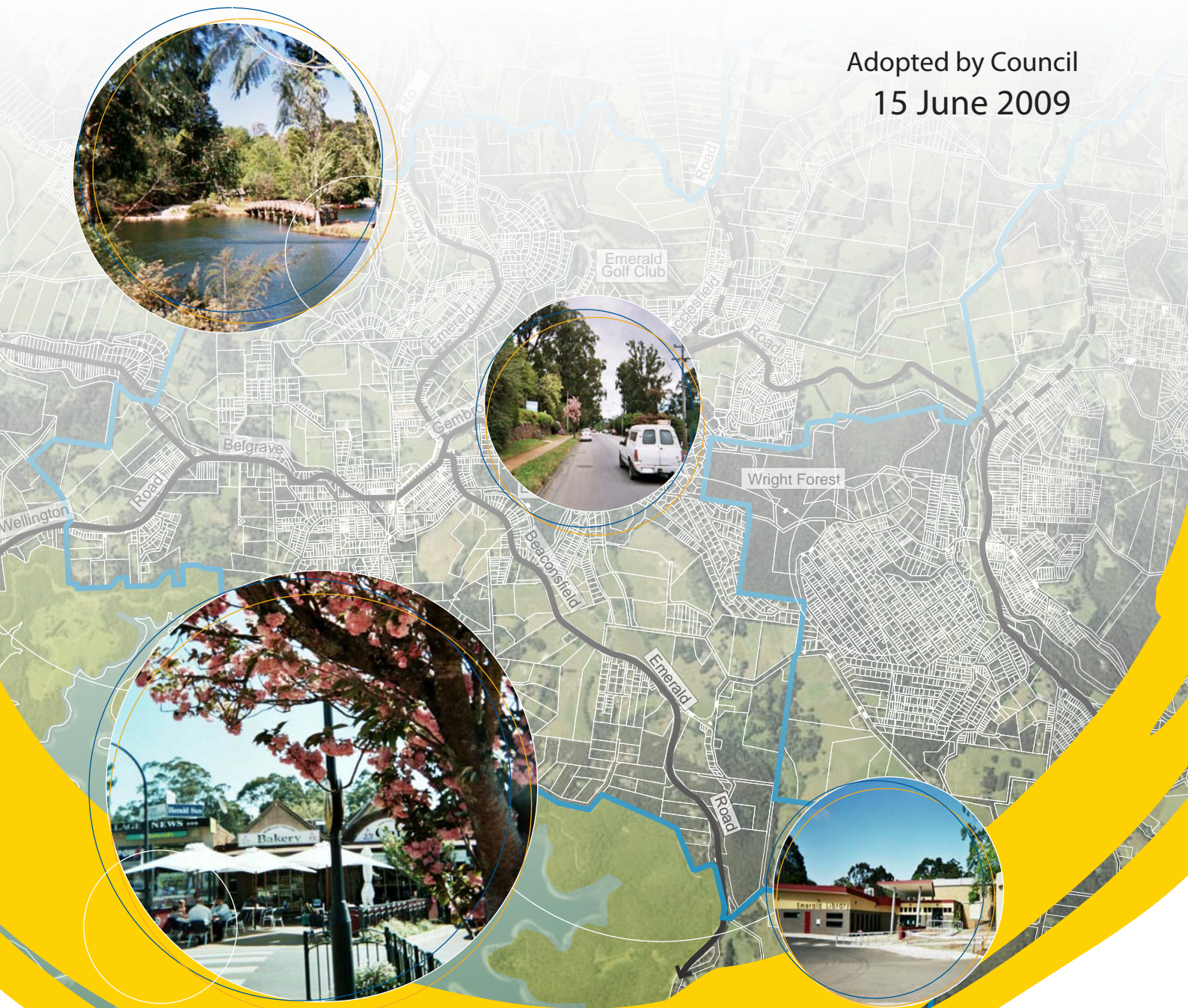


EMERALD

District Strategy

Adopted by Council
15 June 2009



CARDINIA

Prepared by:
Cardinia Shire Council
Strategic Planning Unit
in association with
Emerald Strategy Review Steering Committee
SMEC Urban and Land Design Partnership

Published June 2009
© Cardinia Shire Council 2009
(ABN: 32 210 906 807)
Henty Way, Pakenham
PO Box 7, Pakenham Vic 3810
Phone: 1300 787 624
Fax: (03) 5941 3784
Email: mail@cardinia.vic.gov.au
Web: www.cardinia.vic.gov.au

TABLE OF CONTENTS

1.	INTRODUCTION	1
1.1.	Purpose of the Strategy.....	1
1.2.	Strategy Area	1
2.	SNAPSHOT OF EMERALD	3
2.1.	History.....	3
2.2.	Demographic Profile.....	4
2.3.	Policy Context.....	5
3.	STRATEGIC OBJECTIVES AND FRAMEWORK PLAN	7
3.1.	Key trends	7
3.2.	Vision	7
3.3.	Strategic objectives	7
4.	RESIDENTIAL DEVELOPMENT	10
4.1.	Overview.....	10
4.2.	Current family and household profile	10
4.3.	Current dwelling typology and ownership patterns	12
4.4.	Trends in residential development.....	12
4.5.	Housing diversity.....	13
4.6.	Land capability	13
4.7.	Restructure and buy-back.....	13
4.8.	The landscape context	13
4.9.	Residential character	14
4.10.	Themes.....	17
4.11.	Neighbourhood context guidelines	20
4.12.	Key issues	21
4.13.	Objectives	22
4.14.	Policy.....	22
4.15.	Actions	22
5.	ECONOMIC DEVELOPMENT	23
5.1.	Overview.....	23
5.2.	Workforce profile.....	23
5.3.	Emerald town centre.....	25
5.4.	Activity nodes in Clematis and Avonsleigh	26
5.5.	Tourism.....	27
5.6.	Agriculture and Horticulture	27
5.7.	Economic development opportunities.....	28
5.8.	Key issues	29
5.9.	Objectives	29
5.10.	Policy.....	29
5.11.	Actions	31
6.	COMMUNITY DEVELOPMENT.....	32
6.1.	Overview.....	32
6.2.	Community profile.....	32
6.3.	Existing services and facilities	33
6.4.	Library and Community Centre Project.....	35
6.5.	Youth.....	35
6.6.	Aged	35
6.7.	People with special needs.....	35

6.8.	Community engagement.....	35
6.9.	Opportunities for community development	35
6.10.	Key issues	37
6.11.	Objectives.....	37
6.12.	Policy.....	37
6.13.	Actions	37
7.	OPEN SPACE.....	39
7.1.	Overview.....	39
7.2.	Paths and Trails	39
7.3.	Management of Recreation Reserves	39
7.4.	Opportunities for open space.....	40
7.5.	Key issues	41
7.6.	Objectives	42
7.7.	Policy	42
7.8.	Actions	43
8.	TRAFFIC AND TRANSPORT	45
8.1.	Overview.....	45
8.2.	Road network.....	45
8.3.	Traffic.....	46
8.4.	Parking	46
8.5.	Public Transport.....	46
8.6.	Bus stops.....	47
8.7.	Pedestrian and bicycle connectivity	48
8.8.	Traffic and transport opportunities	48
8.9.	Key issues	50
8.10.	Objective.....	50
8.11.	Policy.....	50
8.12.	Actions	50
9.	INFRASTRUCTURE	52
9.1.	Overview.....	52
9.2.	Sewerage	52
9.3.	Drainage.....	52
9.4.	Other Services.....	52
9.5.	Key issues	53
9.6.	Objective.....	53
9.7.	Policy	53
9.8.	Actions	53
10.	ENVIRONMENT	54
10.1.	Overview	54
10.2.	Native vegetation.....	54
10.3.	Current vegetation distribution	54
10.4.	Natural drainage lines- creeks and waterways	56
10.5.	Weed management	56
10.6.	Areas of biological significance	57
10.7.	Wildfire Management	57
10.8.	Environmental sustainability	58
10.9.	Opportunities.....	58
10.10.	Key issues	59
10.11.	Objectives.....	59
10.12.	Policy.....	59
10.13.	Actions	59

11.	HERITAGE	61
11.1.	Overview	61
11.2.	Aboriginal Cultural Heritage.....	61
11.3.	Post-Contact Heritage	61
11.4.	Opportunities for heritage conservation and management	62
11.5.	Key issues	64
11.6.	Objective.....	64
11.7.	Policy.....	64
11.8.	Actions	64
12.	DESIGN GUIDELINES	65
12.1.	Emerald town centre	65
12.2.	Design context.....	65
12.3.	Village atmosphere.....	66
12.4.	Design Themes	67
12.5.	Topography.....	68
12.6.	Landscape.....	68
12.7.	Town Centre Design Guidelines.....	68
12.8.	Other Issues	75
12.9.	Key issues	80
12.10.	Objective	80
12.11.	Policy.....	80
12.12.	Actions.....	80
13.	IMPLEMENTATION AND REVIEW	81
14.	REFERENCES.....	82

APPENDICES

Appendix A: Neighbourhood Context Guidelines	84
Appendix B: Library And Community Centre Project.....	94
Appendix C: Emerald Area Bus Stop Observations	95
Appendix D: Backlog Sewerage Program	100
Appendix E: Ecological Vegetation Classes (Original - Pre 1750).....	101
Appendix F: Ecological Vegetation Classes (Current)	102
Appendix G: Biosites	107
Appendix H: Wildfire Risk Areas	110
Appendix I: Sites Included In Heritage Overlay	112
Appendix J: National Trust Listed Heritage Sites	114
Appendix K: Town Centres Guidelines	115
Appendix L: Glossary Of Urban Design Terms	123

TABLES

Table 1: Population and household forecast.....	4
Table 2: Precinct Character Matrix.....	18
Table 3: Highest qualification achieved 2006	23
Table 4: Existing community services and facilities in Emerald and their functions	33
Table 5: Open space hierarchy.....	42
Table 6: Bus services	47
Table 7: Woori-Yallock Creek values.....	56
Table 8: Priority Areas for bushfire protection	57

FIGURES

Figure 1: Study Area	2
Figure 2: Age structure in 2006.....	5
Figure 3: Metropolitan Green Wedges	6
Figure 4: Emerald District Framework Plan.....	9
Figure 5: Household and Family types in Emerald 2006.....	11
Figure 6: Forecast change in household types in Emerald 2006-2021.....	11
Figure 7: Building permit applications for Emerald 2000-2007.....	12
Figure 8: Neighbourhood Precincts	15
Figure 9: Employment and labour force status 2006	24
Figure 10: Employment by industry 2006.....	24
Figure 11: Emerald forecast age structure 2006, 2011, 2021	32
Figure 12: Open space and linkages.....	44
Figure 13: Conservation status of ecological vegetation classes	55
Figure 14: Heritage sites.....	63
Figure 15: Town Centre Precincts.....	72
Figure 16: Activity Hubs - Clematis and Avonsleigh.....	74
Figure 17: Emerald Link Opportunities	77
Figure 18: Emerald Link - Design Principles.....	78
Figure 19: Emerald Link - Built Form Principles.....	79

1. INTRODUCTION

Emerald is located at the foothills of the Dandenong Ranges. It is approximately 51.5 kilometres east of Melbourne and 20 kilometres north of Pakenham. Dominant activities within the strategy area include residential and rural residential development, farming, open space and recreation.

1.1. Purpose of the strategy

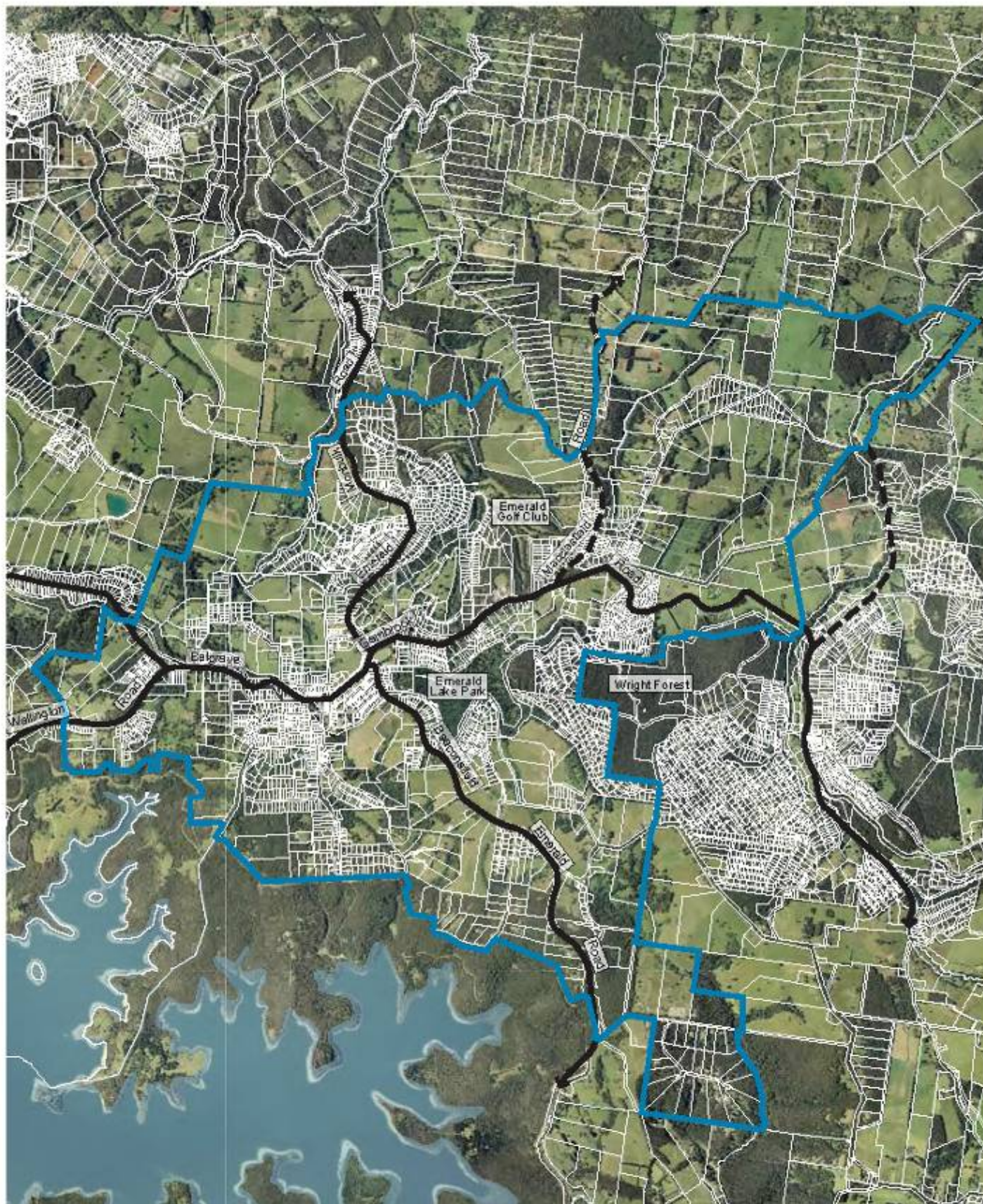
The Shire of Cardinia comprises of 19 townships and a number of rural localities, each with a distinct identity, character and role. Both the Council Plan and the Municipal Strategic Statement (MSS) recognise the need for the preparation and implementation of a township strategy for each of the shire's townships. The township strategies provide a strategic policy framework for the future development of each township. Each strategy provides clear direction in keys areas of:

- Residential Development
- Economic Development
- Community Development
- Open Space
- Traffic and Transport
- Physical Infrastructure
- Environment
- Heritage
- Town centre design guidelines


This strategy sets out the key issues facing the Emerald District and explains why they are important. The strategy then sets out objectives (what we are trying to achieve) and policies and actions (how the objectives will be achieved). Council, with the assistance of residents, local community groups and other government agencies will play a critical role in implementing the policies and actions set out in this strategy.

1.2. Strategy area

The area included in the Emerald District Strategy is generally bounded to the north and west by the municipal boundary, to the south by Cardinia Reservoir and to the east by Wright Forest. The study area is shown in Figure 1.



LEGEND

-  Study Area Boundary
-  Arterial Road
-  Local Collector Road
-  Cardinia Reservoir



 0 200 400 600m
 Ref.: 3410 160
 Date: July 2008
 Rev.: A
 Drawn: HWV

FIGURE 1: STUDY AREA

2. SNAPSHOT OF EMERALD

2.1. History

Gold was discovered in late 1858 in the area of Butterfield Park, some 6 kilometres north of the Emerald town centre. At a large meeting held at the diggings, a resolution was passed naming the diggings as the “Emerald Diggings”, in consequence of the discoverers being mostly natives of the Emerald Isle. A few months later, the Government surveyor laid out a one square mile “township of Main Range” where the present Emerald town centre is located. This was at the highest point on the route to the diggings which was via the now Emerald-Monbulk Road. This was presumably intended as the main town site for what was then anticipated as a major gold field. Although the gold diggings did not boom as expected, the town that developed on the surveyed site became known as Emerald, named for the Emerald diggings where gold was first discovered in the area¹. The town developed around the intersection of the Emerald - Monbulk Road and Belgrave-Gembrook Road, where the Worrell Reserve is now located. Agriculture and horticulture quickly became the main activities in this area of rich volcanic soil.

In 1886, Carl Axel Nobelius established an orchard and nursery on the then outskirts of the town. Besides raspberries, blackberries and strawberries, Nobelius's Gembrook Nurseries at Emerald grew ornamental trees, fruit trees and English trees. Other nurseries produced lavender, strawberries and blackberries. The need for reliable transport to carry seedlings, flax and fruit from this area, along with timber and potatoes from Cockatoo and Gembrook was needed. It led to the construction of the narrow gauge railway, now known as "Puffing Billy" in 1900. When the railway came to Emerald, the railway station was located 500 metres to the south - west of the town centre. This allowed the railway to benefit from the gentle gradients of the Wattle Creek valley, and provided a level site for the railway station. As a result, Emerald has developed two distinct commercial centres. By 1904, there were five stations opened on the line. They were Monbulk, later Belgrave; Menzies Creek; Emerald; Devon, later Cockatoo. The original Puffing Billy Stations (route from Upper Ferntree Gully to Gembrook) also included Upper Ferntree Gully, Upwey and Tecoma. Emerald is the highest point on the Puffing Billy Railway Line. This new single gauge railway had great historic importance in opening up the district's mountainous, forest areas. It also gave great impetus to the regional farming nursery, and timber interests. During the first two decades of this century, timber milling reached its peak in the Belgrave-Gembrook region. The early potential for promoting the tourist trade was recognised by the provision of special excursion trains during the Christmas and Boxing Day holidays in the 1900-1901 period. Passenger numbers using the 'Puffing Billy' line grew up to the First World War period. Emerald Lake Park was opened in 1942. This park was originally part of the Nobelius Nursery property. The Nobelius home, Carramar, built in the 1880s, had an extensive display garden. This is now part of the broader Emerald Golf and Country Club precinct. The Puffing Billy line closed in 1954 due to a land slip which effectively closed the line. However, a 'Save the Puffing Billy Campaign' was very successful and the line re-opened in 1963. It now runs along a shorter route but 'Puffing Billy' tours from Belgrave to Emerald Lake Park are increasingly popular².

As the Melbourne Metropolitan area expanded into the Dandenong Ranges, the Emerald area grew significantly, most notably from the 1970s onward. The urban encroachment, particularly in the Dandenong Ranges, impacted significantly on indigenous ecological

¹ The Melbourne Leader 19 March 1859

² Informed by: Cardinia Shire Heritage Study 1996; Volume 3 Heritage Places; Graeme Butler and Associates

values, rural productivity and in some areas the stability of the land. To address this, the Upper Yarra and Dandenong Ranges Authority (UYDRA) was established under the *Upper Yarra and Dandenong Ranges Authority Act, 1986* and all development within the region was subject to the strategic directions contained in the Regional Strategy Plan developed by UYDRA. The Regional Strategy Plan was revoked for areas other than Shire of Yarra Ranges to be replaced by the Municipal Strategic Statement for each local council. Emerald District at that time was within the Shire of Sherbrooke. During the Victorian local government reforms of 1994, Cardinia Shire Council, of which Emerald District now forms a part, was formed by amalgamation.

2.2. Demographic profile

In 2006, Emerald had a population of approximately 6,550 residents representing about 33% of Shire of Cardinia's population. Historical census data reflects slight growth period between 1986 and 1991 with a slight decline between 1991 and 1996. This decline may be attributed to a number of young adults leaving the town for employment or education. Between 1996 and 2001, this area experienced significant population growth, as a result of an increase of new dwellings and households being added to the area and a small decrease in the average household size. However, there has been a slight decline in population between 2001 and 2006. This is despite the household size decreasing further from 2.9 persons in 2001 to 2.79 persons in 2006.

