

130-150 Forest Road South Lara

Vegetation Assessment

A Report to
Bisinella Developments P/L

Prepared by

Mark Trengove Ecological Services
42 Aberdeen St Geelong West
PO Box 1502 Geelong 3220
mtrengove@pipeline.com.au
ph 03 52298087

March 24 2014

Contents

1	INTRODUCTION	4
1.1	Project Background.....	4
1.2	Objectives	5
1.3	Study Area	5
1.4	Proposed Development	6
2	METHODS	7
2.1	Taxonomy	7
2.2	Literature and Database Review	7
2.3	Field Survey.....	7
2.4	Limitations	7
2.5	Defining Significance	7
2.6	Defining and Assessing Native Vegetation	8
3	RESULTS	9
3.1	Ecological Vegetation Class	9
3.2	Flora	9
3.2.1	Indigenous Species.....	9
3.3	Significant Plant Species	10
3.3	Vegetation Condition	10
3.4	Listed Significant Species.....	11
4	LEGISLATION AND GOVERNMENT POLICY	12
4.1	Commonwealth	12
4.1.1	Environment Protection and Biodiversity Conservation Act (1999).....	12
4.1.2	Implications.....	12
4.2	Native Vegetation Permitted Clearing Regulations.....	13
4.2.1	Implications.....	17
4.3	State Flora and Fauna Guarantee Act	18
4.4	Planning Scheme ESO4	19
5	CONCLUSIONS.....	20
	Appendix 1 - ASSESSING CONSERVATION SIGNIFICANCE.....	21
6	REFERENCES	22
	Figure 7 Native Vegetation Location	23
	Figure 8 Distribution of Limestone Geology.....	24

Mark Trengove Ecological Services

42 Aberdeen St Geelong West

PO Box 1502 Geelong 3220

mtrengove@pipeline.com.au

ph 03 52298087

Copyright © Mark Trengove Ecological Services

This document is subject to copyright and may only be used for the purposes for which it was commissioned. The use of this document in whole or part without the permission of Mark Trengove Ecological Services is an infringement of copyright.

Disclaimer

Although Mark Trengove Ecological Services have taken all the necessary steps to ensure that an accurate document has been prepared, no liability is accepted for any damages or loss incurred as a result of reliance placed upon the report or its contents.

1 INTRODUCTION

1.1 Project Background

130-150 Forest Road South, Lara, is proposed to be developed for residential use. This report was commissioned by L. Bisinella Developments P/L to assess the quantity and significance of any indigenous flora and fauna habitat that might be present in the subject site. A previous report (dated May 2013) by this author assessed the vegetation of the northern half of the study (due to a communication issue the boundary of the study area was unclear – see Map 1 of the 2013 report which is copied as follows as Figure 1).

The State has recently gazetted new Native Vegetation Permitted Clearing Regulations (to replace the Framework). The reforms ‘introduce a risk based approach to assessing applications to remove native vegetation’ (DEPI Website i).

At the request of the City of Greater Geelong (Memorandum from Jane Currie dated December 31 2013) this report has been commissioned to assess the presence, significance of, and implications for native vegetation that was not detected in the 2013 report.



Figure 1. Study area as mistakenly defined in the 2013 report (shown as Map 1 in that report).

1.2 Objectives

The objectives of this investigation are to:

- Describe the flora and fauna 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.

1.3 Study Area

The study area is comprised of 130-150 Forest Road South, Lara, and area of approximately 15.4 ha, located within the City of Greater Geelong. The site is within the Victorian Volcanic Plains bioregion (NRE 2002) and is located within the Corangamite Catchment Management Authority region.

The geology (soil type) of the study area is freshwater limestone. Basalt geology (newer volcanic soils) is located to the immediate west and south of the study area (Geological Survey of Victoria 1:63,000 Geelong survey map 1963) (Figure 8). The only surface rock observed by this author was limestone (although negligible rock was observed, consistent with the past use).

The site appears to have a history of disturbance. Historically the site has been used for limestone collection for local buildings and has been the location of the Lara horse racing track (Lara Museum and Historical Centre data). In recent times the site has been extensively de-cropped (most recently to Lucerne), likely further de-rocked, and the occasional site of a travelling circus. The site had recently been grazed by cattle.

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



Figure 1. Study area shown in red.

1.4 Proposed Development

The proposed use is to create a residential development. It is anticipated that the proposed use will impact upon the entire study area.

2 METHODS

2.1 Taxonomy

Scientific names for plants follow 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 the Department of Sustainability and Environment (DSE website i) and the Technical Support Maps for Local Government Authorities (DSE 2003) were reviewed.

2.3 Field Survey

An additional site inspection was undertaken on March 16 2014. The site was inspected on foot. The entire site was traversed. Records were made of all indigenous vascular plant species. Native vegetation was mapped (Figure 7). Records were made of the existing habitat values and dominant exotic vascular plant species.

2.4 Limitations

The assessment was conducted during early autumn, a time of year that is suitable for the detection of most but not all flora species likely to occur on site. Due to the degraded nature of the study area, the site inspection is considered to be sufficient to assess the ecological values of the site. As a result there are not considered to be any significant limitations to the study. The site had recently been grazed by cattle.

Although the 2014 survey was undertaken in Autumn, as was the 2013 survey, this survey is considered to be a 'late summer' survey, as the survey was undertaken two months earlier than the 2013 survey, and as an autumn break (rain) had not yet occurred. The 2013 survey was undertaken after a significant early autumn rain and the dominant plants at the time were annual exotic grasses. For the 2014 survey perennial grasses were more dominant.

The survey includes only vascular flora. As Habitat Hectare assessments were not required (*refer to 4.2*) non-vascular flora (mosses, lichens, fungi, etc) were not recorded. Fauna was not surveyed.

