All proposals in the Basic and Intermediate assessment pathways will only require a general offset.
Offset multiplier	1.5	This multiplier is used to address the risk that the predicted outcomes for gain will not be achieved, and therefore will not adequately compensate the biodiversity loss from the removal of native vegetation.
Offset amount (general habitat units)	0.002	The general habitat units are the amount of offset that must be secured if the application is approved. This offset requirement will be a condition to any permit or approval for the removal of native vegetation. ***General habitat units required = general habitat score x 1.5***
Minimum strategic biodiversity value score	0.344	The offset site must have a strategic biodiversity value score of at least 80 per cent of the strategic biodiversity value score of the native vegetation to be removed. This is to ensure offsets are located in areas with a strategic biodiversity value that is comparable to the native vegetation to be removed.
Vicinity	Corangamite CMA or Greater Geelong City Council	The offset site must be located within the same Catchment Management Authority boundary or municipal district as the native vegetation to be removed.
Large trees	0 large tree (s)	The offset site must protect at least one large tree for every large tree removed. A large tree is a native canopy tree with a Diameter at Breast Height greater than or equal to the large tree benchmark for the local Ecological Vegetation Class. A large tree can be either a large scattered tree or a large patch tree.

6 REFERENCES

Corangamite Catchment Management Authority (2005) 'Corangamite Native Vegetation Plan' CCMA Website.

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DELWP Website ii.
https://www.environment.vic.gov.au/native-vegetation/native-vegetation

DELWP Website iii.
http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/victorian-biodiversity-atlas

DELWP Website iv.
http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit

DELWP Website v.
https://www.environment.vic.gov.au/native-vegetation/native-vegetation

DTPLI Website i.
http://planningschemes.dpcd.vic.gov.au/schemes/greatergeelong

EPBC Website i.
http://www.environment.gov.au/cgi-bin/sprat/public/publicshowcommunity.pl?id=46

EPBC Website ii.
http://www.environment.gov.au/epbc/publications/pubs/ecological-communities-listing-approach-factsheet.pdf

EPBC Website iii.
http://www.environment.gov.au/arcgis-framework/apps/pmst/pmst.jsf

Oates, A. & Taranto, M. (2001): 'Vegetation mapping of the Port Phillip &Westernport region' Arthur Rylah Institute for Environmental Research, DNRE, Victoria.

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Walsh, N G & Entwisle, T (1994-1999): 'Flora of Victoria Vol 2-4' Inkata Press, Melbourne.

Vicflora online
https://vicflora.rbg.vic.gov.au