By 2021, the population is projected to increase to about 7,000 with an average annual growth rate of 0.15%. The population forecasts predict a stable population as a result of decline in natural growth and stable net migration due to limited development opportunities and an ageing population. But it should be noted that the population forecast for 2006 based on 2001 census data (refer to Table 1) is less than what the enumerated data for 2006 indicates (6,410).

Table 1: Population and household forecast³

Summary data	Forecast year		
	2006*	2011*	2021*
Total population	6,892	6,938↗	7,044↗
Resident population in non-private dwellings	63	63↔	63↔
Resident population in private dwellings	6,829	6,875↗	6,981↗
Households	2,462	2,535↗	2,653↗
Dwellings	2,516	2,591↗	2,711↗
Average household size	2.77	2.71↘	2.63↘

↔ stable* from previous year (stable refers to between +/- 0.5% change)

↗ increase from previous year ↘ decrease from previous year

*Population forecast based on 2001 census

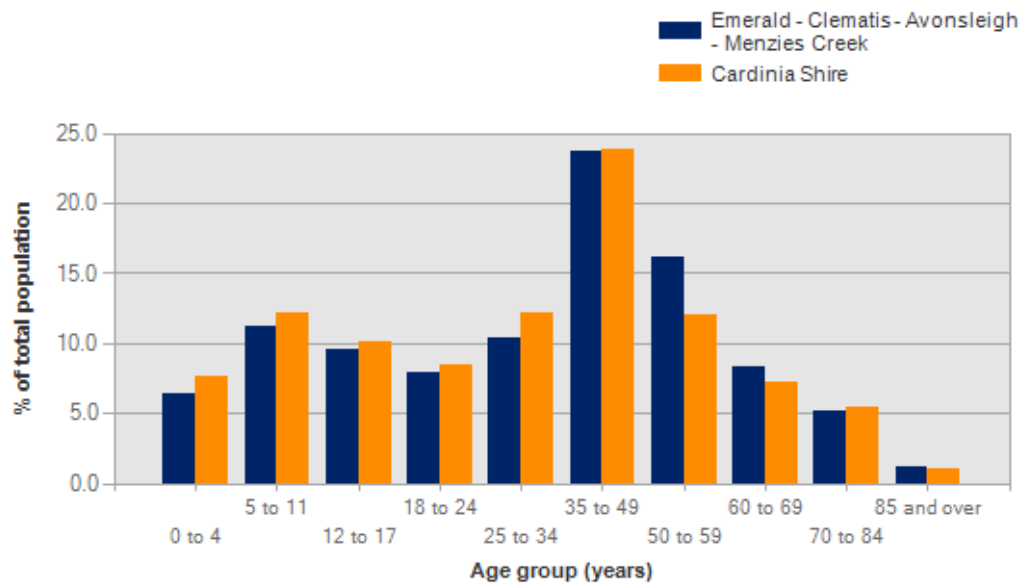
Source: Cardinia Community and Household Forecasts; www.id.com.au

Analysis of the age structure of Emerald in 2006 compared to the Shire of Cardinia shows that there was a smaller proportion of people in the younger age groups (0 to 17) but a similar proportion of people in the older age groups (60+). Overall, 26.8% of the population was aged between 0 and 17, and 14.9% were aged 60 years and over, compared with 29.4% and 14.2% respectively for Cardinia Shire. The largest changes in age structure

³ Based on Enumerated Population figures in the 2001 Census

in this area between 2001 and 2006 were in the age groups 60 to 69 (+151 persons), 50 to 59 (+143 persons), 25 to 34 (-163 persons) and 35 to 49 (-130 persons).

Figure 2: Age structure in 2006



Source: Cardinia Community Profile; www.id.com.au

2.3. Policy context

Both the Council Plan and the Municipal Strategic Statement (MSS) recognise the need for the preparation and implementation of a township strategy for each of the shires townships. The MSS recognises that the pattern of settlement in the Cardinia Shire is primarily focused in townships ranging from large urban centres to rural localities. Emerald has been identified as being a large rural township. The MSS also recognises that each township has a distinct character which should be maintained and enhanced. The MSS states that a major element of the character of the hills towns is the diversity of lot sizes ranging from urban residential, to rural residential, to rural lots which assists in the retention of areas of native vegetation.

Strategic directions relevant to Emerald to achieve the objective for townships in the MSS are:

- Limit residential development, including rural residential subdivision, in the hills towns unless provided for by the strategy plan for the township or the development results in significant environmental or community benefits.
- Maintain the current diverse range of lot sizes in the hills towns as an intrinsic part of their character.

The State Government released 'Melbourne 2030 – Planning for Sustainable Growth' in October 2002. Melbourne 2030 is a strategic plan developed to manage growth across metropolitan Melbourne and the surrounding region. In an attempt to conserve rural activities and significant natural features outside the growth areas of metropolitan Melbourne, the State Government has identified 12 green wedges (Figure 4). The green wedges in metropolitan Melbourne contain elements that are of social, economic and environmental significance. The green wedge legislation seeks to protect the green wedges from inappropriate development. Emerald is located within the Yarra Valley- Dandenong Ranges green wedge.

The significant features of this green wedge include:

- Areas of environmental and landscape qualities
- National parks, such as Yarra Ranges, Dandenong Ranges
- Native vegetation, fauna habitat
- Areas of productive agricultural potential

Figure 3: Metropolitan Green Wedges



Source: Melbourne 2030

3. STRATEGIC OBJECTIVES AND FRAMEWORK PLAN

3.1. Key trends

The following statements summarise general trends and conditions that may be reasonably expected to develop in Emerald District over the next 15 years:

- By 2020, more than 21% of the population will be aged 60 and over.
- There will be limited capacity for residential development. Because population will remain relatively stable, most existing areas will not experience changes in land use or density during this period.
- Legislation will be in place to provide protection for areas of high environmental and scenic value in metropolitan green wedges.
- There will be demand for higher-quality retail and commercial services.
- Visitation numbers (tourists) will increase as key tourism attractions and supporting infrastructure are improved and/or developed.
- The District will experience pressure over time for a range of community services and facilities (particularly to cater for vulnerable groups), recreational facilities, emergency services, policing and public works driven by the change in the District's demographic profile.
- The existing arterial road network will be required to carry more vehicles, both as a result of local traffic and through and destination traffic from surrounding areas.
- Priority local roads will continue to be sealed under the Special Charge Scheme program. 'Paper roads' will be identified and a strategic direction will be in place.
- Public transport options will increase with better connectivity between the hills region and the surrounding recreational and employment nodes.
- Reticulated sewerage will be available to residential areas identified as part of the Backlog Sewer Program. Other infrastructure provision like natural gas, electricity, water and telecommunications will be in place for all residential areas.

3.2. Vision

The vision for Emerald District in 2020 is:

To protect and enhance the unique character of Emerald as a place of great natural beauty and as a sustainable and caring community where residents live and work in happiness and safety.

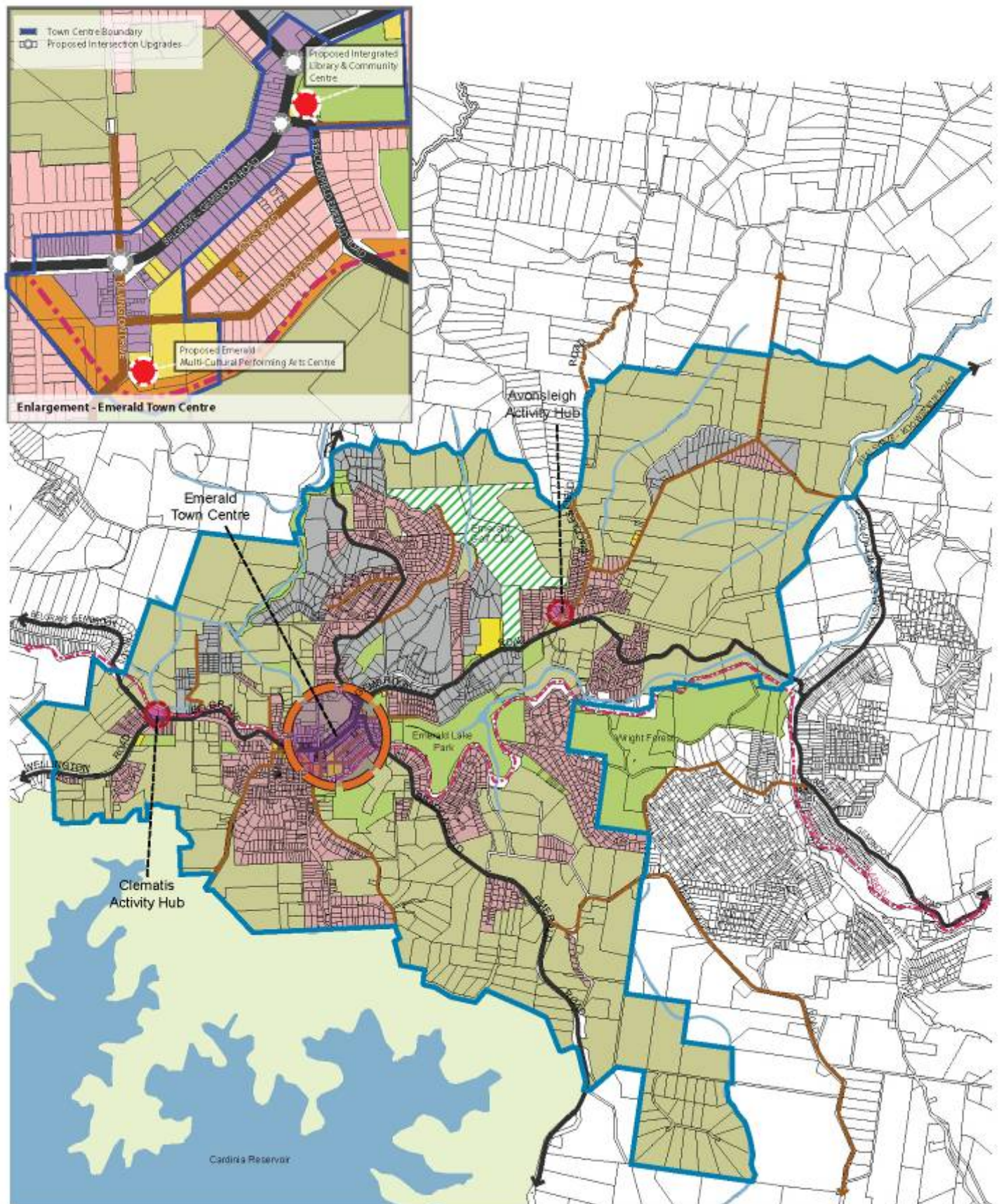
3.3. Strategic objectives

The key objectives for the Emerald District to achieve the vision are:

- To contain residential development within the existing residentially zoned land.
- To protect and enhance the character of the residential and town centre precincts in a landscape setting.
- To facilitate the provision of alternative housing options particularly for the disabled and the aged.
- To strengthen the role of the Emerald town centre in meeting the needs of the Emerald community and the broader catchment.
- To develop tourism as a viable and sustainable economic activity.
- To provide accessible, safe, appropriate and quality community facilities and services to cater for a wide range of user groups.
- To support and foster a partnership approach towards achieving a strong, healthy, resilient and integrated community.
- To provide and effectively manage open space to meet the active and passive recreational needs of a wide range of user groups.

- To ensure a safe, functional network of arterial and local roads.
- To improve pedestrian accessibility and safety.
- To provide and advocate for improved public and community transport services.
- To provide or upgrade utility services to improve the health and amenity of residents and to minimise environmental impacts.
- To value, protect and restore the natural environment and sites of heritage significance.
- To facilitate the incorporation of environmental sustainability principles in developments.
- To minimise the risk of, and damage caused by wildfire.
- To create an attractive and functional town centre that has a sense of place and identity for the community and enhances the village atmosphere.

The future development of the Emerald District is shown in Figure 4: Emerald Framework Plan. The Framework Plan sets out the general pattern for the use and development of land in the district. The purpose of the plan is to provide a strategy for guiding redevelopment opportunities, encouraging a better mix of retail uses, creating a sense of place, and preserving/ improving the existing assets. To that end, the policy recommendations are organised under nine primary themes: residential development, economic development, community development, open space, traffic & transport, physical infrastructure, environment, heritage and design guidelines.

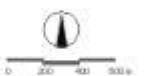


LEGEND

- Study Area Boundary
- Emerald Town Centre
- Activity Hubs
- Community Facilities
- Other Public Land
- Open Space
- Business
- Traditional Residential
- Rural Living
- Rural
- Waterways
- Emerald Golf Club (Private)

MOVEMENT NETWORK

- Arterial Road
- Collector Road
- Sealed Local Road
- Puffing Billy Railway



Ref: 3410180
Date: September 2008
Rev: A
Drawn: HWI

FIGURE 4: EMERALD DISTRICT FRAMEWORK PLAN

4. RESIDENTIAL DEVELOPMENT

4.1. Overview

The nature of Emerald's development is a reflection of the topography, the historic pattern of subdivision and the planning controls in place over the past decades. Due to these factors, the amount of zoned land for residential purposes has remained stable. There are two predominant residential zones within the township, being Residential 1 Zone and the Low Density Residential Zone. There are approximately 100 lots within the Residential 1 Zone, and approximately 1,500 lots zoned Low Density Residential Zone. Most remaining vacant lots are scattered in and amongst these existing residential areas. Some of these vacant lots are within the restructure overlay and so cannot be built on unless consolidated with the other adjoining lots.

The enactment of green wedge legislation means that the current extent of residential development within Residential 1 Zone and Low Density Residential Zone will be retained. Residential uses within green wedge land will be subject to controls specified for that zone (State Provisions) and other planning mechanisms (e.g. Environmental Significance Overlay, Significant Landscape Overlay, Wildfire Management Overlay).

4.2. Current family and household profile

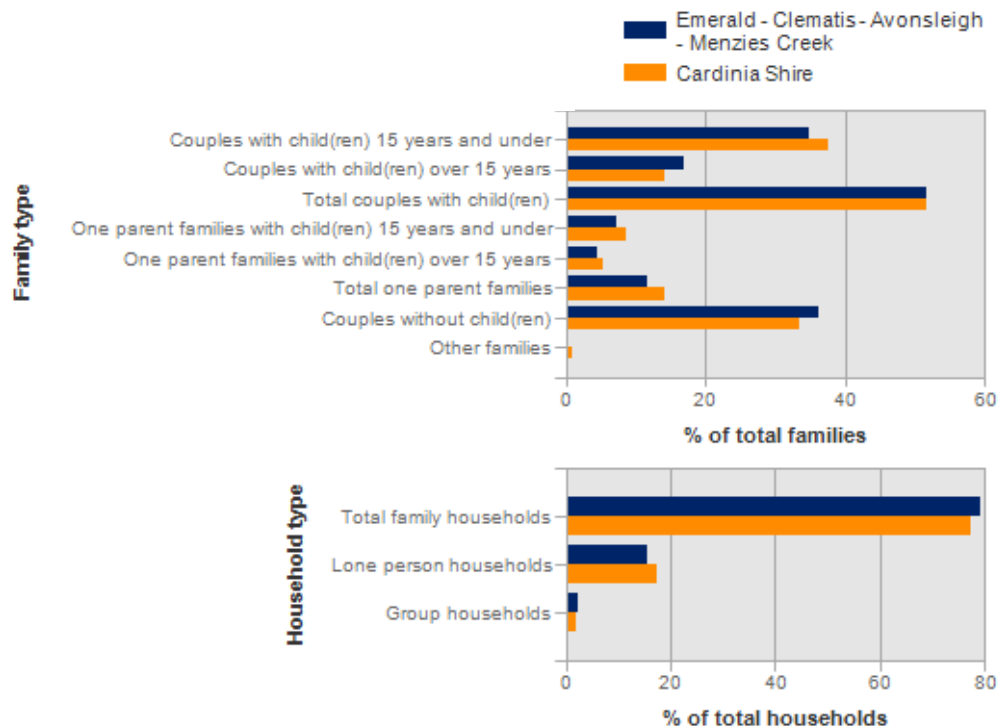
Analysis of the family types in Emerald in 2006 compared to Cardinia Shire shows that there was a similar proportion of couple families with children but a smaller proportion of one-parent families. Overall, 51.7% of total families were couple families with children, and 11.6% were one-parent families, compared with 51.6% and 14.1% respectively for Cardinia Shire.

Comparing household types between Emerald and Shire of Cardinia in 2006 reveals a larger proportion of family households, but a smaller proportion of lone person households. Family households accounted for 79.1% of total households in Emerald while lone person households comprised 15.6%, (77.5% and 17.5% respectively for Cardinia Shire).

The largest change in family types in Emerald between 2001 and 2006 was couples with children 15 years and under (-80). Between 2001 and 2006, there was a decrease in the number of family households (-29), a decrease in lone person households (-3) and an increase in group households (22).

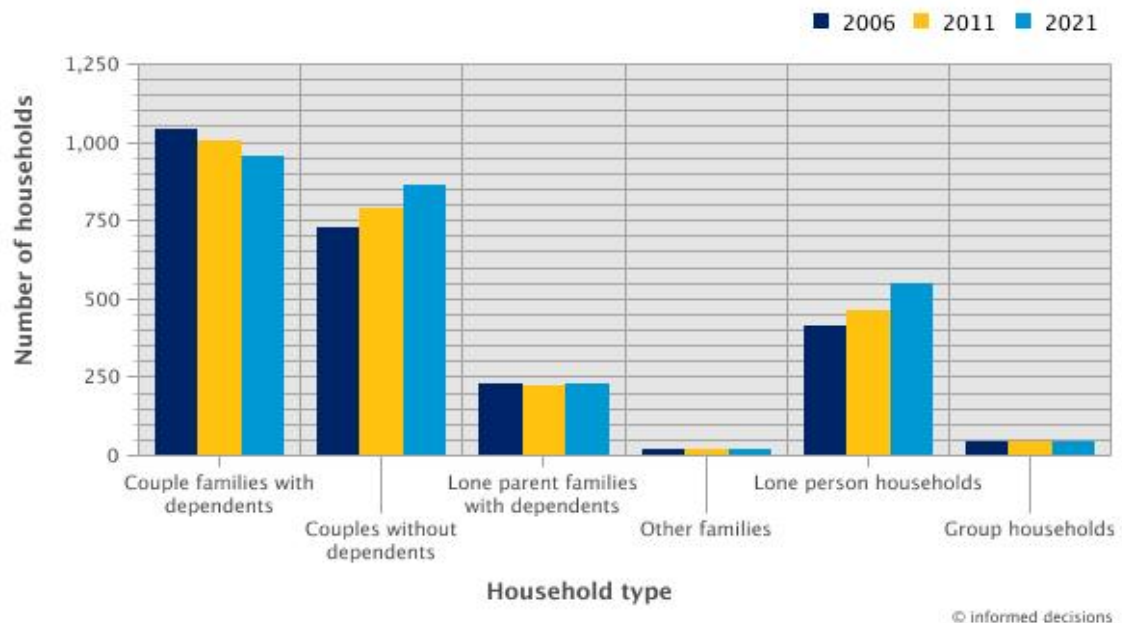
The predominant household and family type of couples with dependent children is expected to decrease in proportion offset by an increase in couples without children and lone person households.