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 Native Vegetation

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

Remnant Patch

Remnant patches of remnant native vegetation are composed of indigenous plant species considered part of a clearly definable EVC. Such vegetation includes perennial understorey species of greater than 25% total understorey cover (excluding bare ground), and/or indigenous canopy trees with at least 20% projected foliage canopy cover.

Scattered Trees

Scattered trees comprise mature indigenous canopy trees that occur outside a remnant patch.

Degraded Treeless Vegetation

Degraded treeless vegetation comprises all other vegetation.

Habitat Hectares

Habitat Hectares is an accounting method for measuring habitat quality and quantity that has been developed by DSE for Vegetation Quality Assessment. The habitat hectares approach is site based. Each site, or patch, consists of one EVC and one vegetation condition class. It is therefore uniform within limits.

Each site has a *habitat score* of between 0 and 100, with extensive intact vegetation having a theoretical score of 100. The habitat score has ten components: large trees, tree canopy cover, understorey, weediness, recruitment, organic litter, logs, patch size, neighborhood context and distance to core area.

Each site has a *habitat hectare value*, where the habitat score is multiplied by the area in hectares. For example, 6 ha of vegetation with a habitat score of 50 equals 3 habitat hectares.

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

The pre-1750 EVC mapping of the study area undertaken by DSE (DSE website i) indicates that the study area was comprised of EVC 132: Plains Grassland and ECV 125 Plains Grassy Wetland. EVC 132: Plains Grassland and ECV 125 Plains Grassy Wetland are both currently listed as 'Endangered' in the Victorian Volcanic Plain bioregion (DSE website ii- EVC Benchmarks -Victorian Volcanic Plains Bioregion). Given the study area is comprised of freshwater limestone geology and that the benchmark description for EVC 132 is described as:

"Treeless vegetation mostly less than 1 m tall dominated by largely graminoid and herb life forms. Occupies **fertile cracking basalt soils** prone to seasonal waterlogging in areas receiving at least 500 mm annual rainfall." (DSE Website ii).

it cannot be concluded that the native vegetation is a component of EVC 132 (it is the opinion of this author that a separate undescribed EVC may have existed on the Lara limestone soils). Consequently the current study records no vegetation that can be accorded with EVC 132.

3.2 Flora

3.2.1 Indigenous Species

A total of two indigenous vascular plant species, both Wallaby Grasses, were recorded from the study area (recorded for the southern area and therefor not recorded in the 2013 report – refer to Figure 7). Refer to Table 1 for a list of indigenous vascular plant species recorded for this study. Refer to Table 2 for a list of exotic vascular plant species recorded this study.

Table 1 Indigenous Vascular Plant Species Recorded March 16 2014, 130-150 Forest Rd South

Botanical Name	Common Name	Significance
<i>Rytidosperma caespitosum</i>	Common Wallaby-grass	Local
<i>Rytidosperma sp</i>	Wallaby-grass	?

Table 2 Exotic vascular Plant Species Recorded March 16 2014, 130-150 Forest Rd South

Botanical Name	Common Name
<i>Cynodon dactylon</i>	Couch Grass
<i>Eucalyptus cladocalyx</i>	Sugar Gum

<i>Nassella neesiana</i>	Chilean Needle-grass
<i>Plantago lanceolata</i>	Ribwort
<i>Phalaris aquatica</i>	Canary-grass
<i>Lycium ferrocissimum</i>	Boxthorn
<i>Galenia pubescens</i>	Blanket Weed
<i>Medicago sativa</i> spp	Lucerne

3.3 Significant Plant Species

One plant species, Common Wallaby-grass, was recorded that is of Local conservation significance. The other plant species, Wallaby-grass could not be identified to specific level due to the absence of flowering material and is therefore not given a conservation significance rating (although it is considered likely to be Local).

3.3 Vegetation Condition

The vegetated areas of the site consists of predominately exotic species. The entire study area appears to have been de-rocked and cropped and grazed at some time in the past and is currently fallow. The most recent crop is Lucerne that is evidenced across the entire site; however apart from within the damper areas of the site, the lucerne has failed, apparently due to the dry summer and autumn conditions.

The location of the area of Wallaby grass vegetation is shown on Figure 7. Wallaby-grass was recorded within this area at less than 25% cover value.

It is the observation of this author that, within the local area, perennial native grasses are capable of re-colonizing cropped areas that have failed and/or been abandoned during very dry conditions. This was extensively observed during the drought of the late 2000s and can be seen again this summer/autumn. The absence of any indigenous flora apart from the two recorded Wallaby-grass species is consistent with this observation.

Note that the adjacent Forest Rd South and Canterbury Rd West roadside reserves were also inspected and were found to carry entirely exotic vegetation, comprised of essentially the same dominant exotic plant species.

3.4 Listed Significant Species

The DSE database (DSE Website i, ii) lists 2 significant plant species and 4 significant fauna species as occurring within the immediate vicinity of the study area (i.e. within 5 kilometres) (not considering migratory and wetland bird species).

Golden Sun Moth is recorded as occurring approximately 4 kms to the west on basalt geology. As the study area is degraded, fragmented (including being flanked by housing subdivisions and crematoriums) and not on basalt geology (grasslands) the study area is not considered to be viable habitat for the Golden Sun Moth.

Due to the highly degraded and fragmented nature of the study area (two species) and due to the highly degraded and fragmented nature of the study area and likely incorrect habitat (six species) none of these species are considered likely to occur within the study area (i.e. remaining 50% quality habitat). Fauna surveys were not undertaken.

Refer to Table 3 for the listed significant species including a discussion of preferred habitat, likelihood of occurrence and response to the Framework requirements.

Table 3 Listed Significant Flora and Fauna Species and the Likelihood of Occurrence

Scientific Name	Common Name	Record this survey	Status	Steps	Best 50%	Preferred Habitat	Likelihood of occurrence
<i>Tripogon lolliformis</i>	Rye Beetle-grass	No	r	A-D-No	Remaining	grasslands	Highly modified habitat/likely incorrect habitat – Unlikely to occur
<i>Senecio macrocarpus</i>	Large-fruit Groundsel	No	e	A-D-No	Remaining	grasslands	Highly modified habitat/likely incorrect habitat – Unlikely to occur
<i>Perameles gunnii</i>	Eastern Barred Bandicoot	No	e,E, ffga	A-D-No	Remaining	grasslands	Highly modified habitat – Unlikely to occur
<i>Sminthopsis crassicaudata</i>	Fat-tailed Dunnart	No	n	A-D-No	Remaining	grasslands	Highly modified habitat – Unlikely to occur
<i>Synemon palnna</i>	Golden Sun Moth	No	e,E, ffga	A-D-No	Remaining	basalt grasslands	Highly modified habitat/incorrect habitat – Unlikely to occur
<i>Delma impar</i>	Striped Legless Lizard	No	e,E, ffga	A-D-No	Remaining	basalt grasslands	Highly modified habitat/likely incorrect habitat – Unlikely to occur

r – rare (Victoria)

n – near threatened (Victoria)

e – endangered (Victoria)

E – endangered (Australia)

ffga – Flora and Fauna Guarantee Act listed (DSE website iii)

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 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'.

Natural Temperate Grassland 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 would have been considered part of this community.

Golden Sun Moth is a federally listed (critically endangered) species. It is recorded as occurring approximately 4 kms to the west on basalt geology. As the site is degraded, fragmented and not upon basalt geology the study area is not considered to be viable habitat for the Golden Sun Moth.

4.1.2 Implications

Due to the degraded nature of the study area (i.e. less than 50% cover value), the relatively small size of the area of native grasses and as the study area consists of limestone geology there are not considered to be any implications for the current proposal under the EPBC Act.

4.2 Native Vegetation Permitted Clearing Regulations

The State has recently gazetted new Native Vegetation Permitted Clearing Regulations ‘the Regulations’ (to replace the Native Vegetation Management Framework). The reforms ‘introduce a risk based approach to assessing applications to remove native vegetation’ (DEPI Website i).

DEPI have produced a range of biodiversity information tools to assess site significance and to assess the potential impacts of any permitted vegetation clearing. The biodiversity information tools are as follows:

- Native Vegetation Extent; the ‘area of land covered by native vegetation’.
- Native Vegetation Site Condition; ‘comprised of three components, species diversity, structure and function’.
- Native Vegetation Location Risk’ ‘location risk is calculated on the basis of a set of spatial models describing the importance of suitable habitat within the current extent of native vegetation for many rare or threatened species and native vegetation modelled condition data’.
- Strategic Biodiversity Score; a ‘spatially explicit view of strategic biodiversity values’, it ‘identifies the value of a site relative to the value of all other Victorian locations’ (DSE data).

Refer to Figure 3 for Native Vegetation Extent, Refer to Figure 4 for Native Vegetation Site Condition. Refer to Figure 5 for Native Vegetation Location Risk. Refer to Figure 6 for Strategic Biodiversity Score, including descriptions of implications for the study area.

Implications for the current proposal are discussed as follows and at 4.2.1.