Figure 5: Household and Family types in Emerald 2006



Source: Cardinia Community Profile; www.id.com.au

Figure 6: Forecast change in household types in Emerald 2006-2021



Source: Cardinia Community and Household Forecasts; www.id.com.au

4.3. Current dwelling typology and ownership patterns

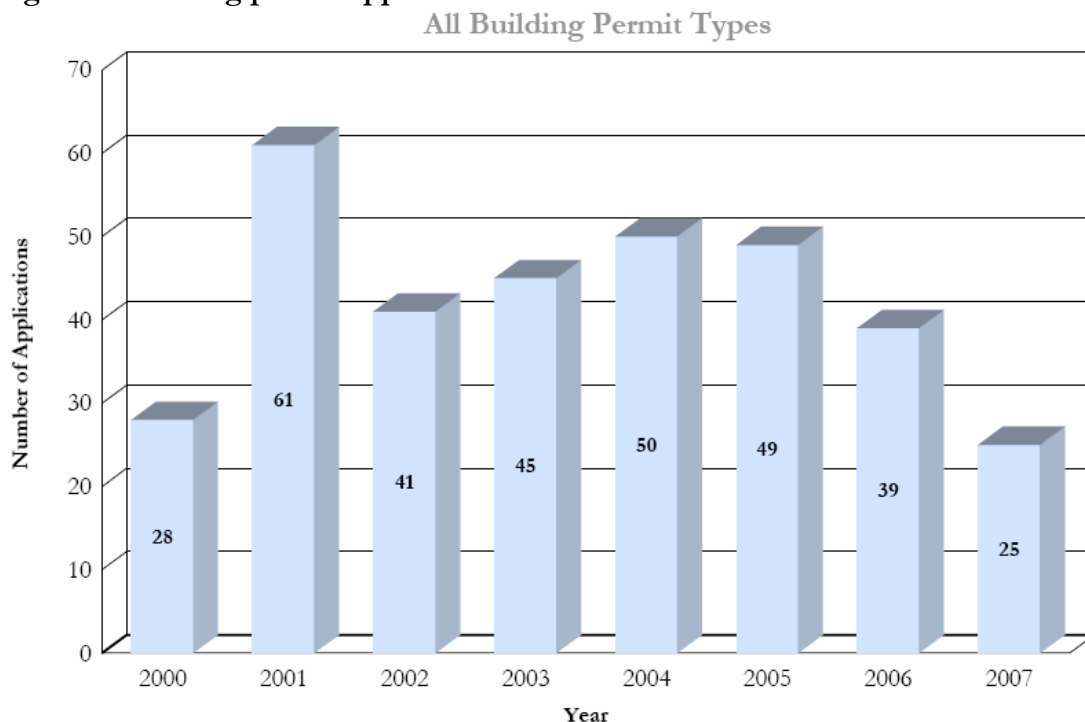
There is a significant concentration of separate houses in Emerald which is consistent with a greater degree of similarity in residential land uses. There is also a strong concentration of owners and purchasers. The greater share of separate houses with majority of them being owned or being purchased means that this area is more likely to appeal to families and people looking for an alternate lifestyle at the edge of metropolitan Melbourne.

4.4. Trends in residential development

Based on the population forecast, the number of dwellings is expected to increase from around 2,500 in 2006 to 2,700 in 2021 based on a moderate level of infill development of around 5% annual increase (about 10-15 dwellings per annum). But population and dwelling trends between 2001 and 2006 indicate that the housing market has reached a plateau.

A comparison of development approvals and planning permits from 2000-2007 can provide an indication of the level of investment in this area. The main proposals for use and development in the area relate to houses, outbuildings works and vegetation removal. Council's building data shows that on an average, about 25 building permit applications were received per annum between 2000 and 2007. However, there has been a decline in the number of building permit applications since 2004 which confirms that the housing market is slowing down.

Figure 7: Building permit applications for Emerald 2000-2007



Source: Cardinia Shire Council

4.5. Housing diversity

Through community consultation, the need for specific uses such as retirement housing and low cost units has been identified. This need is reinforced by the demographic trends indicating an ageing population and a change in household/family types. The provision of accommodation to cater for the aged is expected to be further explored as part of the development of the Housing Strategy for the Shire and will be informed by the needs identified in the Positive Ageing Strategy.

The community has also expressed a strong preference towards sustainable housing design. Consideration needs to be given towards creating environmentally friendly housing, particularly in regards to energy efficiency and the use of sustainable materials.

4.6. Land capability

The Land Capability Study identifies three broad land capability classes within the study area: Devonian granitic to the south, Silurian metamorphic towards the north and Tertiary volcanoes in the area surrounding Avonsleigh. It was generally found the capability of land to sustain building foundations was 'Poor', and would require considerable engineering works to overcome physical limitations and/or that a high risk of degradation exists during and after construction. The study consequently ranked most of the southern area of Emerald as 'Poor' or 'Very Poor' for rural residential development⁴.

The Land Capability Study does not provide an encouraging picture for the further residential development of the southern area of Emerald; however the report stresses that: *The ratings provided by a land capability assessment are not intended to restrict 'development of land, but rather to identify the principal constraints of that land for a specified use. It is a matter for the land manager or planner to decide if the cost of overcoming the constraints is justified. Where particularly severe physical constraints exist, the planning authority has the option of excluding that land from that use, or permitting the use only under strict conditions.*

4.7. Restructure and buy-back

Restructuring involves the consolidation of two or more lots to ensure that each site is of a size and configuration suitable for the development of a dwelling and reduces the impact on the environmental and landscape qualities of the area. The restructure program has been incorporated in the Cardinia Planning Scheme in the form of the Restructure Overlay. Under the Restructure Overlay a planning permit is required to subdivide land, construct or extend a dwelling or other building. Subdivision must be in accordance with existing restructure plans for the relevant area. As part of the program to restructure titles, there were also some subdivided areas that were not considered suitable for development at all, as they were excessively steep, traversed by drainage lines or had significant conservation value. These lots were identified as 'buy back'. Within the Emerald District, there is one buy back area near Auhl Road which is to be retained as an Environmental Reserve.

4.8. The landscape context

The Emerald Strategy 1999 made reference to the following three previous landscape studies that address the potential visual impact of further residential development on the landscape of the study area:

⁴ MJ McMillan et al (1997) A Land Capability Study of the Cardinia Shire. Technical Report No.29; Centre for Land Protection Research

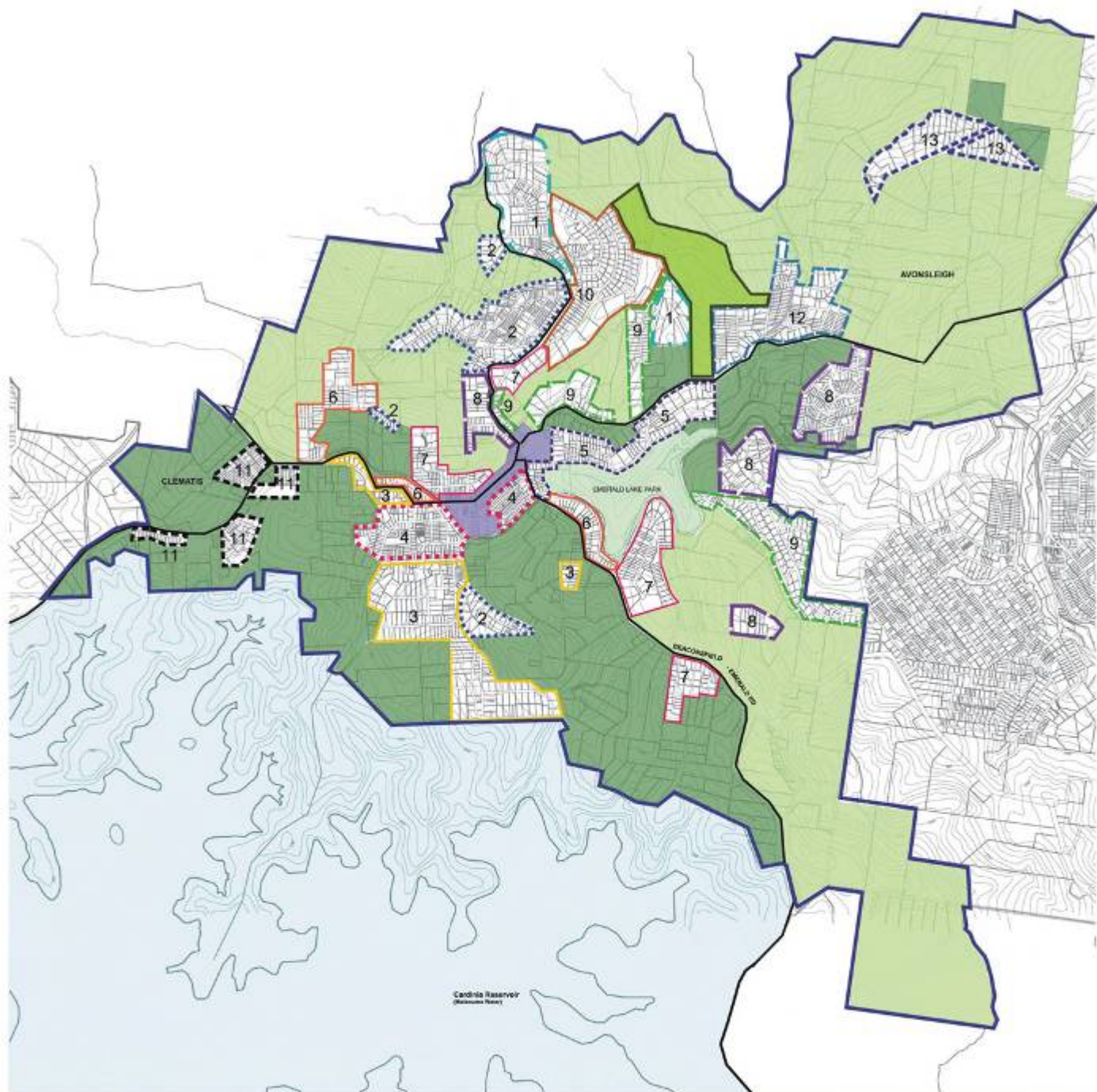
- A study in 1989 by Scenic Spectrums of the visual compatibility of further rural residential development - The Scenic Spectrums Study noted factors which contribute to the capability of the landscape to absorb rural residential development. This included high dense stands of indigenous and exotic vegetation within the foreground and middleground view and areas backed by forest bushland slopes. The study further confirmed that vegetation cover was a prime determinant of the landscape capability of this region to accommodate visual change. The study concludes that most of the study area has a low visual absorption capability.
- The 1979 Gerner, Sanderson, Fagetter and Cheeseman, in association with the Centre for Environmental Studies, Melbourne University, study on landscape composition and visual sensitivity - This study also provides background information about the study area although the coverage is not complete. The study identifies land use management units within a broader Hills Management Unit.
- The 1992 Puffing Billy Corridor Study by Scenic Spectrums and Ecological Horticulture - This study describes a diversity of landscape settings and qualities along the Puffing Billy route, and identifies the major and most frequently occurring negative visual impressions. This included buildings and properties for which vegetation has either been excessively removed or meagrely planted resulting in inadequate visual screening.

All three of the above studies conclude that most of the study area has low visual absorption capability i.e. capability of the landscape to absorb potential visual impact of development. Remedial landscape treatments, such as screening, are sometimes suggested to reduce the visual impact. However, it is important that such treatments do not alter the intrinsic qualities of the landscape setting.

4.9. Residential character

The Emerald community has different views on what constitutes “appropriate development” in Emerald. However, the following broad characteristics have emerged from the SpeakOut: vegetation along road reserves, larger lots, long views, topography and built form. In response, neighbourhood context guidelines have been developed. Thirteen neighbourhood precincts are proposed generally responding to a particular pattern of development in these areas. Figure 8 illustrates the location and extent of the identified neighbourhood precincts and their key characteristics.





LEGEND - NEIGHBOURHOOD PRECINCTS

- 1. **PRECINCT 1**
Sunnyside Terrace; Messmate Court
- 2. **PRECINCT 2**
Meadowview Lane; Chaiman Avenue; Pinnocks Road;
Old Beaconsfield Road
- 3. **PRECINCT 3**
Anne Street; South of Boundary Road; Hamilton Road
- 4. **PRECINCT 4**
Westlands Road; Heroes Avenue
- 5. **PRECINCT 5**
Old Gembrook Road
- 6. **PRECINCT 6**
Edenmont Road; Belgrave-Gembrook Road; Albert Road
- 7. **PRECINCT 7**
Pinnocks Road; Station Avenue; Ozone Avenue;
Davey Road

- 8. **PRECINCT 8**
Cornish Road; Bellbird Crescent;
Wright Road
- 9. **PRECINCT 9**
Emerald-Monbulk Road; Alexander Street;
Lawson Road; Majestic Drive
- 10. **PRECINCT 10**
Emerald Country Club Estate
- 11. **PRECINCT 11**
Clematis
- 12. **PRECINCT 12**
Avonsleigh
- 13. **PRECINCT 13**
Rural

LEGEND - NON RESIDENTIAL AREAS

- Town Centre Precinct
- Agriculture and Mixed Farming
- Hills and Forest Areas
- Emerald Golf and Country Club Resort
- Emerald Lake Park
- Study Area



Ref: 06/1562
Date: September 2008
not to scale

CARDINIA

FIGURE 8 - NEIGHBOURHOOD PRECINCTS

PRECINCT 1.

- Undulating ridge top.
- Views from lots limited by density of vegetation and canopy lines; linear views along road corridors.
- Density of vegetation provides screening of built form; canopy cover reduces visual exposure.
- Tall canopy trees; predominantly native vegetation.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Narrow, undulating to very steep road network; informal, meandering to follow topography.
- Sealed / unsealed roads; open drainage; wide verges; no footpaths.

PRECINCT 2.

- Undulating ridge top.
- Views from lots limited by density of vegetation and canopy lines; linear views along road corridors.
- Density of vegetation provides screening of built form; canopy cover reduces visual exposure.
- Tall canopy trees; predominantly native vegetation.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Narrow, undulating to very steep road network; informal, meandering to follow topography.
- Sealed / unsealed roads; open drainage; wide verges; no footpaths.

PRECINCT 3.

- Undulating, sides and top of ridge.
- Restricted linear views along road corridors.
- Density of vegetation provides screening of built form; canopy cover reduces visual exposure.
- Tall canopy trees; predominantly native vegetation.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Narrow, undulating to very steep road network; informal, meandering to follow topography.
- Sealed / unsealed roads; open drainage; wide verges; no footpaths.

PRECINCT 4.

- 'Traditional township' character.
- Generally located along plateau at top of ridge.
- Linear views along road corridor framed by vegetation.
- Open landscape; mix of exotic and native vegetation; formal street tree avenues.
- Medium density; small blocks; single storey typical; standard pattern of subdivision, fences define allotments.
- Road width varies, carparking and two lanes typical; formal grid layout; sealed roads, kerb and channel typical; limited footpaths.

PRECINCT 5.

- Strong connection with Emerald Lake Park.
- Undulating; within a valley.
- Orientation south for views across Emerald Lake Park; framed linear views along road corridors; views contained within Valley.
- Tall canopy trees; limited visual exposure from higher elevations.
- Predominantly native vegetation with strong exotic character around the periphery of the Park; hedging common to lot frontages.
- Low density; large blocks typical; pattern of subdivision defined by side fencing and front hedging.
- Narrow, undulating roads; sealed/unsealed; open drainage; no footpaths.

PRECINCT 6.

- Undulating, side of ridge and valley.
- Linear views along road corridors.
- Density of vegetation limits visual exposure of built form;
- Tall canopy trees, dense cover; predominantly native vegetation; exotic character in private landscapes.
- Low density; large blocks typical; lot pattern defined by fencing; hedging a feature in front setbacks.
- Lot frontages to main roads; internal roads narrow and undulating; sealed / unsealed; narrow verges; no footpaths.

PRECINCT 7.

- Undulating, side of ridge and valley.
- Filtered to open views across valley.
- Density of vegetation provides screening of built form;
- Tall canopy trees, open to closed cover; backdrop vegetation a strong feature on ridgelines; predominantly native vegetation; ferns in valley pockets; mixed exotic character in private landscapes.
- Low density; large blocks typical; pattern of subdivision not apparent; hedging a feature in front setbacks.
- Roads narrow, undulating; sealed / unsealed; open drainage; narrow verges; no footpaths.

PRECINCT 8.

- Undulating side of ridge.
- Filtered to open views across valley and ridges.
- Density of vegetation limits visual exposure of built form
- Tall canopy tree at boundaries, along verges; backdrop vegetation a strong feature on ridgelines; predominantly native vegetation.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Narrow, undulating roads; sealed / unsealed; open drainage; new entries sealed and kerb + channel; narrow verges; no footpaths.

PRECINCT 9.

- Undulating, side of ridge to valley
- Linear views along road corridors.
- Density of vegetation limits visual exposure of built form.
- Tall canopy trees, closed cover; predominantly native vegetation; mixed exotic character on private landscapes.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Narrow, undulating roads; sealed / unsealed; open drainage; wide verges with remnant vegetation a feature; no footpaths.

PRECINCT 10.

- Within Emerald Country Club Estate heritage area.
- Undulating, side of ridge to valley.
- Views from lots limited by density of vegetation/canopy cover; linear views along road corridors.
- Vegetation cover limits visual exposure of built form.
- Tall canopy trees; predominantly native vegetation; mixed exotic character in private landscapes.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Roads narrow, undulating to very steep; informal and meandering; sealed / unsealed roads; open drainage; wide verges; no footpaths.

PRECINCT 11.

- Undulating, sides of ridge to top of ridge.
- 'Clustered' location along the main road.
- Enclosed views due to density of vegetation and canopy cover, limiting visual exposure of built form.
- Tall canopy trees, open to closed cover; predominantly native vegetation; mixed exotic character in private landscapes.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Roads narrow, undulating; service road access from main roads; sealed / unsealed roads; open drainage; wide verges; no footpaths.

PRECINCT 12.

- Undulating, side of ridge to valley.
- Linear views along road corridors.
- Density of canopy vegetation limits visual exposure of built form.
- Tall canopy trees, closed cover; predominantly native vegetation; mixed exotic character in private landscapes.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Roads narrow, undulating; sealed / unsealed roads; open drainage; wide verges; no footpaths.

PRECINCT 13.

- Undulating, side of ridge to valley.
- Enclosed views due to density of vegetation and canopy cover; some views are open where rural properties are adjoining.
- Density of canopy cover limits visual exposure of built form.
- Tall canopy trees, open to closed cover; 'bushland' character; allotments well screened from roads by vegetation.
- Predominantly native vegetation; mixed exotic character in private landscapes.
- Low density; large blocks typical; pattern of subdivision not apparent.
- Roads narrow, undulating; sealed / unsealed roads; open drainage; wide verges; no footpaths.

AGRICULTURE AND MIXED FARMING

Predominantly rural landscape defined by open pastoral land. Exotic windbreak vegetation common; clumped stands of remnant vegetation along roadways, ridges, drainage lines. Low visual absorption of infrastructure and built form.

HILLS AND FOREST AREAS

Predominantly remnant forest on the ridgelines and slopes of the Dandenong Ranges and Cardinia Reservoir catchment. Significant vegetation, defines the landscape and visual character of the district. High visual absorption of infrastructure and built form.

Ref: 06/ 1562

Date: September 2008



FIGURE 8a - NEIGHBOURHOOD PRECINCT LEGEND

4.10. Themes

The character of the residential areas in Emerald is strongly influenced by the landscape, environment, topography and views. The pattern of subdivision also defines the character of each neighbourhood. Built form varies throughout the different neighbourhoods. Given the influence of landscape and environment in determining the characteristics of each neighbourhood, within these guidelines there is less emphasis on built form. The Planning Scheme provides specifics of the requirements of residential built form.

The Guidelines are grouped under the following key character themes:

Topography

The ridge and valley features of the Emerald district are strong features throughout the residential areas of the district providing considerable interest and variation and confirming the desirability of living in this significant environment. However, topography is also a key challenge for new development in responding to issues such as siting, accessibility, orientation. Not all residential development in Emerald has responded successfully in terms of site planning, with considerable cut and fill undertaken and retaining systems utilised. Driveway location, extent and grade are also often constrained due to topography. Views are also influenced by the nature of the topography. The views are varied and, depending on location, orientation and vegetation, can be linear along road corridors, open across valleys or enclosed by vegetation and elevation. Orientation of buildings is more often towards views than street frontages. The visual absorption and/or exposure of built form is particularly dependent on elevation and the presence of vegetation. From upper areas, built form is often concealed below dense canopy cover.

Landscape

The character of the neighbourhoods is strongly influenced by landscape and environment. The relationship of buildings within significant landscape environments is important. Within such a strong surrounding natural environment, residential buildings are generally recessive. In most areas, tree canopy cover is present but can vary in density and type so that neighbourhood zones can provide a sense of either an open or closed environment.

Subdivision Pattern

A distinct feature of most of the residential areas in Emerald, particularly outside the town centre, is that within each neighbourhood there is no clear definition of the pattern of subdivision, i.e. allotment size and layout are not readily perceived. Limited front fencing, a diversity of house orientation and density of vegetation also contribute to a blurring of the line between the surrounding landscape and the neighbourhood precincts.

Table 2 provides a summary of the key guidelines responding to the above themes that are applicable to each of the identified neighbourhood precinct.