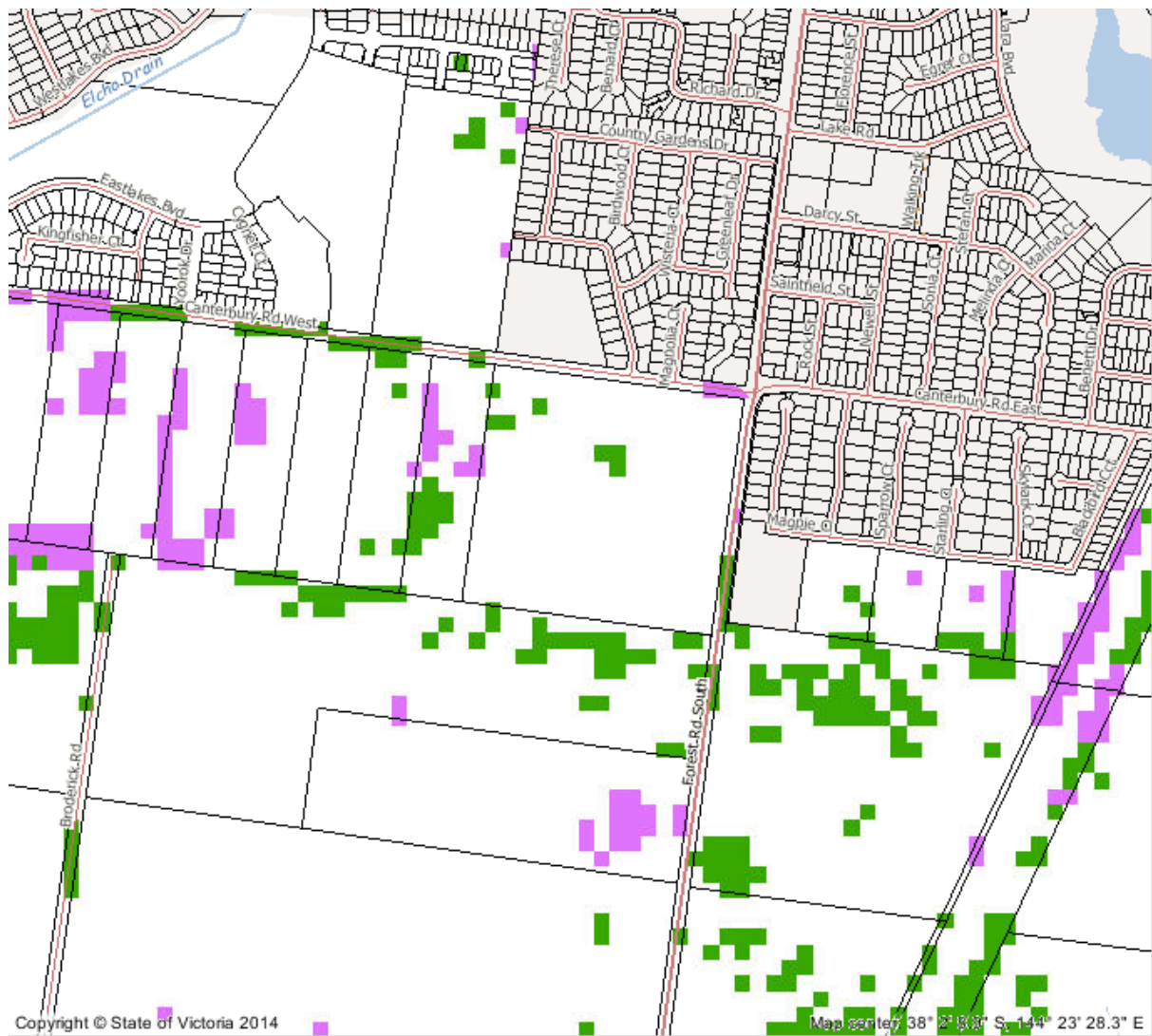


Figure 3. Native Vegetation Extent. Native vegetation (shown in green) is recorded by DSE as occurring within the study area (DSE data). The area of native vegetation recorded during this survey does not accord with the DSE mapping.

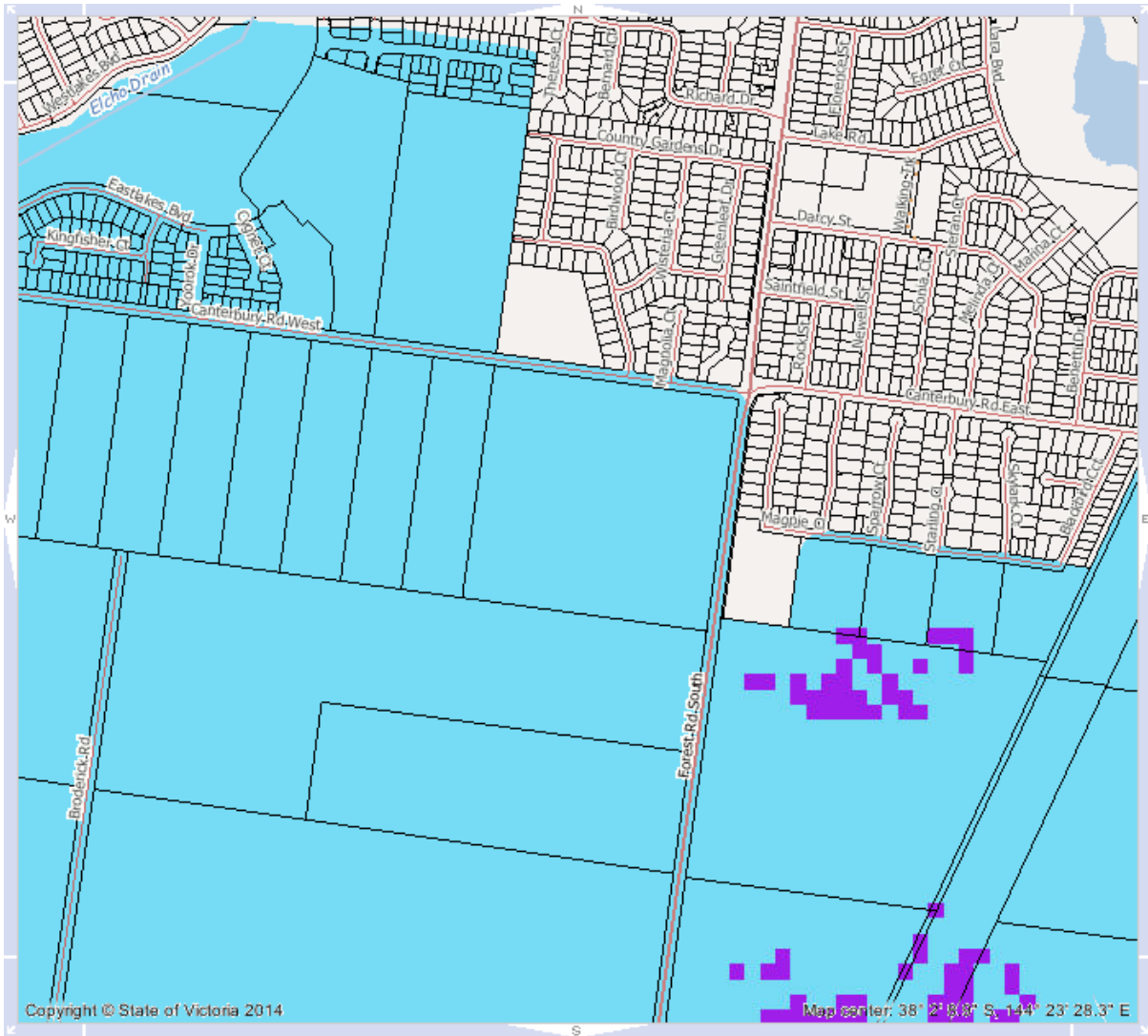


Figure 4. Distribution of vegetation according to ‘Location Risk’. Blue equates to ‘Location Risk A’ (i.e. least risk pathway) (DSE data).

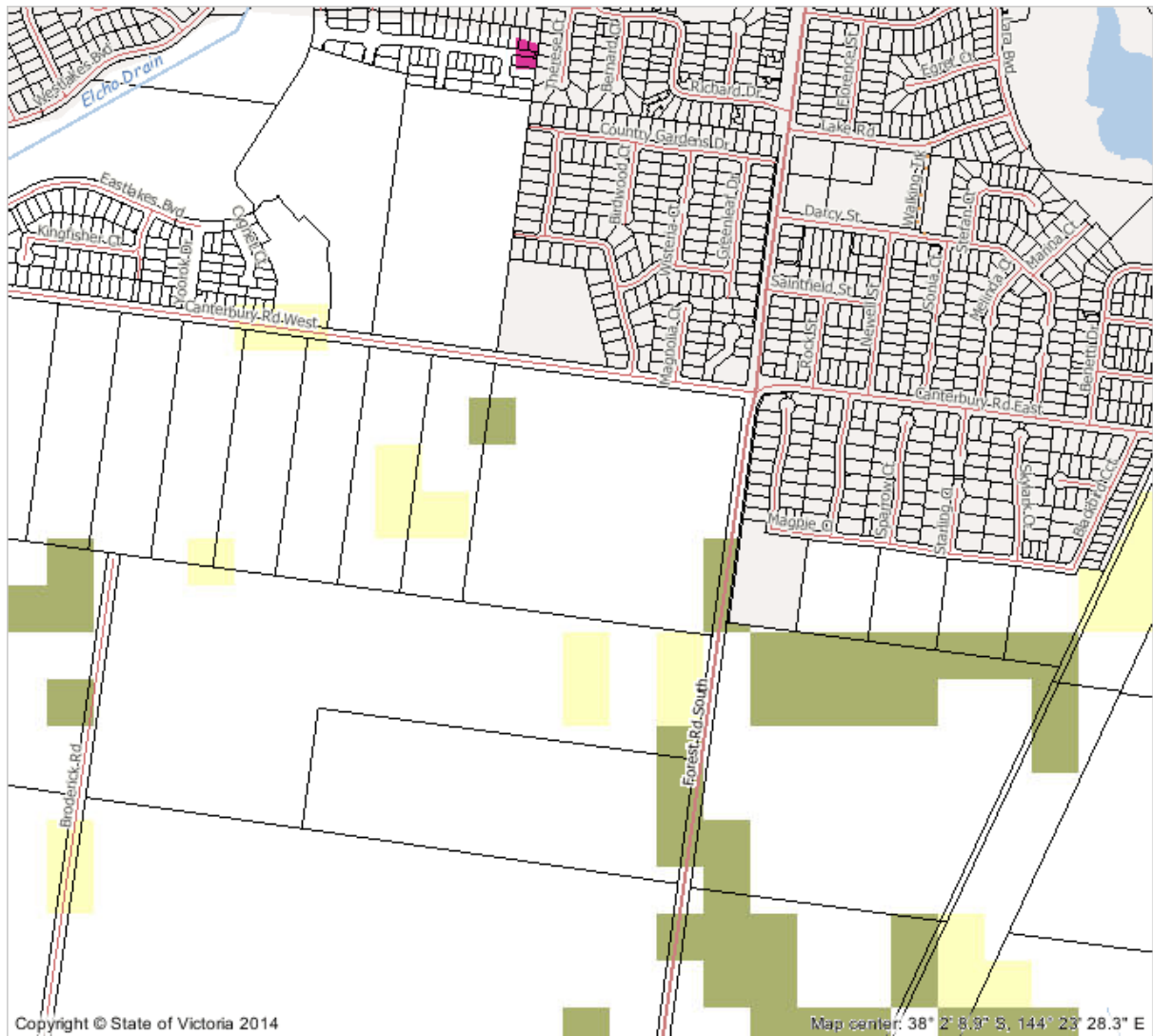


Figure 5. Native Vegetation Site Condition. Sections of the study area are mapped to have a site condition of between 0.61 and 0.8. (DSE data). This mapping bears no correlation to the on ground vegetation mapping undertaken this survey or the DSE Native Vegetation Extent mapping.