Table 2: Precinct Character Matrix

Guidelines	Precinct 1	Precinct 2	Precinct 3	Precinct 4	Precinct 5	Precinct 6	Precinct 7	Precinct 8	Precinct 9	Precinct 10	Precinct 11	Precinct 12	Precinct 13
GENERAL GUIDELINES	Messmate Court	Charman Ave & Old Beaconsfield Road	Anne St, Hamilton Rd & south of Boundary Rd	Westlands Rd, Heroes Ave, Kings Rd	Old Gembrook Rd	Edenmont, Albert & Belgrave- Gembrook Rds	Davey and Berrys Rds, Station Ave, Williams St, Pinnocks Rd	Cornish, Wright & Ulmer Rds, Bellbird Cr	Alexander St, Macclesfield & Lawson Rds, maestic Dr	Emerald Country Club	Clematis	Avonsleigh	Rural
Site Planning													
Respond to topography, minimise visual intrusion and disruption of views	•	•	•	•	•	•	•	•	•	•	•	•	•
Landscape Response													
Contribution to landscape character; retention of existing vegetation	•	•	•	•	•	•	•	•	•	•	•	•	•
Setbacks/Address/lot layout													
Setbacks from street frontages, boundaries, adjacent developments. Maximise opportunities for landscape	•	•	•	•	•	•	•	•	•	•	•	•	•
Low Density Residential Zone- specified setback and site coverage	•	•	•		•	•	•	•	•	•	•	•	•
Residential 1 zone- specified setback and site coverage				•	•								
Fences													
Discourage front and side fences	•	•	•		•	•	•	•	•	•	•	•	•
Front fences acceptable with design controls				•									
Access													
Single driveway access. Minimise cut & fill. Clear sightlines.	•	•	•	•	•	•	•	•	•	•	•	•	•

Guidelines	Precinct 1	Precinct 2	Precinct 3	Precinct 4	Precinct 5	Precinct 6	Precinct 7	Precinct 8	Precinct 9	Precinct 10	Precinct 11	Precinct 12	Precinct 13
GENERAL GUIDELINES	Messmate Court	Charman Ave & Old Beaconsfield Road	Anne St, Hamilton Rd & south of Boundary Rd	Westlands Rd, Heroes Ave, Kings Rd	Old Gembrook Rd	Edenmont, Albert & Belgrave- Gembrook Rds	Davey and Berrys Rds, Station Ave, Williams St, Pinnocks Rd	Cornish, Wright & Ulmer Rds, Bellbird Cr	Alexander St, Macclesfield & Lawson Rds, majestic Dr	Emerald Country Club	Clematis	Avonsleigh	Rural
Garages unobtrusive (setback, at rear, attached)	•	•	•	•	•	•	•	•	•	•	•	•	•
Provide adequate car parking including visitor parking	•	•	•	•	•	•	•	•	•	•	•	•	•
Built form													
Respond to significant cultural, recreational or heritage considerations					•	•				•			
Colour schemes and materials appropriate to the context of the surrounding environment	•	•	•	•	•	•	•	•	•	•	•	•	•
Discourage replication of other existing designs in or near the same precinct and encourage individual designs using materials compatible with the character of the precinct.	•	•	•	•	•	•	•	•	•	•	•	•	•
Sustainable design													
A minimum 6 star energy rating, environmentally sustainable design, site planning	•	•	•	•	•	•	•	•	•	•	•	•	•

4.11. Neighbourhood context guidelines

For clarity and useability the guidelines are presented as ‘general guidelines’ as most of the guidelines are consistent across all Precincts. There are also Neighbourhood Context Guidelines, which set out key characteristics of each of the nominated Precincts. For detailed Neighbourhood Context Guidelines, see Appendix A.

The general guidelines that are consistent across all residential precincts are as outlined below.

Site planning

Site planning shall:

- take advantage of the natural topography of the site and capitalise on site features, existing vegetation and site forms.
- minimise soil disturbance by limiting cut and fill.
- not compromise slope stability or increase erosion potential.
- ensure that view corridors are not unreasonably reduced.
- minimise visual intrusion i.e.:
 - building envelopes shall be located on the flatter parts of sites
 - building heights shall not break the canopy line or be silhouetted above ridgelines.
 - avoid infrastructure, driveways and roads across contours.
 - ensure storage areas and service areas are not visible from street frontages, adjoining properties or higher elevations.
 - select appropriate subdued colour schemes and non reflective materials which complement the environment.

Landscape response

Site planning and design shall:

- demonstrate a strong landscape response. A landscape plan is to be provided for all new developments to illustrate the contribution to landscape character and response to the context of the streetscape and the predominant vegetation character within this neighbourhood. Indigenous trees and other indigenous vegetation are preferred. Exceptions will be considered for particular precincts, see Appendix A: Neighbourhood Guidelines.
- shall maximise the retention of existing vegetation on the site. The works shall not result in the removal of native vegetation (including trees, shrubs, herbs, sedges and grasses).
- ensure building envelopes are sympathetic to the scale, height and location of existing trees.
- ensure space between buildings and at boundaries provides opportunities for revegetation in particular canopy tree planting

Setbacks/address/lot layout

- Setbacks from street frontages, boundaries, adjacent developments are required to create a sense of openness between dwellings and maximise opportunities for revegetation.
- Any building must be located within a building envelope as specified and endorsed on an approved plan of subdivision.
- Site coverage shall not exceed that specified in the zone, schedule or overlay requirements of this Precinct. If no maximum site coverage is specified, then the site area of a dwelling in Residential 1 Zone shall not exceed 40%.

Fences

- Discourage front and side fences to maintain a feeling of openness and minimise the perception of formal subdivision patterns. Exceptions will be considered for particular precincts, see Appendix A: Neighbourhood Guidelines.
- If front and side fences are required for residential security they should be no more than 1.2m height and at least 80% transparent such as the existing style of post and rail or post and wire fencing.

Access

- Design driveways to minimise cut and fill requirements.
- Provide single driveway access.
- Ensure clear sightlines from driveways to streets, particularly on steep slopes.
- Limit the visual intrusion of garages by setting them back from the line of the front elevation or providing rear carparking access.
- Garages should be incorporated (attached) into the main house design.
- Provide adequate carparking, including visitor parking, on site.

Built form

- Respond to any cultural or heritage requirements associated with other overlays applicable in this Neighbourhood.
- Select colour schemes and materials appropriate to the context of the surrounding environment.
- Discourage replication of other existing designs in or near the same precinct and encourage individual designs using materials compatible with the character of the precinct.
- Encourage individuality in the design of dwellings in multi unit development, avoiding repetition within the site or of past styles.

Sustainable design

- Incorporate environmentally sustainable design and site planning to attain at least a 6 star energy rating. This may include:
 - minimising fossil fuel energy use.
 - maximising use of natural ventilation.
 - larger wall openings/windows on the northern side where solar access is available.
 - minimise glazing or provide shading devices to east and west facades to reduce heat loss and gain.
 - use double-glazing on all windows and glazed doors to improve energy efficiency and help attenuate noise.
 - use of environmentally friendly insulation products.
 - using local and recycled materials, energy efficient and sustainable materials.
 - consideration of Water Sensitive Urban Design initiatives such as swale trenches/bio retention cells.
- If sewerage is not available, the land must be capable of containing all generated waste water.

4.12. Key issues

- Land available for residential activities is diminishing.
- Possibility of increased development pressure as additional areas are connected to reticulated sewerage.
- Character of the residential precincts
- Housing diversity

- Sustainable housing
- Lack of housing options for over 55's, affecting opportunity for people to age in place.

4.13. Objectives

- To contain residential development within the existing residential zones.
- To protect and enhance the character of the residential precincts in a landscape setting.
- To facilitate the provision of alternative housing options particularly for the disabled and the aged.
- To promote sustainability principles.

4.14. Policy

- Ensure any proposed residential development is in accordance with the Emerald District Framework Plan.
- Incorporate built form, environment and landscape principles in any proposed development within the areas covered by Significant Landscape Overlay (Schedule 1: Puffing Billy Corridor).
- Maintain and enhance the landscape setting of Emerald District by ensuring that residential development is in accordance with the precinct character guidelines outlined in this Strategy.
- Encourage new developments to incorporate the sustainability principles outlined in this Strategy.

4.15. Actions

- Review the Design and Development Overlay applying to land within Emerald District to incorporate the Precinct Character Guidelines.
- Identify the needs for affordable and social housing and advocate to all levels of government and the private service providers.
- Facilitate the provision of housing options for over 55's.

5. ECONOMIC DEVELOPMENT

5.1. Overview

Emerald's town centre is the economic hub of the Emerald District and serves the role of a small neighbourhood centre. There is a mix of retail, commercial and community uses that meet the day to day needs of the local community and the larger trade area. These uses provide strong daytime activity but limited after hours and weekend use. The town centre is generally used by residents for convenience purchases with larger shopping requirements being met by facilities further afield. Other economic activities within Emerald District include agriculture/horticulture and some limited tourism related activities.

The capacity for local employment growth within the Emerald District is limited due to a number of factors like location and environmental constraints. Currently, the Emerald town centre provides roughly around 500-600 jobs in the retail/commercial, service industry and community sectors. There is potential for an additional 200-300 local jobs once the infill development takes place. Still, a significant proportion of the working population will continue to commute outside the district to seek employment in the regional employment centres like Pakenham, Belgrave and further afield in Knox, Dandenong and Melbourne.

5.2. Workforce profile

Emerald has a highly educated workforce, with significant skills, as indicated by the greater share of households in the high income quartile, the higher percentage of professionals and a bigger proportion working in well-paid industries, such as business services, education and health.

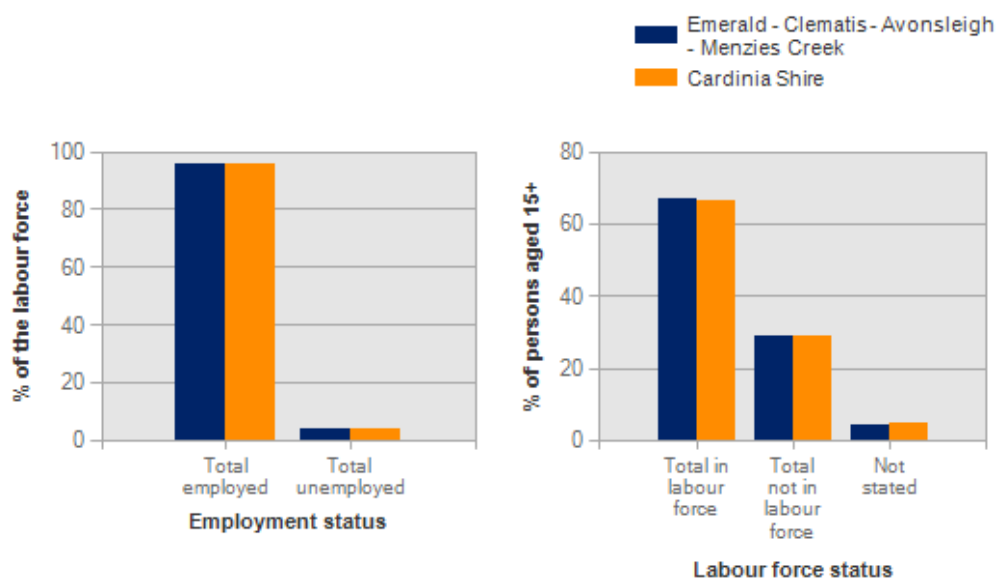
Table 3: Highest qualification achieved 2006

Highest qualification achieved (persons aged 15 years and over)	Emerald - Clematis - Avonsleigh - Menzies Creek		
	2006		
Enumerated data	number	%	Cardinia Shire %
Bachelor or Higher degree	720	14.6	9.6
Advanced Diploma or Diploma	432	8.7	6.6
Vocational	1,015	20.6	21.5
No qualifications	2,222	45.0	51.1
Not Stated	551	11.2	11.2
Total	4,940	100.0	100.0

Source: Cardinia Community Profile; www.id.com.au

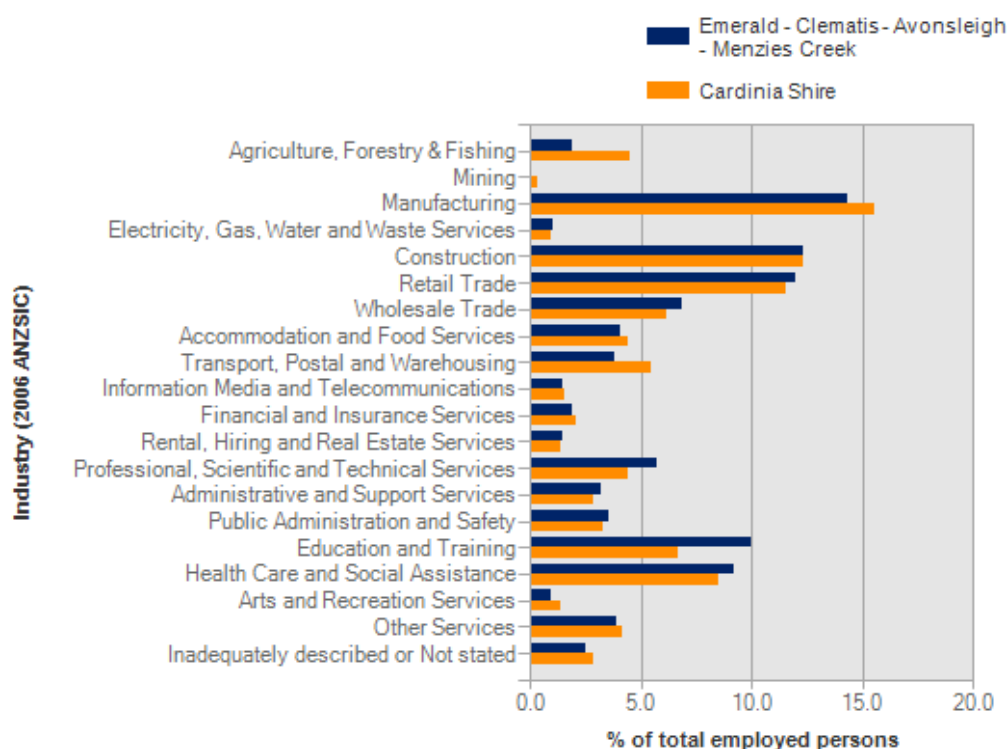
Overall, 95.9% of the labour force was employed (64.0% of the population aged 15+), and 4.1% unemployed (2.7% of the population aged 15+), compared with 95.7% and 4.3% respectively for Cardinia Shire. Between 2001 and 2006, the number of people employed in Emerald showed a decrease of 117 persons and the number unemployed showed a decrease of 13 persons. Analysis of the labour force participation rate of the population in Emerald in 2006 shows that there was a similar proportion in the labour force (66.7%) compared with Cardinia Shire (66.4%). Between 2001 and 2006 in Emerald, the number of people in the labour force showed a decrease of 131 people, or -3.8%.

Figure 9: Employment and labour force status 2006



Source: Cardinia Community Profile; www.id.com.au

Figure 10: Employment by industry 2006



Source: Cardinia Community Profile; www.id.com.au

The population was heavily concentrated in services employment with the largest industries including wholesale and retail trade, education, health and community services and finance, insurance and business services. Manufacturing was also a significant employer. Manufacturing also provides employment for a significant number of the residents.

The proportion of the population who regularly use a computer is substantially higher than the State average. Analysis of the type of internet connection of households in Emerald

compared to Cardinia Shire shows that there was a smaller proportion of households with either no internet connection or a dial up connection, but a larger proportion of households with broadband connectivity. Overall 48.0% of households had no internet connection or a dial up connection, and 46.4% had broadband connectivity, compared with 55.3% and 38.6% respectively in Cardinia Shire.

5.3. Emerald town centre

Emerald serves the role of a small neighbourhood centre providing retail and town centre services to local residents and those in the surrounding townships and rural localities. The main trade area comprises approximately 18,540 residents in 2007 estimate. In addition, Emerald serves the visiting tourist population, including those who ride on Puffing Billy, visit Thomas the Tank Engine (on selected weekends), and visit the Emerald Park Lake. Larger centres in the surrounding area include Pakenham and Narre Warren to the south; and Belgrave, Monbulk, Ferntree Gully and Knox to the west.

The centre is anchored by a Supa IGA supermarket which provides residents with an acceptable range of supermarket merchandise, but is not considered to be a full-line supermarket. As a result, residents are required to travel further afield to larger centres for such facilities. In addition, Emerald town centre provides residents with non-retail commercial services including banks, real estate agents, medical services, lawyers and accountants, and the like. Emerald also serves the role as a service centre for visitors to the region, including visitors to Emerald Park Lake, Puffing Billy and the Dandenong Ranges in general.

The existing retail area near Kilvington Drive has developed adjacent to the Puffing Billy station. The original centre of Emerald near Worrell Reserve is now the secondary retail area. These two areas are linked by commercial and residential development along Belgrave-Gembrook Road.

In total, Emerald town centre contains an estimated 8,020 sqm of occupied retail floorspace in addition to approximately 2,520 sqm of occupied commercial office floorspace. This level of floorspace is consistent with that of a neighbourhood activity centre.

In terms of occupied retail floorspace:

- Specialty Food, Liquor and Groceries accounts for approximately (FLG) 3,670 sqm (or 46% of occupied retail floorspace);
- Food catering accounts for approximately 1,590 sqm (20%);
- Non-food accounts for approximately 1,810 sqm (23%); and
- Retail services accounts for approximately 950 sqm (12%).

The Specialty Food, Liquor and Groceries (FLG) and retail services categories, which comprise largely convenience items, together account for 58% of total occupied retail floorspace, and this illustrates the convenience nature of retailing in Emerald. In addition food catering, which also provides convenience items for residents and visitors, accounts for approximately 20% of occupied retail floorspace. In total, 78% of retail floorspace comprises activities that provide convenience retail and personal services. In total, there was only one vacant shop (approximately 80 sqm), or a vacancy rate of only 1%; this demonstrates the healthy retailing performance of the Emerald town centre. In respect to commercial office floorspace (offices and the like), these activities amounted to approximately 2,700 sqm in floorspace, including approximately 2,520 sqm of occupied floorspace. In the majority, this floorspace includes businesses which service the

surrounding area, including lawyers, accountants, real estate agents, travel agents, vet, medical clinic, physiotherapist, home loan brokers, dentist, etc.

Market Share Analysis

The Emerald Town Centre achieves a retail market share estimated at approximately 16% of available retail spending by Main Trade Area (MTA) residents (\$208 million). Market shares by retail category are as follows:

- Supermarkets ~ 28%
- Specialty Food, Liquor and Groceries retailers ~ 18%
- Food Catering retailers ~ 20%
- Non-Food retailers ~ 7%
- Retail Services retailers ~ 44%

This is a relatively low market share and reflects the fact that Emerald is a neighbourhood convenience-based shopping centre anchored by a medium sized Supa IGA supermarket and has a limited non-food offer. As a result, trade area residents must travel to other larger centres to undertake a large share of their retail purchases.

Forecast supportable retail and commercial floorspace

It is estimated there is potential over the next 15 year period (by 2022) for an addition up to:

- Approximately 3,500 sqm of supportable retail floorspace; and
- Approximately 1,100 sqm of supportable commercial office floorspace.

If the market shares were to remain constant, growth in supportable retail floorspace between 2007 and 2022 is estimated at approximately 900 sqm and growth in commercial office floorspace is estimated at approximately 300 sqm.

Other land uses within the Emerald town centre

There are also a number of community services and facilities like the Emerald Library, Emerald Community House, Maternal and Child Health Centre, pre-school and Emerald primary school located within the Emerald town centre.

The community has raised concerns regarding the number of liquor outlets and potential threat from future gaming venues.

5.4. Activity nodes in Clematis and Avonsleigh

The small activity node in Clematis is the gateway area at the major intersection of Wellington Road and Belgrave-Gembrook Road while the Avonsleigh node is at the eastern edge of the Emerald district, located at the major intersection of Macclesfield Road and Belgrave-Gembrook Road. The Clematis node comprises the Paradise Hotel on the north side of Belgrave-Gembrook Road and a cafe on the south side, accessed via a service lane. The Avonsleigh node comprises of a general store, a takeaway shop and a vet on the north side of Belgrave-Gembrook Road.

These two activity nodes will continue to be used by local residents for convenience purchases with higher order shopping requirements being met by facilities at the Emerald town centre.

5.5. Tourism

Key attractions

The Puffing Billy Tourist Railway is an asset of cultural, historic and economic significance. Emerald Lake Park is also one of the more popular tourist destinations in Emerald. It is estimated that attendance for the year April 2004 to March 2005 was 230,000 visitors. Of this number, there were some 126,000 Puffing Billy passengers. The Emerald Lake Park Strategic Plan 2006 has identified the preferred development for the park as a mixed local/regional recreation resource and tourism destination. Other significant tourism attractions include the Emerald Museum, Nobelius Heritage Park and Gemco Players.

Accommodation

There are a number of tourist accommodation facilities comprising of backpackers accommodation, B&B's, cottages and self-contained units within Emerald (Fernglade on Menzies, A Timbertop Lodge, Glenview Retreat, The Nook, Butterfield Cottages, Tarramena Country Accommodation, Emerald Hostel and Fernhern Cottages). Emerald Golf and Country Club has guest accommodation.

Events

Emerald also has a number of events and attractions that bring in visitors from within the Shire and beyond. These events include Emerald Craft and Produce market, PAVE Festival, Annual Winter Flower Show, Annual Worilla Poetry Prize, Emerald Art Show, Emerald Carols by Candlelight, Emerald Winterfest, Puffing Billy Great Train Race, Puffing Billy Night Trains and Thomas Days and Dandenong Ranges One Act Play Festival. Emerald is also closely linked with events happening in the Yarra Ranges like the Puffing Billy Fun Run.