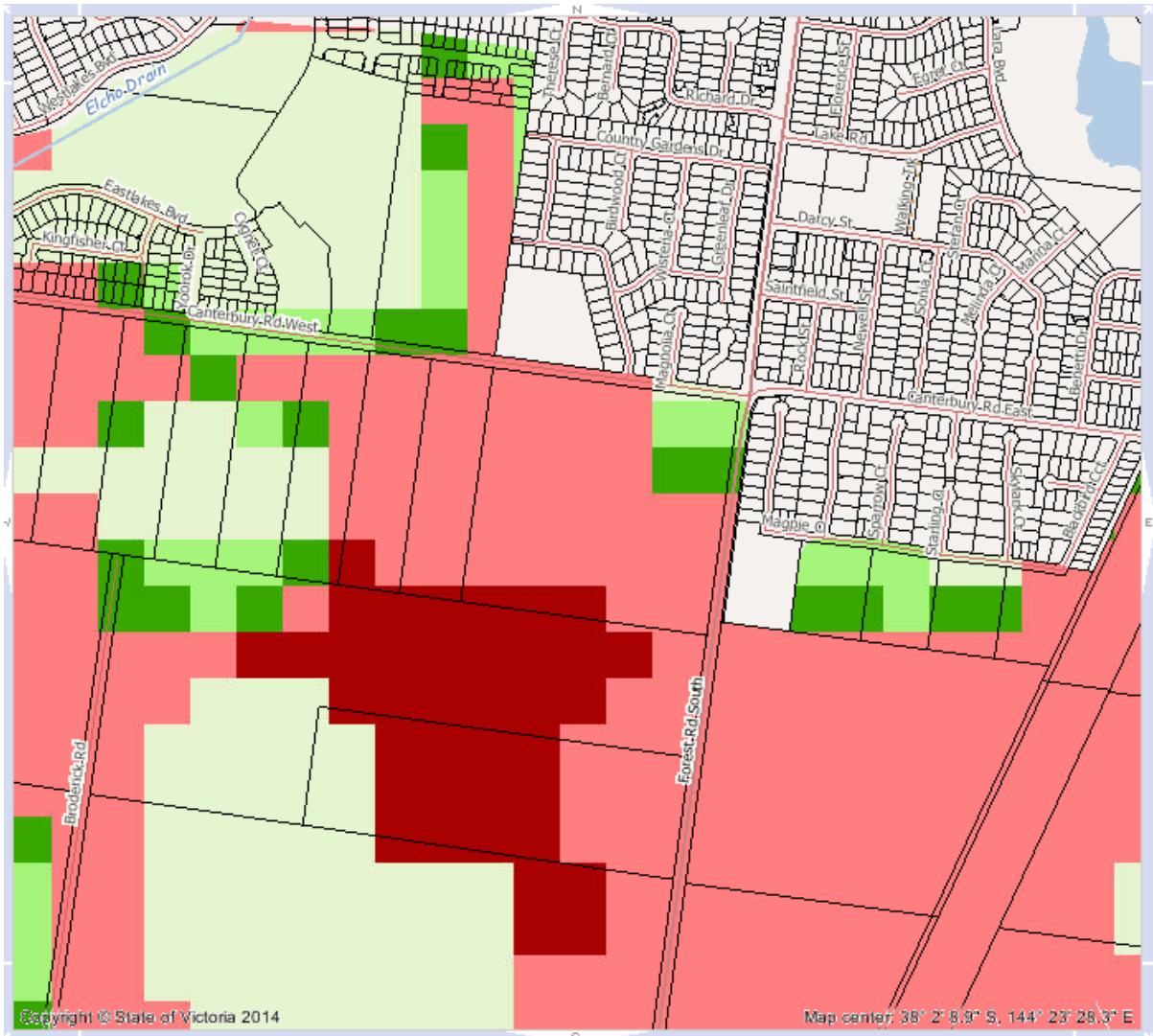


Figure 6. Strategic Biodiversity Score. The study area has a strategic biodiversity score of between 0.21 and 1.0. The largest area of highest Strategic Biodiversity Score is the crematorium and intensive agriculture to the south of the study area. It is likely that the mapping is at fault.

4.2.1 Implications

The entire site is assessed to be ‘degraded treeless’ vegetation, i.e. scattered native vegetation with less than 25% cover value of perennial native understorey plant species. The study area is within ‘Location Risk A’ (i.e. least risk pathway).

Therefore there are no implications under State Native Vegetation Permitted Clearing Regulations legislation.

4.3 State Flora and Fauna Guarantee Act

The *Flora and Fauna Guarantee Act 1988* (FFG Act) is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes.

The flora and fauna conservation and management objectives, as outlined under the *Flora and Fauna Guarantee Act 1988*, are:

- (a) to guarantee that all taxa of Victoria's flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild
- (b) to conserve Victoria's communities of flora and fauna
- (c) to manage potentially threatening processes
- (d) to ensure that any use of flora or fauna by humans is sustainable
- (e) to ensure that the genetic diversity of flora and fauna is maintained
- (f) to provide programs:
 - (i) of community education in the conservation of flora and fauna
 - (ii) to encourage co-operative management of flora and fauna through, amongst other things, the entering into of land management co-operative agreements under the *Conservation, Forests and Lands Act 1987*
 - (iii) of assisting and giving incentives to people, including landholders, to enable flora and fauna to be conserved
- (g) to encourage the conserving of flora and fauna through co-operative community endeavors.

the following items that have potential implications for the study area are:

Delma impar.....Striped Legless Lizard
Synemon plana..... Golden Sun Moth
Senecio macrocarpus..... Large-fruit Groundsel
Western (Basalt) Plains Grasslands Community

No FFG Act listed taxon or communities were recorded for the study area

Implications

No FFG Act listed taxon or communities were recorded for the study area or are considered likely to occur within the study area. Consequently a permit will be not required under the FFG Act.

4.4 Planning Scheme ESO4

The purpose of the Victorian Planning Scheme is:

- To provide a clear and consistent framework within which decisions about the use and development of land can be made.
- To express state, regional, local and community expectations for areas and land uses.
- To provide for the implementation of State, regional and local policies affecting land use and development.

ESO4 has been established to protect environmentally significant values, specifically being native grassland values, within the area that it covers (DTPLI website i).

The study area is not covered by ESO4.

5 CONCLUSIONS

The proposed residential development at 130-150 Forest Road South, Lara, that is the subject of this report, contains areas of relatively degraded native vegetation (two species of Wallaby-grass) that are assessed as ‘degraded treeless’ vegetation as well as areas of vegetation that are entirely exotic.

Consequently the site is rated as having negligible to local significance for biodiversity conservation.

The site does not to represent the best 50% remaining habitat for any of the six threatened species listed as occurring within the vicinity of the study area.

Although EVC 132: Plains Grassland is classed as ‘Endangered’ in Victoria and Natural Temperate Grassland of the Victorian Volcanic Plain is classed as “Critically Endangered’ in Australia, the study area is located on degraded limestone soils (not basalt) and the vegetation of the study area is of sufficient quality to create any implications for the relevant State (i.e. Native Vegetation Permitted Clearing Regulations) or Commonwealth (i.e. EPBC Act) legislation.