Regional context

Emerald is part of Tourism Victoria's Yarra Valley, Dandenongs & the Ranges campaign region. The Tourism Employment Trends in the Yarra Valley, Dandenongs & the Ranges from 1997-98 to 2002-03 show that the tourism sector provided 7,954 direct tourism jobs to the campaign region, representing 4.5% of total employment. The development of the food and wine product market has also increased international awareness and visitation to the region⁵. Other operators that are involved in promoting tourism in the region include the Cardinia Tourism network, the Gembrook Tourism network and the Toomuc Valley Tourism network.

5.6. Agriculture and horticulture

Although farming is a minor economic sector within the Emerald District in terms of number of people employed, it gains significance when considered in terms of the land occupied by such activities (about 20-30%?). However, employment within the primary sectors of agriculture, forestry and fishery has declined between 1996 and 2006 and this trend is likely to continue.

Agricultural activity in Emerald generally consists of beef cattle grazing on larger holdings, and horticultural enterprises predominately involved in wholesale nursery production. There is a mixture of other small farming activities (some with associated tourism components), including boutique wineries, bulb/flower and tree farms, organic vegetables such as blueberry, raspberry and currant production, kiwifruit, citrus, lavender, herbs, several small equine enterprises and trout farm (actually not on Cardinia side). Ancillary

⁵ Tourism Victoria

farm supply stores and several retail nurseries, garden/landscaping and hardware supply companies also exist.

The Land Capability Study identifies that the degree of limitation for agriculture ranges from 'fair' to 'poor' due to the soil features (Devonian granitic and Silurian metamorphic classes). This means that these areas have low to moderate capacity to resist land disturbance and will require specialist management practices. The Study recommends low disturbance agriculture such as grazing or perennial agriculture as being suited to these areas. However, the degree of limitation for agriculture in the area surrounding Avonsleigh, classified as Tertiary volcanic, ranges from 'fair' to 'good'. This is reflected in the current farming activities in the area.

5.7. Economic development opportunities

Through appropriate infill development within the various precincts attracting a diverse range of retail and commercial uses, the Emerald town centre has the potential to position itself as the preferred shopping and employment destination for local residents as well as residents in the broader catchment area. This will reduce escape expenditure and boost the local economy. The retail assessment has identified that Emerald town centre currently has a limited non-food offer. This retail category which includes apparel, homewares, bulky merchandise and leisure/general merchandise, could potentially expand if the appropriate conditions are fostered e.g. availability of premises and increased visitation numbers. Belgrave-Gembrook Road section (Main Street) will continue to be the focus for mixed use development with a majority of the businesses catering to the surrounding population.

A key potential redevelopment site is the former nursery site in the Northern Retail Precinct. There is potential to have a mix of retail, community and circulation uses within the site to retain its prominence as a key gateway site. The properties on the northern side of Emerald Link within the Central Mixed Use Precinct have potential for further infill development. This land is currently zoned Business 2 Zone which encourages the development of offices and associated commercial uses.

In a tourist sense, Emerald lacks a marketing position. There are opportunities to provide higher order facilities which can take better advantage of passing tourist and visitor numbers, particularly in the vicinity of Emerald Station. As dining and eating out is a sought after experience of many visitors to the Dandenong region, opportunities exist to extend the range and style of restaurants in this area.

Emerald can attract an increased share of visitors to the region by matching existing tourism assets (Puffing Billy, Emerald Lake Park) with tourism events. The horticultural heritage of Emerald needs to be showcased through related events (e.g. village markets) and products (e.g. possible links to Puffing Billy Night Trains, future Cardinia Ranges Food and Wine Network). The proposed Gem Community Arts Centre project incorporating Gemco Players Community Theatre could further promote links between cultural events like Emerald Arts Show and position Emerald as the cultural centre of the hills region.

There is opportunity to provide a link between two cultural centres in Emerald – Gemco and the Museum – by developing the existing multi purpose trail between Kilvington Drive and Nobelius Heritage Park as a “cultural and heritage trail”, with appropriate signage, to be linked with a heritage walk in the park where the new nursery signage will be. Additional signage could be provided along the trail e.g. panels with the history of potato growing in the area facing Pepi’s Land, the history of Puffing Billy Railway, and Emerald Primary School (on their back fence). Further to this, there is a need to improve the

“tourism” signage throughout Emerald so as to more effectively identify all of the tourist facilities and features.

Although there is some desire to establish one, Emerald does not have a formal business group which would enable them to avail the benefits of being part of the Shire-wide network of business groups and access the support material and training council provides. The business group or an alternative Emerald promotion group could also seek council’s support in promoting and marketing tourism events/attractions in Emerald and establish links with operators that are involved in promoting tourism e.g. the Cardinia Tourism network, the Gembrook Business Group, the Toomuc Valley Tourism network. Further, there could be greater links established and more proactive work done with the Puffing Billy, Gemco, Emerald Lake Park, the B&B's and the surrounding tourist oriented farms, particularly around Avonsleigh. The development of host farms, bed and breakfasts and other holiday opportunities in association with agricultural production can be a mechanism to enhance the prosperity of farms. There is also the need for budget priced family accommodation such as on-site caravans.

There is the potential for the home-based business sector to expand considering that key infrastructure like broadband telecommunications is easily accessible to almost half the population. There was a steady increase in the number of people working from home between 1991 and 2001. However, between 2001 and 2006 there was a decrease in the number of people working from home.

The issue of potential gaming venues and the number of liquor licences was raised as a concern by the community. Gaming research indicates that gaming venues need to be located away from disadvantaged communities and places where people congregate for everyday activities. Recent gaming legislation enables new gaming venues to be prohibited from nominated strip shopping centres. Council regulates liquor licences through the planning permit process.

5.8. Key issues

- Potential retail/commercial infill development
- No formal business group
- Need for more diverse range of shops
- Escape expenditure
- Community concern about the number of liquor outlets and potential threat from future pokies
- Capitalise on a number of competitive strengths which support the development of tourism activities.

5.9. Objectives

- To strengthen the role of Emerald town centre in meeting the needs of the Emerald community and the broader catchment.
- To reduce escape expenditure.
- To develop tourism as a viable and sustainable economic activity.
- To encourage the development of home based businesses.

5.10. Policy

Facilitate appropriate infill development within the various precincts within the Emerald town centre (See Figure 15: Emerald Town Centre Precincts) as identified below:

Precinct	Preferred land use	Inappropriate/incompatible land use
Service & Mixed Use Precinct	<ul style="list-style-type: none"> Continued service industry use Associated retail / office use 	<ul style="list-style-type: none"> All forms of residential development. Retail and commercial Community uses
Central Retail Precinct	<ul style="list-style-type: none"> Active uses that attract daily pedestrian activity such as continued retail and commercial uses, i.e. shops and offices Active uses that promote evening and weekend activity such as cafes and restaurants 	<ul style="list-style-type: none"> Non-active uses Uses that require vehicle access from the street frontage (i.e. petrol station, drive through bottle shop or car sales yard) 'Traditional' residential development or ground floor residential development
Arts & Community Precinct	<ul style="list-style-type: none"> Community and cultural uses (such as theatre, galleries etc) Active that promote pedestrian activity and evening/ weekend activity such as cafes and restaurants Educational services Railway tourism activities 	<ul style="list-style-type: none"> Non-active uses Uses that require vehicle access from the street frontage such as petrol station, drive through bottle shop or car sales yard 'Traditional' residential development or ground floor residential development.
Central Mixed Use Precinct	<ul style="list-style-type: none"> Office and professional suites Community services Residential Home based businesses Active uses that promote evening and weekend activity such as cafes and restaurants 	<ul style="list-style-type: none"> Shops Major retail – Supermarket, Department store Bulky goods retailing
Northern Retail Precinct	<ul style="list-style-type: none"> Active uses that attract daily pedestrian activity such as continued retail and commercial uses, i.e. shops and offices Active uses that promote evening and weekend activity such as cafes and restaurants 	<ul style="list-style-type: none"> Non active uses Uses that require vehicle access from the street frontages such as a petrol station, drive through bottle shop or car sales yard 'Traditional' residential development or ground floor residential development
Community & Recreation Precinct	<ul style="list-style-type: none"> Civic and community focussed uses Public open space, playground and recreational uses and facilities, with associated carparking 	<ul style="list-style-type: none"> Residential development Retail uses Non active uses Uses that do not address main streets or public open spaces
Clematis	<ul style="list-style-type: none"> Continued local convenience retail and commercial uses 	<ul style="list-style-type: none"> Non-active uses Large retail and commercial development
Avonsleigh	<ul style="list-style-type: none"> Continued local convenience retail and commercial uses 	<ul style="list-style-type: none"> Non-active uses Large retail and commercial development

- Facilitate mixed use development along the section of Belgrave-Gembrook Road linking the Central Retail Precinct and the Northern Retail Precinct.
- Encourage the establishment of tourism activities particularly in or near the Emerald town centre and in key locations such as the Emerald Lake Park.

- Provide opportunity for people to work from home where the activity undertaken does not adversely impact on the amenity of the local area.
- Support and facilitate the development of host farms, bed and breakfasts and other holiday opportunities in association with agricultural production as a mechanism to enhance the prosperity of farms.
- Consider the cumulative impact of any existing and the proposed liquor licence, the hours of operation and number of patrons, on the amenity of the area.
- Oppose gaming machines being established in the Emerald District due to the detrimental impact on the wellbeing of the community. Specifically, prohibit gaming machines in the Emerald Town Centre due to the impacts associated with convenience gaming in such a location.
- Support the Puffing Billy Tourist Railway to ensure its long term success.

5.11. Actions

- Encourage and support the local businesses in forming a business group.
- Promote and market the key tourism events and attractions in the Emerald District and link them to other townships in the hills region, including:
 - the development of a tourism map.
 - the development of a range of affordable visitor accommodation.
 - the establishment of a formal relationship with Cardinia Tourism, Gembrook Business Group, Toomuc Valley Tourism, Emerald Tourist Railway Board and other tourist operators.
- Develop and promote cultural tourism via the Gemco theatre and the future Emerald Performing Arts and Cultural Centre.
- Continue to promote Emerald Lake Park as a mixed local/regional recreation resource and tourism destination by implementing the actions identified in the Emerald Lake Park Strategic Plan 2006.
- Facilitate the development of tourism related accommodation within the Emerald Golf and Country Resort.
- Provide more way finding and tourist signage, including locality maps.
- Develop a new cultural and heritage trail link between two cultural centres in Emerald – Gemco and the Museum – by developing the existing multi-purpose trail between Kilvington Drive and Nobelius Heritage Park.
- In partnership with the local Police, monitor the effects of liquor outlets.

6. COMMUNITY DEVELOPMENT

6.1. Overview

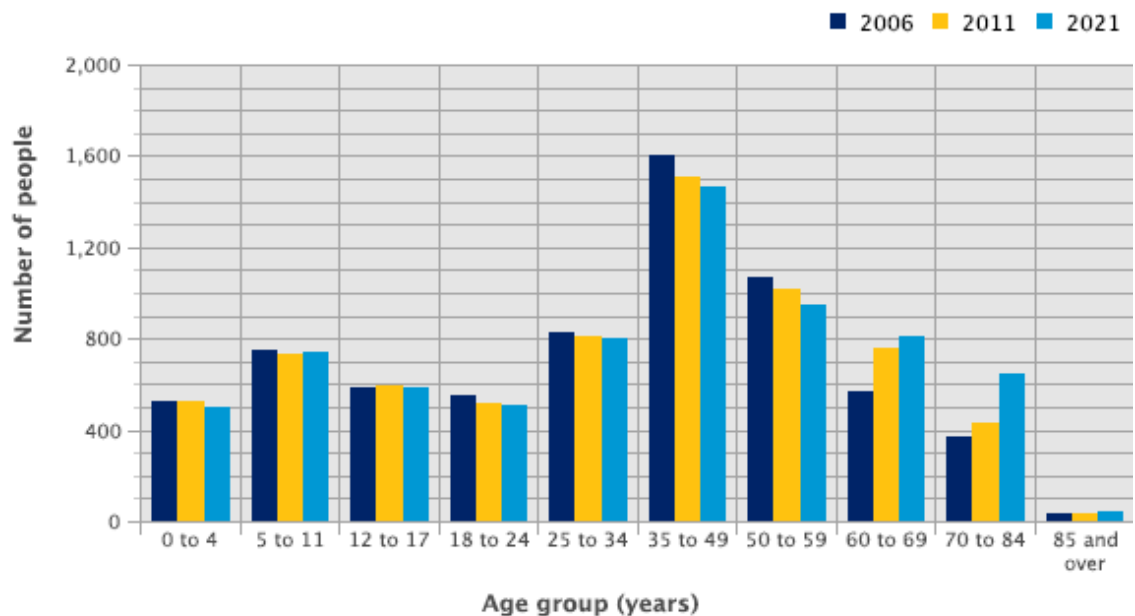
Emerald is reasonably well serviced in respect to provision and access to community services and facilities. However, a number of long term strategic issues are expected to arise in respect to future community service and facility provision as a result of population change, changing demands and locational factors. The Emerald community is closely linked to the Shire of Yarra Ranges when it comes to accessibility to regional community services and facilities.

6.2. Community profile

The community of the Emerald District is more homogenous as compared to the State and is characterised by a low percentage of the population being born overseas. A majority of the population is English speaking, predominantly Christian and there is a greater proportion of high income households and a lesser share at the low income end.

The most significant changes in age structure expected in this area between 2006 and 2011 are in the age groups 60-69 year olds (+196) and 70-84 year olds (+64) and 35-49 (-98) and 50-59 (-53). The forecast age structure indicates that the drop in 35-59 year age group will continue. After 2011, a sharp increase is expected in the 70-84 year old age group which may be a reflection of ageing in place.

Figure 11: Emerald forecast age structure 2006, 2011, 2021



Source: Cardinia Community and Household Forecasts; www.id.com.au

The youth population in the hills subregion, including Emerald, is significantly less than the growth area subregion. The population growth of youth aged 10 to 24 years will stabilise or decrease slightly in the coming years. The same applies to the children's age group. This is reflective of the anticipated increase in couples without children and lone family households.

The 2006 census identifies the demographic group with ‘core activity need for assistance’ as people who need assistance in their day to day lives with any or all of the following activities – self-care, body movements or communication – because of a disability, long-term health condition, or old age. A comparison of the need for assistance of persons in Emerald (3.3%) compared to Cardinia Shire (3.2%) shows that there was a similar proportion of persons who reported needing assistance with core activities. However, the percentage of people reported as needing assistance aged 75 and over in Emerald is higher compared to the Shire of Cardinia.

Analysis of the voluntary work performed by the population in Emerald compared to Cardinia Shire shows that there was a larger proportion of persons who volunteered for an organisation or group. Overall, 23.0% of the population reported performing voluntary work, compared with 19.4% for Cardinia Shire.

6.3. Existing services and facilities

The key community services and facilities available in Emerald include the Emerald Library, the Emerald Community House, Gemco (Gembrook, Menzies Creek, Monbulk and Macclesfield, Cockatoo Community Theatre Inc), older persons facilities including Emerald Glades Aged Facility & University Of The Third Age (U3A); Emerald Pre School, Emerald Primary School, Emerald Secondary College, Emerald Maternal and Child Health Centre; emergency services like CFA, SES, Ambulance; and other facilities like Police, churches and sporting facilities. Table 4 outlines the community services and functions associated with the various community facilities.

Table 4: Existing community services and facilities in Emerald and their functions

Community Services/Functions	Education	Health	Older persons	Youth	Family and children's facilities and services	Emergency Services	Performing and visual arts	Recreational/ sporting	Religious	General
Kindergarten	•				•					
Emerald Primary School	•									
Emerald Secondary College	•			•				•		
General practitioner/ Medical centre		•								
Fitness Centre		•								
Emerald Community House	•		•	•	•		•	•		•
Emerald Library	•		•	•	•					•
Emerald Museum			•	•	•		•			•
Police						•				•
Emerald Aged Facility (Emerald Glades)			•							

Community Services/Functions	Education	Health	Older persons	Youth	Family and children's facilities and services	Emergency Services	Performing and visual arts	Recreational/sporting	Religious	General
Senior Citizen's Centre			•							
Violet Evelyn Gardens			•							
Chestnut Gardens			•							
Fernlea House Palliative care		•	•							
U3A	•		•							
RSL			•							
Emerald Maternal and Child Health Centre		•			•					
Day care	•				•					
Playgroup	•				•					
Pre-school	•				•					
CFA	•					•				
SES	•					•				
Ambulance		•				•				
Gemco Players	•		•	•			•			
Emerald Arts Society	•						•			
St Marks (and ECHO)				•					•	
Emerald Assembly of God									•	
Emerald Uniting Church									•	
St Josephs									•	
Worrell Reserve				•				•		
Emerald Lake Park			•	•	•			•		
Chandler Recreation Reserve				•				•		
Local Parks			•	•	•			•		
Sports clubs				•				•		
Scouts/Guides	•			•				•		
Service clubs (Rotary, Lions, Probus, etc.)			•							•

Source: Cardinia Shire Council

6.4. Library and community centre project

The Library and Community Centre project is to be implemented in five parts (See Appendix B). Part 1 of the Library site development was completed in 2006. This part included the provision of a new building to accommodate the library, community meeting rooms, toy library and toilets. This part also included road works and some landscaping works. Part 2 and 3 illustrate how the new entry to the Mechanics Hall can be built. Part 4 involves the refurbishment of the Hall. Part 5 involves creation of a community centre that works at the street level and engages in the public space surrounding the facility.

6.5. Youth

The Cardinia Shire Youth Strategy 2007-2011 adopts a 'whole of Council and community' approach to meeting the needs of young people. The strategic actions support partnership opportunities with various community organisations and specialist services. One of the key actions to deliver a youth mobile bus has been achieved.

6.6. Aged

There is an identified need for additional retirement housing in Emerald. Council's role is limited to advocacy when it comes to the provision of specialised services for the aged. Council has provided infrastructure like the Emerald library, leisure/recreation facilities and other services to support senior residents in the area. In regards to the provision of accommodation to cater for the aged, it is expected that this issue will be further explored as part of the development of the Housing Strategy for the Shire and will be informed by the needs identified in the Positive Ageing Strategy.

6.7. People with special needs

Public transport is limited which restricts the mobility of local residents with respect to accessing regional facilities and services, especially for older people who no longer drive, residents with a disability and residents with no private transport. Large numbers of young people and adults hitchhike to work or entertainment, particularly on weekends and before and after business hours. Work related bus transportation improvement is also a felt need considering that the majority of the working population commutes daily to the regional employment centres for work. Physical accessibility within Emerald and between Emerald and the nearest employment/entertainment hubs (Pakenham, Belgrave, Fountain Gate) need further improvement.

6.8. Community engagement

It is an ongoing Council (corporate) responsibility to encourage community engagement in the activities/initiatives Council undertakes and to build community capacity to carry forward/implement the outcomes from these initiatives.

6.9. Opportunities for community development

In the initial proposal for the Library and Community Centre Project, the Community House was expected to relocate to the new community centre. However, the Community House (at the current site) has received funding from Department of Victorian Communities to undertake refurbishment and landscaping works to address some previous deficiencies of this venue/site. There is also the argument that it's more suitable and safer to walk children the shorter distance to the present site for the 'Before and After School Childcare' program than walk them to the proposed Complex at the other end of Main Street.

Emerald Community House is essentially a Neighbourhood house and delivers a mixture of adult education and community based programs. They are an Incorporated Association and have an elected Committee of Management that works collaboratively with a coordinator. The Emerald Community House also has a kindergarten and small community hall within their grounds. The proposed community centre in the redeveloped library site is essentially a community meeting place / hall.

Another issue raised in consultations was the location of the Maternal and Child Health Centre (MCHC) on Belgrave-Gembrook Road and whether its location is appropriate considering safety concerns (kids loading/unloading). It is a possibility that this facility could be relocated to the proposed community centre at the Library complex. But this has to be carefully weighed against the advantages of the current location for example, the proximity of the MCHC to the child related services/ facilities in the Central Retail Precinct and the Central Retail Precinct. It is evident that the development of a community services and facilities hub at the Library and Community Centre needs careful consideration as to what appropriate services and facilities can be relocated. The opportunities need to be explored further in consultation with the key stakeholders.

The proposed Gem Community Arts Centre project and the proposed Emerald Secondary College Performing Arts Centre could position Emerald as the cultural centre of the hills region. The Emerald Multi-Cultural and Performing Arts Centre (EMCPAC) because of its location and availability during school hours may represent a more significant value to community groups. Conversely, the secondary school complex makes available a much greater theatre space that caters for a different client base.

Other key opportunities include the relocation of the CFA to the new site on Emerald-Monbulk Road which is expected to be complete by 2009. The SES building is to be upgraded at its current location within the Worrell Reserve.

There is potential to better utilise the existing transport services e.g. the community bus and school buses. Improved coordination between community bus service providers and other public/private bus operators could address some gaps in accessibility, particularly a bus service to Pakenham.

The concern about safe and well designed public spaces and buildings continues to be addressed under Council's suite of Access documents; the Disability, Access and Inclusion Policy, Action Plan and Access Design Guidelines. The Access Design Guidelines which were endorsed by Council in May 2007 represent best practice relative to the design and development of all new Council owned and operated public facilities. In addition, Safety Audits of existing facilities are also undertaken subject to identified need. Council will continue to promote a more collaborative approach involving Victoria Police and the community (including youth) to address safety concerns.

A Directory of Services is being prepared by Council that will cater for people with a disability. This directory is going to be made available to all user groups. There will be a range of categories including advocacy services, education and employment, equipment services and suppliers, peak bodies, respite and recreation, support groups and transport.

To foster greater community engagement and capacity building, Council has established a 'place based management' type approach to address issues facing the rural townships and localities. These issues are being further explored as part of the development of the Community Engagement Policy.

6.10. Key issues

- Relevant and accessible services
- Co-relocation of services and facilities
- Delivery of planned facilities and upgrading deteriorating facilities
- Youth issues
 - Disconnected from recreation and youth service hubs
 - Employment and training opportunities
 - Local recreational opportunities and activities
 - Place to hang out
 - Anti-social behaviour- graffiti, vandalism
- Better support services for people with special needs and improved access to these services including suitable supported accommodation
- Safety concerns in regards to
 - safe and well designed public spaces and buildings
 - the need for increased police presence
 - need to work with those 'at risk' of offending
- A stronger relationship with Council and more robust consultative and participatory opportunities.

6.11. Objectives

- To support and foster a partnership approach towards achieving a strong, healthy, resilient and integrated community.
- To provide accessible, appropriate and quality facilities and services to cater for a wide range of user groups.
- To ensure efficient management of existing community services and facilities.
- To create a safe and secure environment for the Emerald community.
- To provide additional retirement accommodation in Emerald.

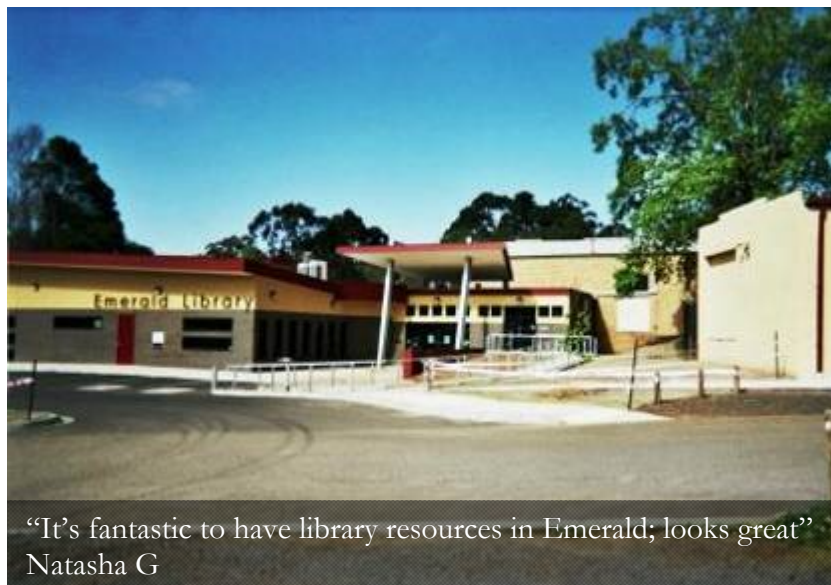
6.12. Policy

- Establish community facilities in the most accessible location having regard to their service catchment.
- Continue and extend cultural activities for various age groups via the opening of Emerald Performing Arts and Cultural Centre.
- Promote community engagement initiatives.

6.13. Actions

- Facilitate the development of an integrated library and community centre complex at the library site by progressively implementing the five parts of the Library and Community Centre project in consultation with all stakeholders.
- Review the current location of the Community House and the Maternal and Child Health Centre.
- Facilitate the development of an integrated arts and culture hub (EMCPAC) at the Gemco site on Kilvington Drive.
- Facilitate the relocation of Emerald Fire Station from Worrell Reserve to the new site on Emerald-Monbulk Road.
- Upgrade the SES building at the current location within the Worrell Reserve.
- Liaise with community transport service providers to promote the patronage of current services and linking them to existing and future bus services.
- Advocate and lobby for the delivery of appropriate youth services and facilities including:

- A bus service to venues/events in the nearby entertainment hubs.
- Access to specialist services, new educational programs and facilities.
- Range of accessible recreational options including a skate playground.
- Investigate the needs of young people in Emerald, particularly young people with special needs and provide appropriate programs in partnership with local groups and other external agencies.
- Continue to support local groups like ECHO and Gemco Players in providing a range of youth services and programs in the hills region.
- Continue to implement innovative approaches to address graffiti and vandalism issues.
- Advocate with the State government/private service providers for a range of diverse housing/accommodation and better support services including recreational options and events to meet the needs of the senior residents and people with disabilities.
- Facilitate the provision of additional retirement housing.
- Develop a collaborative approach between Victoria Police, council, community members and those at 'risk' to address safety and crime issues.
- Provide assistance to Emerald Village Committee and other community groups in undertaking a broad range of community initiatives.
- Identify an appropriate site to locate an aquatic facility for the hills region.
- Secure the long term use of land in Kings Road between the school oval and the Emerald Kindergarten for community purposes.



7. OPEN SPACE

7.1. Overview

The Emerald study area has a diverse range of open space ranging from environmental reserves to sporting reserves. Wright Forest is the predominant environmental reserve with some limited recreational facilities in the form of trails and paths. The Cardinia Reservoir Park located within the broader catchment for the Cardinia Reservoir is also a prominent landmark within the District. The Menzies Creek Reserve (which includes its tributaries) is the key environmental reserve in this area. Other key open spaces include Emerald lake park, the Nobelius Heritage Park, Worrell Reserve, Chandler Reserve and Pepi's Land.

7.2. Paths and trails

The Pedestrian and Bicycle Strategy 2003 identifies a series of trails for multi purpose use, bicycle routes for proposed on-road cycling and paths for pedestrian use within each of the towns in the municipality. There are 7.4 km of paths and 1 km of on-road route in Emerald. A further 2 km of trails and 3 km of paths was identified in the Pedestrian and Bicycle Strategy. This included the proposal for the Emerald-Gembrook Recreational Trail which forms part of a larger regional trail connecting townships and key tourist sites within the Dandenongs and outer eastern suburbs. The construction of the first phase of the multi-purpose trail between Emerald and Cockatoo has been completed and provides a significant link between the two townships. The second phase of this trail between Cockatoo and Gembrook is a long term priority and will be undertaken as funding becomes available. The community has voiced the desire to see:

- The trail extended to Clematis.
- Construction of shared paths on sections of the Belgrave-Gembrook Rd where they pass through the Emerald town centre;
- Provision of walking access at un-used roads where they cross creek valleys such as Boundary Rd East, Wonghee Rd, and Brookdale Ave.
- Consultation with the community has also found equestrian trails to be a desired commodity in the community.

7.3. Management of recreation reserves

Nobelius Heritage Park, Worrell Reserve, Chandler Reserve, Hogan Park, Clematis Park and Menzies Creek (Avarad Park) have Committees of Management who are responsible for the ongoing maintenance and development of the reserves, including ground and building maintenance. Council provides support to the committees in the form of maintenance and capital development grants, ancillary maintenance like garbage collection, maintenance of surrounds, etc.

Emerald Lake Park is owned and operated directly by Cardinia Shire Council (except the Puffing Billy railway corridor). An advisory group assists in the running of the park. The group provides a forum for discussion on park issues, volunteer involvement and fund raising efforts. The Friends of Emerald Lake Park is a volunteer group that conducts activities at the park such as gardening and landscaping works. The Emerald Lake Park Strategic Plan 2006 identifies opportunities to improve the efficiency and effectiveness of the park operations as discussed in the following sections.

7.4. Opportunities for open space

The need for more recreational and sporting facilities was raised as a general concern during consultations. Specifically, the need for a swimming pool and a skate facility were commonly expressed. The Recreational Open Space Strategy 2000 states that local open space is generally well provided but additional open space is required. A 'central park' on Main Street (Belgrave-Gembrook Road) was one of the recommendations in the Emerald Township Strategy 1999. But because of the constraints in providing a centrally located park along Main Street, an alternative location within the former nursery site is being proposed in this Strategy. The community desire for a "Central Park" is still present so an Investigation will be made into opportunities for creating a public space within the town centre, perhaps the additional land on the commonwealth bank site where the current Emerald Market is held.

There are opportunities for potential linkages that need to be investigated in the longer term. There is an existing hiking track from Sassafras to Emerald, along the Sassafras creek to Butterfield Reserve and then along Menzies Creek Reserve to the northern end of Telopea Road. Access from the Emerald end is via Telopea Road or the western end of Prince Street. There is possible opportunity to extend the reserve and track along a Menzies Creek tributary along back of properties on Pinnocks Road linking to Ferres Road at the foot of the amphitheatre. This would provide access to the reserve and track much closer to the town centre and possibly provide opportunity for improved fire control access. Other possible disused road linkages need investigation. The extent and variety of walking tracks in and around Emerald could be developed and promoted as a special feature of the district. Opportunities for a potential linkage to Clematis also need further investigation.

There have been concerns raised by the community regarding safety aspects of specific sections of the Emerald to Gembrook trail (Stage 1). Safety improvement options have been developed for the section of trail within Wrights Road and are to be included in a proposed special charge scheme for the area. Other sections need to be progressively reviewed and considered for future funding.

Some reserves like Worrell Reserve and Chandler Reserve have master plans to guide progressive upgrades and infrastructure provision. However, they need to be regularly reviewed to keep them relevant and up-to-date. The master plans for Worrell Reserve and Chandler Reserve are currently under review. The reviews will identify opportunities to address the various constraints to upgrading these facilities. Another significant open space that needs a master plan to guide future development is Pepi's Land and this is further discussed in the following sections.

The Aquatic Feasibility Study for the hills region has identified the need for an aquatics facility in the hills region. One of the key concerns is the lack of suitable land (that's relatively flat) in Emerald which would result in unrealistic construction costs. Investigation into the appropriate location for such a facility is currently underway. The feasibility of a small skate playground in Emerald is also being investigated.

Opportunities for Emerald Lake Park

The Emerald Lake Park currently serves both a local and regional recreation role and a wider tourism role of state significance by virtue of Puffing Billy. However, the facilities in the park primarily relate to the park's local and regional role, with very few facilities supporting the wider tourism role.

The Emerald Lake Park Strategic Plan 2006 identified the preferred development for the park as a mixed local/regional recreation resource and tourism destination. Under this scenario, the role of the park would be broadened to represent both a local facility and broader tourism asset. This included the development of the park as an 'activity park' being a strong tourist destination in its own right, as well as providing significant mutual support to Puffing Billy. The commercial components would be operated by private business under appropriate terms and conditions and projected to generate additional revenue towards park operating and capital expenditure.

Some of the key opportunities identified to strengthen the role of the park include:

- Managing park operations efficiently and effectively by investigating long term management options including lease of the park to private operators or a government agency, such as Parks Victoria.
- Providing an appropriate range of passive and active recreational opportunities by regularly reviewing the mix of recreational opportunities to ensure an appropriate balance is maintained.
- Undertaking appropriate risk management.
- Promoting the park by developing co-marketing strategies with stakeholders and other partners including the Emerald Tourist Railway Board (Puffing Billy).
- Optimising revenue streams (including longer licence and lease terms with existing operators, parking fee enforcement and alternative parking arrangements) to help offset the costs of operating the park.

Opportunities for Pepi's Land

In 2004, Council adopted the Landscape Concept Plan for Pepi's Land and commenced work on the Stage 1 development which involved relocation of the BMX track from Hogans Park, construction of a gravel access track to facilitate revegetation, weed management and some revegetation. The subsequent stages will be undertaken in accordance with the 5 year capital works program.

In light of outcomes from consultations carried out as part of this review, the opportunity to revisit the Landscape Concept Plan has been identified. The community has expressed the desire for Pepi's Land to be retained for public uses including:

- Nature conservation including revegetation
- Walking trails and cycling tracks
- A Swimming pool

The need for improved vehicular access was also voiced as a concern by the community. The master plan needs to be developed in consultation with the community and the Emerald Village Committee

7.5. Key issues

- Better maintenance of open space including the Puffing Billy Depot (behind the playground)
- Weed management in parks (Clematis Park, Aura Vale Park) and trails
- Aquatic centre
- Pepi's Land as public open space with passive recreational facilities
- Additional parks and play areas

7.6. Objectives

- To provide open space to meet the active and passive recreational needs of a wide range of user groups.
- To ensure the long term management of the environmental and conservation values of open space reserves.
- To provide a legible and permeable interlinked open space network.

7.7. Policy

- Use and manage open space reserves for the purposes set out in the following table:

Table 5: Open space hierarchy

Open space	Significance	Role	Ownership	Management
Cardinia Reservoir Park	Regional	Environmental Recreational (Passive)	Melbourne Water	Parks Victoria
Aura Vale Park	Regional	Recreational (Passive)	Melbourne Water	Parks Victoria
Emerald Lake Park	State/Local/Regional	Recreational and tourism	Cardinia Shire Council	Cardinia Shire Council, volunteer groups
Nobelius Heritage Park	Local/Regional	Heritage Park & Museum	Cardinia Shire Council	Committee of Management, volunteer groups
Pepi's Land	District	Recreational (Passive) Environmental	Cardinia Shire Council	Council
Worrell Reserve	District	Sporting Community	Department of Sustainability and Environment	Council, Committee of Management, volunteer groups
Chandler Recreation Reserve	District	Sporting	Cardinia Shire Council	Council, Committee of Management
Menzies Creek (Averd Park)	Local	Environmental	Department of Sustainability and Environment	Committee of Management, Meander
Clematis Park Reserve	Local	Environmental	Cardinia Shire Council	Cardinia Shire Council
Emerald Close Reserve	Local	Environmental	Cardinia Shire Council	Cardinia Shire Council
Puffing Billy Park	Local	Recreational	Emerald Tourist Railway Board	Emerald Tourist Railway Board
Hogans Park	Local	Recreational Environmental Community	Department of Sustainability and Environment	Department of Sustainability and Environment, Committee of Management, Friends of Hogan Park
Emerald Quarry	Local	Environmental	Council	Private
Buy back area (near Auhl Road)	Local	Environmental	Mix of private and Council owned	-

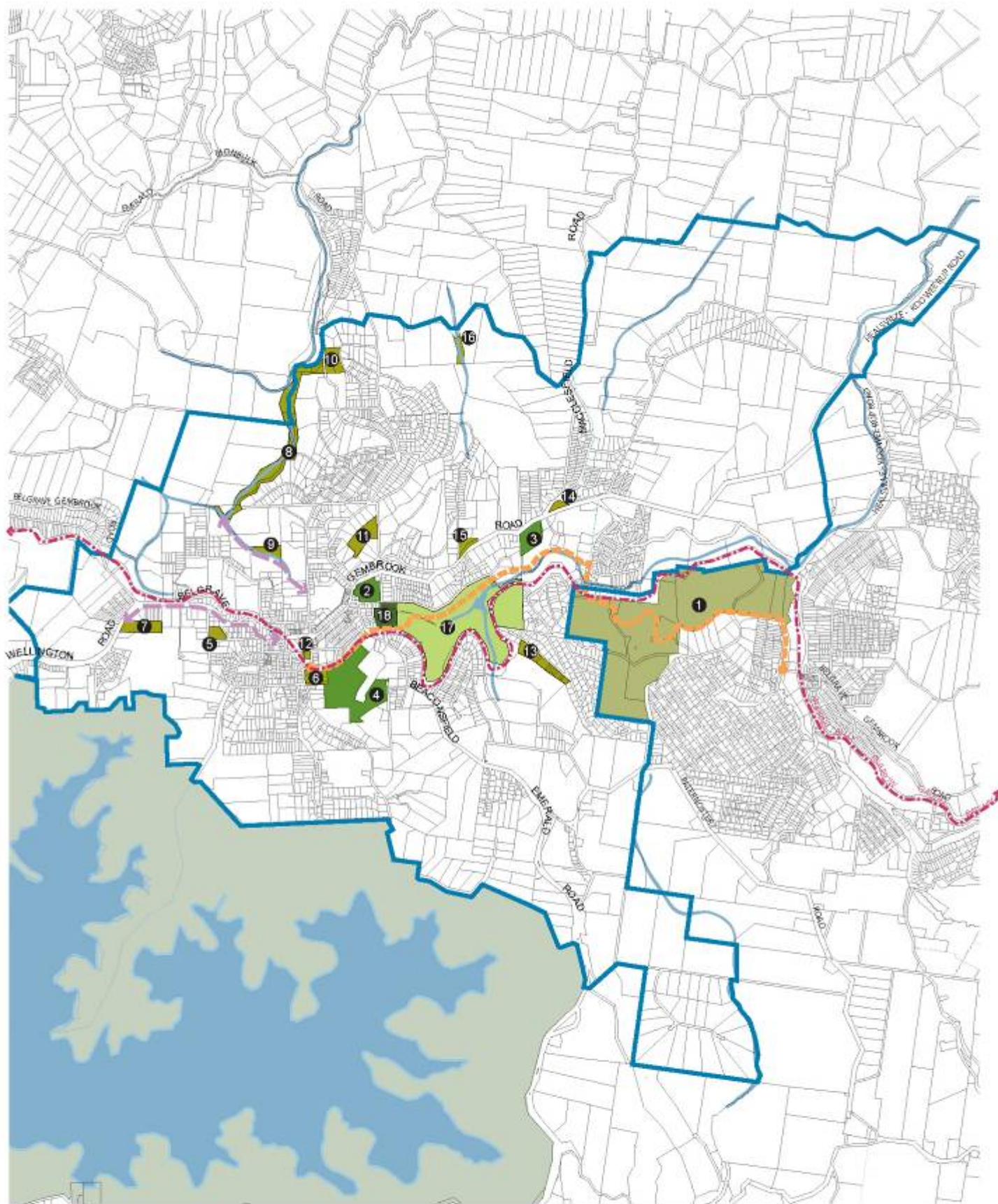
Source: Cardinia Shire Council

- Balance the recreational, environmental and wildfire management objectives of open space reserves.
- Recognise and protect the significance of open space reserves to the natural setting and character of Emerald District.
- Develop and maintain a network of pedestrian, bicycle and equestrian trails.
- Facilitate co-location of community and recreation facilities and joint management of these facilities.

7.8. Actions

- Continue to promote Emerald Lake Park as a mixed local/regional recreation resource and tourism destination by implementing the actions identified in the Emerald Lake Park Strategic Plan 2006.
- Continue to upgrade existing open space reserves.
- Continue to address safety issues along Emerald to Gembrook trail (Stage 1).
- Investigate the extension of the existing multi-purpose trail from Emerald to Clematis.
- Promote trail linkages in and around Emerald as a special feature of the district.
- Facilitate widening of new footpaths along arterial roads within the town centre to provide for shared bicycle/walking use particularly along Belgrave-Gembrook Rd, the Emerald Beaconsfield Rd and the Emerald-Monbulk Rd where they pass the town centre.
- Regularly review and update the master plans for various open space reserves.
- Facilitate the development of an environmental reserve along Menzies Creek tributary extending along the back of properties on Pinnocks Road linking to the amphitheatre.
- Investigate opportunities to provide an open space within the former nursery site on the northern side of Belgrave-Gembrook Road/Emerald-Beaconsfield Road roundabout.
- Initiate discussions with Emerald Tourist Railway Board in regards to the scope and timing of proposed improvements to Emerald Station and Emerald Lake Park Station and how that can align with Council initiatives.
- Develop a Master Plan for Pepi's Land incorporating the following key elements:
 - Nature conservation areas
 - Pedestrian and bicycle trails
 - Recreational opportunities - both active and passive
 - Improved vehicular access.
- Develop a skateboard playground in Emerald.
- Investigate opportunities for creating a public space within the town centre, perhaps the additional land on the commonwealth bank site where the current Emerald Market is held.