No FFG Act listed taxon or communities were recorded for the study area or are considered likely to occur within the study area. Consequently a permit will be not required under the FFG Act.

The entire site is assessed to be ‘degraded treeless’ vegetation, i.e. scattered native vegetation with less than 25% cover value of perennial native understorey plant species. The study area is within ‘Location Risk A’ (i.e. least risk pathway). Therefore there are no implications under State Native Vegetation Permitted Clearing Regulations legislation.

The study area is not covered by Planning Scheme ESO4.

There are not considered to be any significant limitations to this 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, and in particular in the Victorian Volcanic Plain bioregion, 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.

6 REFERENCES

- Geological Survey of Victoria (1963). 1:63,000 Geelong survey map.
- Corangamite Catchment Management Authority (2005) 'Corangamite Native Vegetation Plan' CCMA Website.
- DNRE (2002) 'Victoria's Native Vegetation Management A Framework for Action' DNRE, Melbourne.
- DSE (2003) 'Victoria's Native Vegetation Management- A Framework For Action- Technical Support Maps' (CD). DSE, Melbourne.
- DSE (2007). 'Native Vegetation Guide for assessment of referred planning permit applications'. DSE, Melbourne.
- DSE Website i.
<http://mapshare2.dse.vic.gov.au/MapShare2EXT/imf.jsp?site=bim>
- DSE Website ii.
<http://www.dse.vic.gov.au/dse/nrence.nsf/LinkView/A2A7B7D2CABBEE3CCA256F2B000257048062D358172E420C4A256DEA0012F71C>
- DSE Website iii.
[http://www.dse.vic.gov.au/CA256F310024B628/0/B10DC61B8DF2A09FCA25760F0010DF1B/\\$File/Advisory+List+of+Threatened+Vert+Fauna+in+Victoria+-+2007+amended+11+august+2009.pdf](http://www.dse.vic.gov.au/CA256F310024B628/0/B10DC61B8DF2A09FCA25760F0010DF1B/$File/Advisory+List+of+Threatened+Vert+Fauna+in+Victoria+-+2007+amended+11+august+2009.pdf)
- DSE Website iv.
<http://www.dse.vic.gov.au/planningschemes/greatergeelong/maps/greatergeelong18eso.pdf>
- 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=42&status=Critically%20Endangered>
- EPBC Website ii.
<http://www.environment.gov.au/epbc/publications/pubs/ecological-communities-listing-approach-factsheet.pdf>
- Oates, A. & Taranto, M. (2001): 'Vegetation mapping of the Port Phillip & Westernport region' Arthur Rylah Institute for Environmental Research, DNRE, Victoria.
- Parkes, D., Newell, G. & Cheal, D. (2003): 'Assessing the quality of native vegetation: The habitat hectares approach. Parks, Flora & Fauna Division, DNRE, Victoria.
- Trengove, M. (2013). 130-150 Forest Rd Sth Vegetation Assessment.
- Walsh, N G and Stasjic, V (2007): 'A Census of the Vascular Plants of Victoria' Royal Botanic Gardens, Melbourne.
- Walsh, N G & Entwisle, T (1994-1999): 'Flora of Victoria Vol 2-4' Inkata Press, Melbourne.