LEGEND

- Study Area Boundary
- Waterways
- Cardinia Reservoir
- Emerald to Gembrook Trail (Stage 1)
- Potential Linkages
- Putting Billy Railway

OPEN SPACE NETWORK

- Regional
 - 1. Wight Forest
- District
 - 2. Worrell Reserve
 - 3. Chandler Recreation Reserve
 - 4. Peppisland

Local

- 5. Clematis Park
- 6. Hogan Park
- 7. Clematis Reserve
- 8. Menzies Creek Park
- 9. Finniss Road Reserve
- 10. Emerald Quarry
- 11. Emerald Close
- 12. Putting Billy Park
- 13. Auhl Road Buyback Reserve
- 14. Avons Reserve
- 15. Lawsons Rd Reserve
- 16. Stewart Rd Dams

State/Regional/Local

- 17. Emerald Lake Park
- 18. Nobelus Heritage Park

Regional/Local

FIGURE 12: OPEN SPACE & LINKAGES
Refer to Table 5 for further details

Ref: 3410160
Date: September 2008
Rev: A
Drawn: HW

8. TRAFFIC AND TRANSPORT

8.1. Overview

A high proportion of Emerald residents are dependent on motor vehicles for transport due to the limited public transport services available. Analysis of the method of travel to work of the residents in Emerald District in 2006 shows that 3.2% used public transport, while 74.4% used a private vehicle, which is similar to overall travel patterns within the Shire of Cardinia. However, there has been a slight decrease in the usage of private vehicle as the preferred method of travel to work between 2001 and 2006. This has been offset by a marginal increase in public transport patronage and motorbikes.

Issues raised by the community include traffic circulation, parking, pedestrian and bicycle connectivity in the town centre, public transport and safety and accessibility. These issues and possible strategies to improve the traffic and transport connectivity are discussed in the following chapter.

8.2. Road network

Arterial Road network

VicRoads is responsible for the operation and management of the arterial road network. The arterial road network within the Emerald District comprises the Belgrave-Gembrook Road, Emerald-Monbulk Road, Emerald-Beaconsfield Road and Wellington Road. Belgrave-Gembrook Road and Wellington Road provide access to Melbourne and the eastern and south-eastern suburbs; the Emerald-Monbulk Road provides access to Monbulk; and the Emerald-Beaconsfield Road provides access to Beaconsfield and Pakenham. The Belgrave-Gembrook Road and Wellington Road to the west of the town centre and Emerald-Monbulk Road and the Emerald-Beaconsfield Road to the east of the town centre converge along what is called the Main Street. This creates a 'funnel effect' with the traffic from both ends being directed through effectively a two-lane road because of the on-street parallel parking on both sides of the road. This causes traffic to build up particularly during peak times and creates a perception that Emerald is a 'pass through' town where a large proportion of the hills commuter traffic drains through on the way to Belgrave and Melbourne.

Local Roads

The significant local roads within the Emerald town centre include Kilvington Drive, Heroes Avenue and Kings Road. Three key concerns related to these roads include traffic volume (through traffic), pedestrian safety and parking spill over from the shopping area to the residential areas.

Poor state of roads in the broader Emerald District was a common concern raised during consultation. A number of roads in the township have been sealed through special charge schemes in recent years. Council will continue to progressively undertake and implement special charge schemes to seal roads identified as a priority. This will be informed and influenced by a consultative process to seek input from the local community into the design and implementation of infrastructure works.

Another issue is the existence of unconstructed government roads (paper roads) and the need to establish an approach for determining future use of these roads. These paper roads may be located within high conservation areas, and/or inaccessible, steep or otherwise

constrained areas. An approach needs to be established to identify and determine future use of unconstructed government roads which could include:

- licensing paper roads for suitable uses which may include conservation and recreation purposes;
- retaining it as a road and upgrading; or
- selling that land to adjoining landowner(s).

8.3. Traffic

Traffic surveys carried out as part of this review identified that all roads (both arterial and local) were currently operating within acceptable guidelines and no major short term remedial works to address traffic speed or volume would be required.

Forecast growth in traffic volume and implications on the arterial road network

It is expected that future traffic flows on the arterial road network are going to increase from approximately 15,000 to around 20,000 vehicles per day by 2022 through a combination of increased through traffic (non local traffic) and natural growth in and around Emerald. Emerald generates around 9,950 vehicles per day from commercial activities and 25,000 vehicles per day from residential dwellings. Based on site investigations, the existing arterial road layout and abutting land use, it is considered that a major proportion of traffic on the arterial road network around Emerald would be attributed to locally generated traffic. It is anticipated that future traffic growth on the local road network would be limited to new and infill developments around Emerald town centre. As such, significant traffic growth on the local road network is not expected to occur with the majority of traffic growth occurring along the arterial road network. VicRoads has also noted that they do not expect significant traffic growth to occur on the arterial roads around Emerald and existing traffic operations are considered acceptable. They do not envisage that major capacity upgrades would be required within the short to medium term.

8.4. Parking

The parking assessment for Emerald town centre undertaken as part of this review has indicated that the existing parking facilities both in terms of quantity and time restrictions appear to meet the current demands. It is anticipated that there will be a parking demand of an additional 180-230 spaces as a result of infill development within the town centre. Some localised changes are recommended to encourage greater turnover in high use zones.

Significant remedial works or major additional off-street parking facilities are not recommended to service future development. New and redeveloped sites are to provide the majority of their parking needs on-site, and where applicable, utilise existing spare capacity of the on-street parking abutting the site and/or nearby public off-street car parks.

To address the issue of parking spillover to the residential areas along Kings Road from the retail area, council resolved that it is inappropriate to allow parking in Kings Road as available for use by commercial developments. In future, carparking adjacent to the residential zoned land will not be considered in any application for a reduction in carparking within business use zones.

8.5. Public transport

Emerald has limited bus services through the township along Belgrave-Gembrook Road (Main Street) and Beaconsfield-Emerald Road. No cross town services are provided to the north (i.e. Emerald-Monbulk). Services to the south rely on patrons arriving/departing

from Emerald to Beaconsfield and utilising existing public transport services along the Princes Highway corridor. This lack of connectivity and frequency across the local area (in particular customers travelling to and from Emerald to Pakenham) are likely to be a major disincentive for public transport uptake. Restricted services operate on Saturday with no services on Sunday.

The bus services which operate from Emerald service the following routes:

- Fountain Gate Shopping Centre via Princes Highway>Berwick Station (route 838)
- Belgrave via Emerald (route 695)
- Gembrook and Fountain Gate via Emerald (route 695)

These services provide connection to a major transport infrastructure hub (Fountain Gate Shopping Centre and Belgrave Railway Station) and generally provide reasonable coverage of the surrounding residential areas. Public/community transport to meet the requirements of people who are unable to use public transport due to age, frailty, etc was raised as an area of concern.

Table 6: Bus services

Service	Days	Hours of operation	Frequency (approx.)
838	Mon-Fri	6:35am – 12:25pm (to Fountain gate SC) 12:30pm – 4:30pm (to Emerald)	6:35, 10:25, 12:25 12:30, 2:20, 4:30
	Sat-Sun	No services	
695	Mon-Fri	5:30am – 9:02pm (from Belgrave Station to Gembrook Rd)	15-30 minutes
	Friday	4.05pm – 8:50pm (from Gembrook Rd to Fountain Gate)	60 minutes
	Mon-Fri	6:05am –6:55pm (Gembrook Launching Place to Belgrave Station) 7:53pm-10:25pm (Gembrook Launching Place to Belgrave Station)	30 minutes 45 minutes – 1 hour
	Friday	4:55pm – 9:39pm (Fountain Gate – Gembrook-Launching Place Rd)	1 hour
	Tuesday	9:30am (Emerald Village to Dandenong Market) 1:40pm (Dandenong market to Emerald – Monbulk Rd)	Single service Single service
	Sat	7:25am-10:15pm (Gembrook Launching Place to Belgrave Station) 8:20am-9:30pm (Fountain Gate to Belgrave Station)	30 minutes – 1 hour 1.5 hours – 3 hours
	Sun	10:05am-10:00pm (Gembrook Launching Place to Belgrave Station) 10.30am – 9.15pm (Fountain Gate to Belgrave Station)	40 minutes – 1 hour 1.5 hours – 3 hours

Timetable correct 07/04/2009
Source: www.metlinkmelbourne.com.au

Bus stops

Several members of the Emerald Village Committee collated information regarding the state of bus stops in the area (See Appendix C). The consensus from the Emerald Village

Committee is to get community members out of their cars and onto public transport, in a community effort to reduce greenhouse gas emissions from car travel. Making the bus stops attractive and safe may encourage the use and make bus travel a real option and appealing to people who would not otherwise consider this option. It has also been suggested that the existing dark green bus shelters be repainted a much lighter colour to match the newer colorbond-type bus shelters, particularly for safety reasons. Some of the key comments are:

- There are inherent and real dangers to passengers alighting from any of the (six) bus stops in Avonsleigh.
- The bus stop on the corner of Belgrave-Gembrook Road and Emerald-Monbulk Road needs a bus shelter and improved access, particularly for students in wheelchairs.
- Bus stops in Clematis are in fairly good condition but some have visibility problems and others do not have bus shelters.
- The bus stops within Emerald are in fairly good condition; however, the Pinnocks Road stops have accessibility issues.

8.6. Pedestrian and bicycle connectivity

Currently there is an ad hoc bicycle and pedestrian system throughout the town, with several key links missing. The provision and maintenance of footpaths was raised as another area of concern at the SpeakOut.

Pedestrian accessibility is an issue particularly for older people, people with mobility issues and parents with prams. A need to provide a pedestrian crossing at the top end of Main Street to enable the elderly from the public housing/support accommodation (on Emerald-Monbulk Road) and people with disabilities to access the town centre was raised. But this need has been met by the construction of the footpath on the north side of Main Street.

At present, the existing footpath network within the Emerald town centre appears to satisfactorily service the needs of the community, although there are some deficiencies in the Disability Discrimination Act 1992 (DDA) compliancy and linkages along some key access routes. With growth, there will be a further need to review this position to suit this demand. There are also gaps in the footpath accessibility to the Emerald town centre along residential sections of the sealed arterial roads. The community has identified the following gaps:

- North side of Belgrave-Gembrook Road, from Emerald-Monbulk Road. to Lawson Road
- Emerald-Beaconsfield Road east side, from Station Street to Albert Road
- Emerald-Beaconsfield Road, east side, from Kings Road to Crighton Road
- Emerald Lake Road, from Emerald-Beaconsfield Road to Emerald Lake
- Emerald-Monbulk Road west side, from Nobelius Road to Glen Vista Road
- From Clematis to Emerald
- Pinnocks Road from Belgrave-Gembrook Road to Laurel Court.
- Ferres Rd, Madigan Way to Palm Court.
- Emerald Monbulk Rd north side, Belgrave-Gembrook Rd to Glen Vista Rd
- Kilvington Dr, Bensons Rd to Old Beaconsfield Rd.
- Edenmont Rd.
- Westlands Rd, Bayview Rd to Boundary Rd West.

8.7. Traffic and transport opportunities

The projected increase in traffic associated with new development and natural growth on the arterial road network will have a significant impact on the performance and operation

of the road network. From a purely traffic point of view, the solution could be upgrading the Belgrave-Gembrook Road section between the two roundabouts to a four lane facility including substantial modifications to the existing roundabouts. These works would result in significant service relocation, banning of on-street parking and potential land acquisition. The consequences of not increasing capacity would be further localised congestion on the arterial road network, particularly during peak periods. However, the mid-block capacity of the road network (i.e. Main Street) is not critical and negligible capacity benefits would be realised by upgrading the mid-block capacity in isolation of capacity improvements at the roundabouts. If the roundabouts were upgraded, then introducing clearways in peak periods would provide a cost effective solution to provide additional benefits for motorists.

On-site parking areas behind the properties on the north side of Belgrave-Gembrook Road between the two roundabouts could be accessed from Madigan Way with the existing lane constructed to appropriate standards and with appropriate pedestrian accesses from Belgrave-Gembrook Road. An option for this proposal is shown in Figure 17: Emerald Link Opportunities, on page 77. This improved vehicular access for businesses on the north side of Belgrave-Gembrook Road would reduce the need for on-street parking on the north side and therefore provide a wider carriageway for vehicles. Parking demand generated by the commercial development on the south side of Belgrave-Gembrook Road will be met by the provision of on-site parking.

Opportunities to improve public transport options are being explored through various avenues including the Interface Councils network, the TravelSmart project and others. The TravelSmart project outcomes have emphasised the importance of community transport, including use of a community bus to enable communities in the outlying townships to be better connected to key service/recreational/employment hubs (eg. Pakenham, Belgrave, Monbulk). The TravelSmart project has also identified the need for early morning and early evening commuter services between rural townships (including Emerald) and Pakenham Station and Belgrave. Other State government initiatives include the Transport Connections Launch by the Department of Victorian Communities (now Department for Planning and Community Development) which will focus on the potential usage of community bus and school buses to improve access to services and facilities.

Currently, there may not be a high overall demand for specialised transport services. But there is the opportunity to better utilise the community bus operated by the Community House and Fernlea to provide services along specific routes with occasional outings for particular purposes, with vacant seats able to be taken up by residents. This may address some gaps in connectivity for people with special needs in Emerald. Other initiatives could include advocacy for fully accessible public transport, appropriate stations/bus stops, and provision of specialist transport options. Timetabling and route difficulties should be identified and appropriate advocacy should occur.

Achieving DDA compliance for footpaths should be focused on the key pedestrian areas around Kilvington shopping precinct and adjacent bus stops. The building line along shop fronts on Kilvington Drive should be kept clear of obstructions for a minimum of 1.2 m to ensure visually impaired pedestrians who use the building line as a guide are not obstructed. Greater footpath width could be created at a number of squeeze points located throughout the Emerald town centre.

The scale of development of EMCPAC would generate the need for additional parking spaces when at capacity. Peak usage is likely to occur on evenings when shops in Kilvington Drive are closed and parking on-street is available. There is opportunity for a

taxi rank (a single bay allocation) to be located close to EMCPAC on Kilvington Drive. A bus turning circle is to be accommodated in front of the EMCPAC development.

8.8. Key issues

- Condition of local roads
- Traffic volume on Belgrave-Gembrook Road (Main Street section)
- Conflict between pedestrians and motorists
- Parking demand
- Bus services to major recreational and employment destinations
- Condition of existing bus facilities
- Public/community transport to meet the requirements of people with special needs e.g. elderly and the disabled
- Provision and maintenance of footpaths.

8.9. Objective

- To progressively upgrade local roads in Emerald to a standard that is in keeping with the character of the precinct.
- To improve pedestrian accessibility and safety in Emerald through the upgrading and extension of the footpath network.
- To improve traffic circulation and provide adequate and accessible public parking in the Emerald town centre.
- To provide and advocate for improved public and community transport services.

8.10. Policy

- Provide a safe, functional and well maintained local road and footpath network.
- Advocate for a safe, functional and well maintained declared arterial road network.
- Prohibit parking spillover from the business areas to residential areas.
- Ensure new and redeveloped sites provide the majority of their parking needs on-site.
- Continue to lobby other levels of government to provide north-south public transport linkages within the municipality.
- Encourage wider patronage of existing public transport services.

8.11. Actions

- In consultation with the affected landowners, progressively undertake and implement Special Charge Schemes to seal priority roads.
- Undertake detailed design to upgrade Madigan Way to provide access to the properties north of Belgrave-Gembrook Road between the two roundabouts.
- Investigate opportunities for additional vehicular and pedestrian access to and from an upgraded Madigan Way.
- Upgrade the laneway between the school oval and the shops to provide improved traffic flow, appropriate signage and increased parking.
- Widen Heroes Avenue on the north side (west of Kings Road) to allow for parallel parking along both sides of the road to remain and provide for a two lane road to accommodate traffic.
- Upgrade and extend the footpath network along sealed roads to link public services and facilities including bus stops/walking school bus locations.
- In consultation with the community, extend the footpath network to address gaps in pedestrian connectivity within the Emerald town centre and between the town centre and residential areas.
- Allocate budget and progressively implement the following works:

- Upgrading existing footpaths to meet DDA requirements
- Construct pedestrian crossings
- Parking signs
- Establish an approach for identifying and determining future use of unconstructed government roads (paper roads).
- Initiate discussions with the Community House and Fernlea in regards to possible uses of the community bus to provide bus runs that will improve accessibility to services.
- Collaborate with Department of Transport, VicRoads and private service providers in progressively upgrading the existing bus stops in Emerald District to address accessibility and pedestrian safety issues.
- Initiate discussions with VicRoads about the following opportunities to improve the functionality and safety of the arterial road network:
 - Belgrave-Gembrook Road intersection upgrades at the location of the three roundabouts
 - Median treatment on Belgrave-Gembrook Road, west of Kilvington Drive
 - Kerb extension on Main Street (Belgrave-Gembrook road)
 - Speed restrictions
 - Line marking.



9. INFRASTRUCTURE

9.1. Overview

The availability of physical infrastructure services to Emerald's residential precincts is limited. There is partial connection to reticulated sewerage and no significant drainage works other than works to alleviate localised drainage problems. This lack of physical infrastructure is seen as a significant issue by both the community and council alike and through a collaborative approach with key stake holders it is intended that the issue of infrastructure will be addressed.

9.2. Sewerage

Emerald is serviced by a gravity sewer system. Only the central town area is connected to reticulated sewerage, with a large outer area of the town not serviced.

Yarra Valley Water intends to sewer those areas in Emerald/Avonsleigh/Cockatoo identified as backlog areas under the Backlog Sewerage Program between 2017 and 2024 (See Appendix D). The Cockatoo Sewerage Backlog Program is currently being implemented and is expected to be complete by 2009. Essentially all lots less than 0.4ha have been identified and included in the proposed sewer areas. The connection of households to reticulated sewerage and the provision of adequate drainage will assist in reducing the impact of the existing septic systems on the environment.

Areas outside the proposed sewer areas with on-site disposal systems will be maintained and managed by the property owner. Council will continue to act as the 'licensing' authority for domestic septic tank systems and subsequently approve the installation and supervise the performance of septic tank systems.

9.3. Drainage

There are a number of catchments in the Emerald area that all drain to the creeks/tributaries/water bodies and further analysis will be required to determine the drainage options for each catchment. Drains exist in some areas of the Emerald shopping precinct and a short section in Emerald Close, but most of the areas have no significant drainage works other than some road culverting and table drain diversion works to alleviate localised drainage problems.

Through implementation of the Special Charge Scheme Program, road and easement drainage will be progressively provided with outfalls to creeks/water bodies. Appropriate environmental controls for the future drainage works should be constructed at the time of the Scheme.

Council is working with Melbourne Water to address stormwater and erosion issues at the Nobelius Heritage Park. As part of this initiative, Water Sensitive Urban Design (WSUD) approaches are being considered. This design solution incorporating a range of erosion control and stormwater quality treatment elements is expected to be a pilot for other drainage works in the Emerald area.

9.4. Other services

Gas is managed by Multinet and the telecommunications network is managed by Telstra. Electricity is provided by ESV. The coverage of these services is virtually identical to the

coverage of the Yarra Valley Water reticulated water supply network. These facilities can be extended to cater for further development.

9.5. Key issues

- Drainage issue as a result of storm events (impacting the water quality in creeks).
- Connection of households to reticulated sewerage and the provision of adequate drainage.

9.6. Objective

- To provide or upgrade utility services to improve the health and amenity of residents and to minimise environmental impacts.

9.7. Policy

- Support the connection of all occupied properties within a sewered area to connect to reticulated sewer systems as soon as practicable following the provision of this service.
- Promote water conservation measures to all residents and encourage installation of water tanks.
- Include water conservation measures (including water tanks) in all new dwellings to reduce water use and stormwater runoff.
- Promote Water Sensitive Urban Design (WSUD) principles in future developments, both private and public.
- In conjunction with Yarra Valley Water investigate options for capturing/storing/recycling storm water run off.

9.8. Actions

- Continue to liaise with Yarra Valley Water in ensuring the timely delivery of the sewerage infrastructure.
- Continue to liaise with Yarra Valley Water for residents with sewerage mains accessible to make connections (and reduce the number of septic systems).
- Collaborate with Melbourne Water in investigating opportunities to address drainage issues in Emerald.

10. ENVIRONMENT

10.1. Overview

Emerald is on the edge of the Dandenong Ranges and gains its environmental, scenic and cultural interest from being part of the 'whole picture'. It forms part of the metropolitan green wedge described as Yarra Valley and Yarra and Dandenong Ranges. The key features of this green wedge include areas of environmental and landscape qualities, native vegetation and fauna habitat.

The waterways and creeks within the Emerald District are part of the broader Yarra catchment. Melbourne Water has responsibility for managing rivers, creeks and waterways in forested areas and closed water supply catchments.