Figure 7 Native Vegetation Location

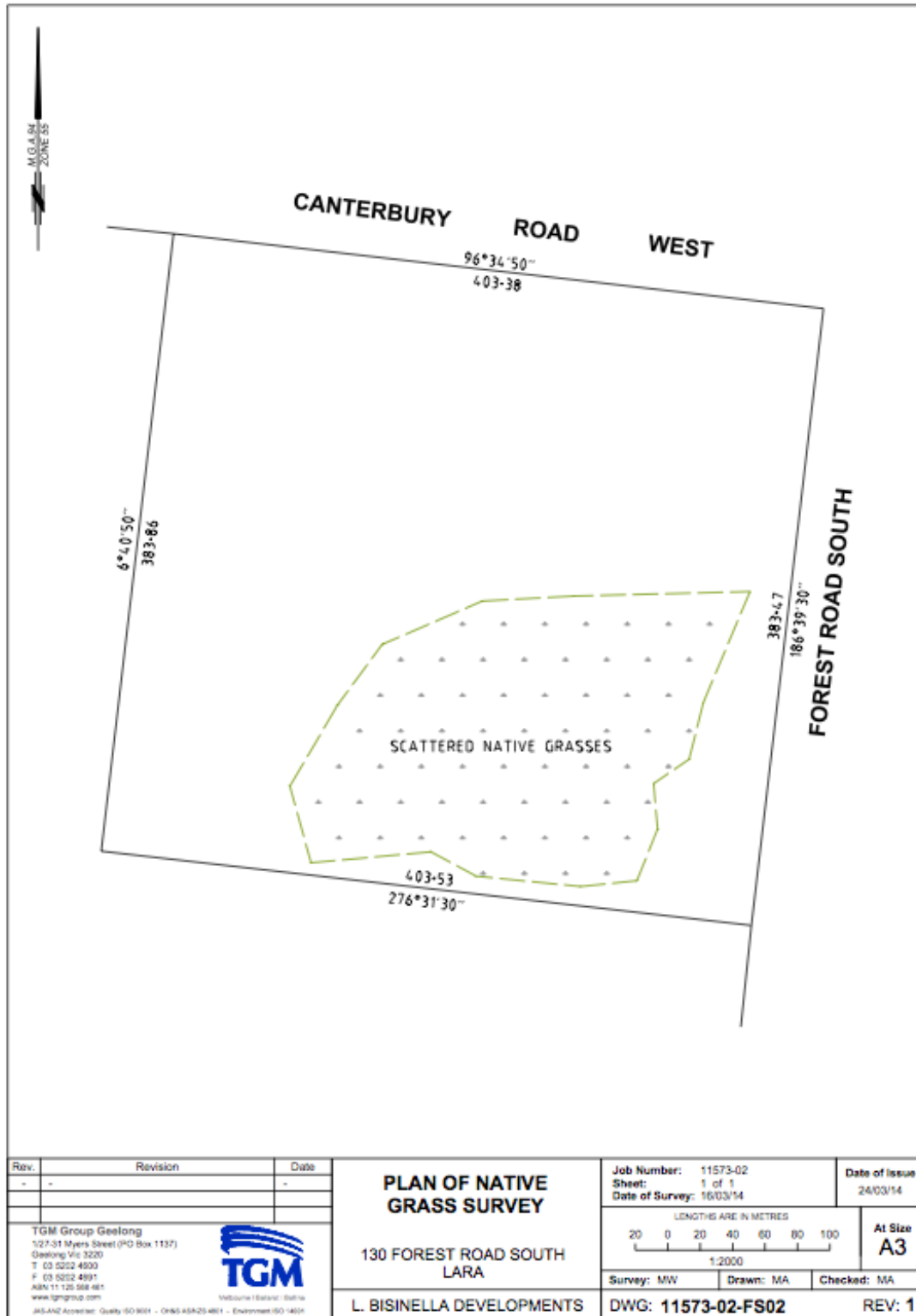


Figure 8 Distribution of Limestone Geology

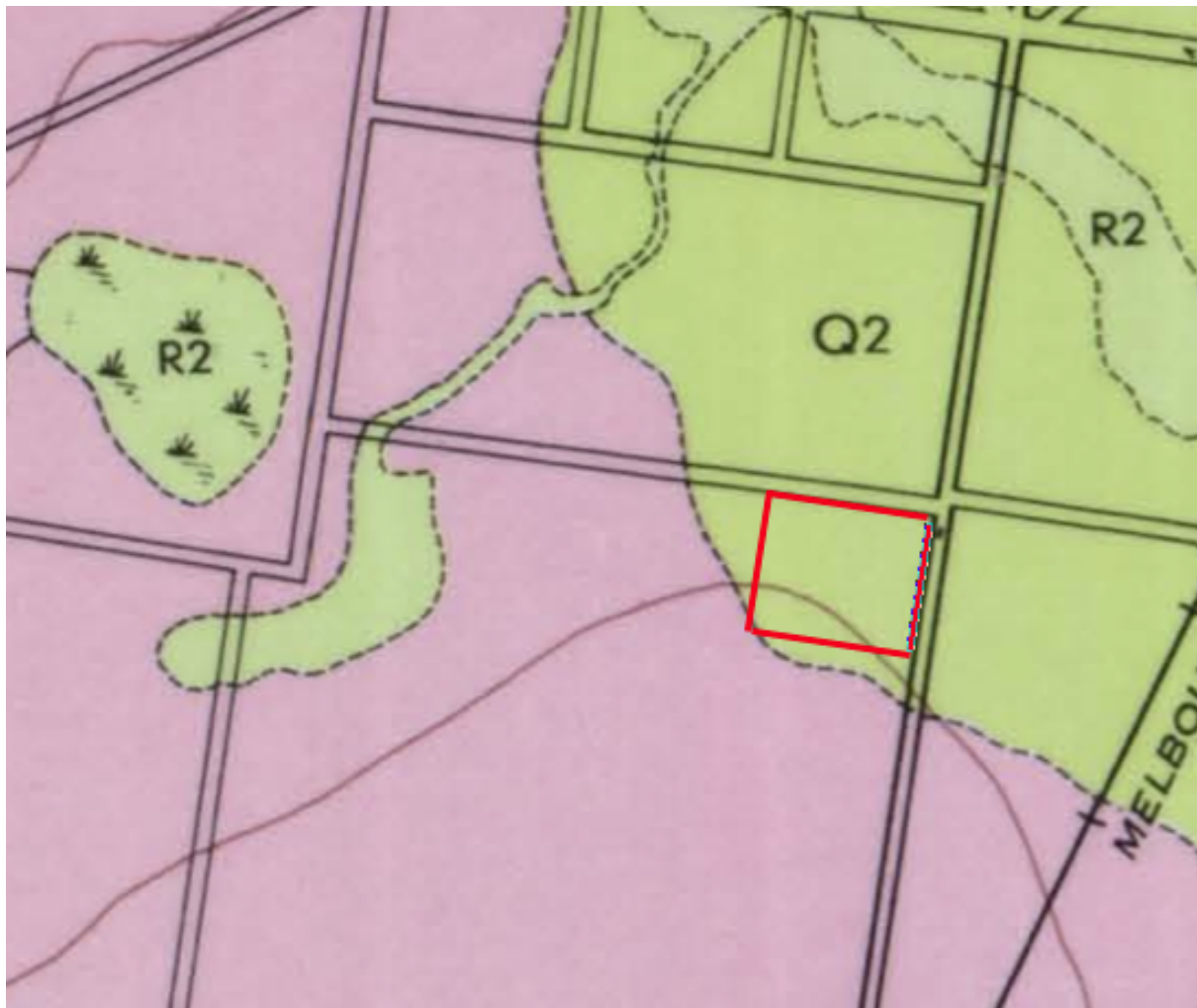


Figure 8. Distribution of Limestone Geology (green) and Basalt (pink) Geological Survey of Victoria (1963). 1:63,000 Geelong survey map. Study area shown in red outline.