10.2. Native vegetation

The State Native Vegetation Framework is the State Government's strategy to protect, enhance and revegetate Victoria's native vegetation. The Framework's main goal is to achieve a reversal, across the entire landscape of the long-term decline in the extent and quality of native vegetation, leading to a net gain. But the Native vegetation Framework does not apply to lots below 0.4 ha in size. To address this policy gap, a Vegetation Protection Overlay has been applied to all residential and business zoned areas in the Emerald District.

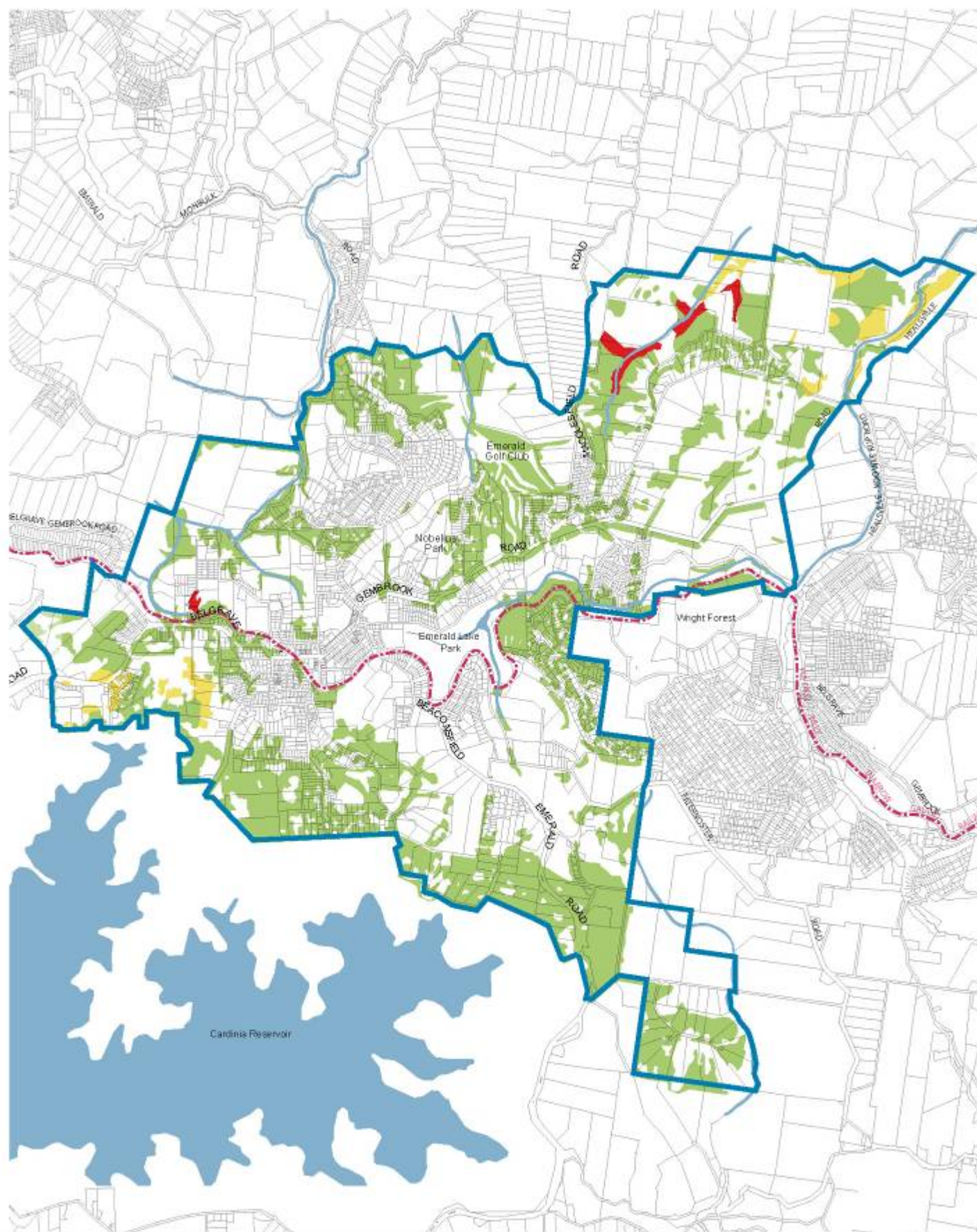
Ecological Vegetation Classes

- Original vegetation distribution (Pre-1750)

The original vegetation distribution in Emerald comprised predominantly of Shrubby Foothill Forest in the higher areas along ridgelines and Damp Forest in the lower areas and drainage lines. The vegetation distribution in the area surrounding the Cardinia Reservoir consisted primarily of Damp heath Woodland, Lowland Forest and Riparian Scrub Complex (See Appendix E).

- Current vegetation distribution

The current vegetation distribution predominantly comprises of Shrubby Foothill Forest and Damp Forest in the residential areas, particularly in the area south of Belgrave-Gembrook Road and west of Emerald-Beaconsfield Road while Damp Heath Woodland and Lowland Forest are in the area near Cardinia Reservoir. All these Classes are considered to be locally common and so of least concern as they have been subject to little or no degradation over a majority of the area. The structural dominants of Damp Heath Woodland and Lowland Forest are Stringybark and Silvertop Ash, often in conjunction with Messmate and/or Narrowleaf Peppermint. The structural dominants of Shrubby Foothill Forest, Damp Forest are Mountain Grey Gum and Messmate. Understorey vegetation is diverse and includes a combination of lower trees, shrubs and a range of grasses, sedges and herbs. Other Ecological Vegetation Classes (EVCs) which occur to a lesser extent in the study area include Wet Forest, Wet Heathland, Shrubby Gully Forest, Riparian Scrub Complex, Riparian Forest, Herb Rich Foothill Forest, Heathy Woodland, Swamp Scrub, Swampy Riparian Woodland, Swamp Riparian Complex and Grassy Forest. The extent of Ecological Vegetation Classes and their conservation status is shown in Figure 13. The vegetation communities within each Ecological Vegetation Class and their dominant structure are described in greater detail in Appendix F.



LEGEND

- Study Area Boundary
- - - Puffing Billy Railway
- Waterway

VEGETATION

- Locally Common
- Depleted
- Vulnerable


 0 200 400 600m
 Ref: 3410180
 Date: July 2006
 Rev: A
 Drawn: HW

FIGURE 13: CONSERVATION STATUS OF ECOLOGICAL VEGETATION CLASSES

10.3. Natural drainage lines- creeks and waterways


There are a number of drainage lines within the study area. North of the ridge which is generally along Belgrave-Gembrook Road, falls to the north to the Menzies Creek and its tributaries, which is within the Woori Yallock Creek and thence the Yarra River catchment. The area south of the ridge and generally east of Emerald-Beaconsfield Road falls to the Cockatoo Creek and thence also to the Woori Yallock Creek catchment. The area generally west of Emerald-Beaconsfield Rd falls to the Cardinia Creek catchment to Westernport Bay.

Menzies Creek is classified by the River Health Strategy as:

- Significance: Very high
- Current condition: Moderate
- Target: Good
- Current social value: Moderate
- Target: Moderate

The Woori-Yallock creek is mostly rural with minor urban centres and some forested headwaters. Key management issues for this waterway include loss of native vegetation, bed and bank erosion, water quality deterioration, weeds, fish barriers and maintaining stream flows. The value of these areas to act as effective fauna corridors rests in their continuity and integration with other reserves. This site is linked to the Sassafras Creek – Butterfield Wildlife Reserve.

Table 7: Woori-Yallock Creek values

WOORI YALLOCK CREEK: Moderate					
	Water quality	Aquatic life	Habitat & stability	Vegetation	Flow
Excellent					
Good					
Moderate					
Poor					
Very Poor					

Source: River Health Strategy 2004

10.4. Weed management

Weed infestations in reserves and parks has been raised as an issue that needs urgent action. Concern has also been raised as to the consistency in the application of the various overlays that control vegetation removal, particularly in the hills region.

One specific weed that has been of particular concern in the hills region is sweet pittosporum or *Pittosporum undulatum*. Sweet pittosporum is a large shrub or small tree native to some parts of Gippsland, with a natural distribution possibly extending as far west as Westernport. Sweet pittosporum has now spread to areas outside its previous range and

has also become more common within some parts of its natural range, perhaps in response to altered fire regimes or because it is a good coloniser after disturbance. The very dense shade beneath this plant tends to exclude other plants and it is often regarded as undesirable, although it does have the advantage of successfully excluding many weeds. Deciding whether sweet pittosporum should be accepted as part of the riparian vegetation on a particular property, or should be reduced as part of a native vegetation management plan requires site-specific advice⁶. However, considering the invasive impacts of sweet pittosporum within the Shire of Cardinia, a review of the weeds list for the Shire is being undertaken with a view to implement it into the Planning Scheme.

10.5. Areas of biological significance

A Biosite is a physical area of land or water containing biological assets with particular attributes, such as the presence of rare or threatened flora, fauna or habitat required for their survival and/or rare or threatened vegetation communities. The areas identified as having sites of biodiversity significance (See Appendix G) are:

- Cardinia Reservoir and its surrounds, Menzies Creek reserve (Regional significance)
- Area around Wright Forest (State significance).

10.6. Wildfire management

Parts of Emerald are vulnerable to wildfire due to their vegetation cover and topography. Under the Building Regulations 1994 construction must be undertaken in accordance with the Australian Standard for Houses in Bushfire Prone Areas (AS3959). Council also has in place a Municipal Wildfire Preparedness Plan (MWPP) 2005, which is actively implemented during the fire season along with plans for various reserves. The aim of the MWPP is to increase the ability of the communities to withstand the impact of wildfire, and to help with practical risk reduction, taking into account the frequency and severity of wildfire occurrences. The MWPP is targeted specifically at physical works designed to minimise the risk of, and damage caused by, wildfire. Council also supports community education programs undertaken by the Country Fire Authority.

The Municipal Wildfire Preparedness Plan 2005 identifies 8 priority areas for protection within Emerald. Each area identified was geographically defined and ranked in order of risk as either High (8-10), Medium (5-7) or Low (1-4) as indicated below:

Table 8: Priority Areas for bushfire protection

Priority Area	Fire Risk Rating
EM1-Emerald Quarry	9
EM2-Prince Street	6
EM3-Lakeside Drive/Lawsons Road	5
EM4-Majestic Drive	7
EM5-Wright Road	5
EM6-Ladd Road	5
EM7-Deery Road	6
EM8-Steele Road	7

Source: Municipal Wildfire Preparedness Plan 2005

The detailed management treatments within the 8 priority areas have been outlined in Appendix H. The actions for the above priority areas outlined in the MWPP will continue

⁶ Source: www.dpi.vic.gov.au

to be implemented by Council in collaboration with the Country Fire Authority, Department of Sustainability and Environment and the Emerald community.

A Wildfire Management Overlay has been implemented into the Cardinia Planning Scheme which will trigger the need for a planning permit for development in areas prone to wildfire and is in line with the current building controls. A risk based approach will prevent development on those parcels of land previously subdivided, that are considered as being inappropriate for development under the Wildfire Management Overlay.

10.7. Environmental sustainability

The environmental issues raised during consultation were augmented by a strong 'sustainability' theme which expressed a desire for community-wide improvements in energy and water use, application of sustainable building methods, water and air quality, and protection of native flora and fauna. Some expressed a concern about increased bushfire risk due to climate change.

Recognising the seriousness of projected climate change and the impacts this will have in the local region on agriculture, native forests, wetlands, creeks, rivers and water resources, council is committed to significantly reducing greenhouse emissions within the municipality through developing and implementing the Sustainable Development and Greenhouse Reduction Strategy. As part of this strategy and council's commitment to reduce greenhouse emissions through participation in the Cities For Climate Protection™ program, an inventory and forecast of council and community emissions has been completed and an emissions reduction target adopted. The reduction target council has adopted requires a 10% reduction from community emissions by 2010, whilst Council requires a 20% reduction in emissions by 2010. The Sustainable Development and Greenhouse Reduction Strategy provides a range of actions focusing on a number of key areas to reduce council and community emissions from different energy consumption sectors i.e. street lighting, transport etc.

10.8. Opportunities

Of particular environmental concern is the removal and degradation of indigenous vegetation, especially as a result of land subdivision. The conservation status of EVC's along the tributaries in Avonsleigh has been identified as 'depleted' and 'vulnerable'. Private land holders need to be encouraged to protect remnant native vegetation on their land through education and incentives. A range of incentive programs and support schemes are available such as Landcare and Land for Wildlife and State government initiatives such as BushBroker (a native vegetation credit registration and trading system) and BushTender (auction-based approach to improving the management of native vegetation on private land).

At present, weed management initiatives have been guided by the existing Weed Management Strategy of 2001. Council has commenced a rolling program with annual reviews over a three year period to address weed control and management priorities across the Shire, including Emerald. During the 2007/08 year, an initial pilot project targeted ragwort, blackberry and sweet pittosporum on roadsides in an integrated fashion with adjoining landholders, communities and public land managers in the Ranges Ward. There was Council support for the initiation of a first-year pilot program of weed control that would produce a lead by example to the community and other public land managers such as VicRoads, VicTrack, Parks Victoria, Puffing Billy, Melbourne Water and other agencies. This concept of a blitz will be further boosted by the engagement of private landholders

through education, involvement, incentive and regulation in stage two. Stage two will also look at extending the area beyond the townships.

Consultation with The Shire Of Yarra Ranges has seen the suggestion made that weed management may be more effective if a collaborative approach is taken by both the Shire Of Yarra Ranges and Cardinia Shire, given the close proximity of the Emerald district to the municipal boundary. An approach such as this will substantially reduce reinfestation of areas once cleared.

The issue of climate change adaptation is being addressed at the regional level through setting up of a group called the Western Port Greenhouse Alliance (WPGA) comprising 5 councils in this region. The key objectives of the WPGA are to establish 5 regional greenhouse gas abatement or climate change impacts projects, expand the partnership and leverage funding to implement the regional projects.

10.9. Key issues

- Promoting health through the use of natural areas
- Reducing barriers to people's enjoyment of nature
- Vegetation removal and loss of biodiversity
- Weed management
- Need for more environmental controls (planning)
- Need for environmentally sustainable development
- Wildfire risk

10.10. Objectives

- To protect and enhance the existing remnant native and indigenous vegetation given its environmental significance and its contribution to the natural landscape of Emerald.
- To improve the water quality of watercourses.
- To control the spread of weeds.
- To minimise the risk of, and damage caused by wildfire.
- To promote and facilitate the incorporation of environmental sustainability principles in developments.

10.11. Policy

- Ensure that the siting and design of new buildings and works avoids or minimises the removal or fragmentation of indigenous vegetation.
- Maximise opportunities for habitat corridors and open space along creeks, waterways and reserves.
- Prevent and minimise weed infestation.
- Prevent soil and waterway degradation resulting from incompatible development.
- Incorporate wildfire protection measures in new buildings (particularly dwellings) as set out in the Wildfire Management Overlay provisions in relation to building, siting and design, access, water supply and vegetation management.
- Reduce greenhouse emissions within the municipality through implementing the Sustainable Development and Greenhouse Reduction Strategy.

10.12. Actions

Encourage re-vegetation and re-planting, particularly along creeks/drainage lines and areas of steep slope, in order to substantiate the 'adding to nature'.

Collaborate with Parks Victoria and local volunteer groups in undertaking management and preservation practices, particularly along the Emerald to Gembrook Trail (Phase 1). Continue and extend the rolling program with annual reviews to address weed control and management priorities targeting ragwort, blackberry and sweet pittosporum on roadsides. Collaborate with the Shire of Yarra Ranges in any review of the weed control and management program for the area.

Implement the treatments set out for the eight priority areas in Emerald as outlined in the Municipal Wildfire Preparedness Plan 2005 including fire management plans for bushland reserves, fire breaks, buffer zones, water points and community fire programs.

Support education and awareness programs for sustainability related issues including water and energy conservation, waste minimisation and weed management.



“These trees are beautiful and have provided habitat for powerful owls. They should be protected.” Kate F

11. HERITAGE

11.1. Overview

Not much is known about the pre-contact heritage of Emerald. Recorded history only dates back to the late 1800s when gold was discovered. The following sections give a brief outline of both aboriginal cultural heritage and post-contact heritage associated with Emerald.

11.2. Aboriginal cultural heritage⁷

During the long years before the arrival of white settlers, the Cardinia District was occupied by Indigenous peoples. The north and west (of Cardinia district as part of Yarra catchment) was the territory of the Wurrundjeri tribe. Evidence of Aboriginal occupation of the study area has been found in the form of sacred sites and cultural artefacts in the northern hills.

Aboriginal people are known to have used fire to regularly burn undergrowth and flush out animals for hunting. It is thought that their regular use of fire may have helped the forests of the Dandenongs to thrive free of undergrowth until the Europeans arrived and changed these patterns.

Near Clematis, now in the catchment area of the Cardinia Reservoir, is a rock on Bald Hill. The rock is ringed by a number of smaller stones, which may have been placed there by humans. The rock is associated in at least two different aboriginal stories, with the human discovery of fire. Early white observers reported that Wurrundjeri kangaroo hunters placed leafy boughs on this rock in order to ensure a good catch. This site has been included in a Heritage Overlay (HO1).

11.3. Post-contact heritage

Cardinia Heritage Study Review 1997 and Cardinia Heritage Study 1998

The Cardinia Shire Heritage Study Review 1997 and the Cardinia Shire Heritage Study 1998 had identified a number of sites of heritage significance in Emerald and six of them have been incorporated into the Cardinia Planning Scheme. They are:

- HO3 - Silver Birches, 1 Mary Street, Emerald
- HO13 - Avonsleigh Church of Christ, 17 Avon Road, Avonsleigh
- HO20 - Lawsons False Cypress at Verlys, 40 Beaconsfield-Emerald Road, Beaconsfield
- HO29 - Carramar Homestead, 5 Carramar Court, Emerald
- HO34 - Rose Charman's Cottage, 77 Emerald-Monbulk Road, Emerald
- HO106 - Former Nobelius Nursery, Princess Avenue, Emerald

Their detailed descriptions are in Appendix I.

Cardinia Local Heritage Study Review

Council has recently completed a Cardinia Local Heritage Study Review with an emphasis on cultural sites of new and local significance. The places identified will be incorporated into the Planning Scheme through application of a Heritage Overlay. They include Emerald

⁷ Cardinia Shire Heritage Study 1999 – Volume 1 Environmental History

Railway Station, Cascades Guesthouse (former) & Emerald Tourist Track, Emerald Lake Park & Landscape and the Emerald Country Club, Estate & Landscape Precinct. The Review has prioritised a number of places and precincts throughout the Shire. This includes many of the sites in Emerald identified through Stage 1 consultations for the review of the Emerald Strategy. They include Tyrell, Emerald Police Station & Lockup (former), Shops (former “Green Room” & “Mad Cow”, now “Do drop in” Cafe), Stephens Butcher Shop & Residence, Koombahla, Emerald Post Office, Emerald Reserve, The Chalet (Berneray former Dunbar), Barnes’ Weekender (former), and Stokes Croft Planting. These sites will also be incorporated into the planning scheme

There are two sites which require no further action because they have been demolished or removed. They are Oak Tree Farm and Hans Knorr Gallery. Sites which are of local interest only are Uniting Church, St Marks, Bottomly Quarry, Monkey Dung Creek Discovery site, House and Oak, Emerald RSL, Emerald Hall, and Policeman’s Helmet Rock formation. Two sites have been identified as interpretation sites: Old Gold Route, and Paradise Hotel and Trees.

Other sites: Victorian Heritage Register and National Trust

The Victorian Heritage Register lists the State’s most significant heritage places and objects. The Victorian Heritage Register is established under the Victorian Heritage Act 1995 and provides the highest level of protection for heritage places and objects in Victoria. Sites in the Victorian Heritage Register:

- Site of the former Emerald Hall/Mechanics Institute
- EC-2 Emerald Station
- EC1 - Packing Shed
- Payne house

The National Trust of Australia is a community-based, non-government organisation, committed to promoting and conserving Australia's indigenous, natural and historic heritage through its advocacy work and its custodianship of heritage places and objects. In Emerald, there are 15 sites listed in the National Trust register which comprises 10 buildings, 1 garden and 4 trees. See Appendix J for a detailed listing.

11.4. Opportunities for heritage conservation and management

There was general concern regarding the preservation of historic/heritage buildings and landscapes across the area and the further development of historical trails/markers to provide tourism information to visitors. Council makes grants available to help with the restoration and preservation of heritage buildings and places within the shire. Federal and State governments also have grants for heritage works. But there is a need to explore opportunities other than grants to support the maintenance and upkeep of heritage sites. One opportunity is to explore the tourism potential of heritage sites particularly the sites located on public land and within or close to Emerald town centre. This could add to the overall visitor experience which will not be confined to just one attraction but the wider destination that goes to make up a visit.

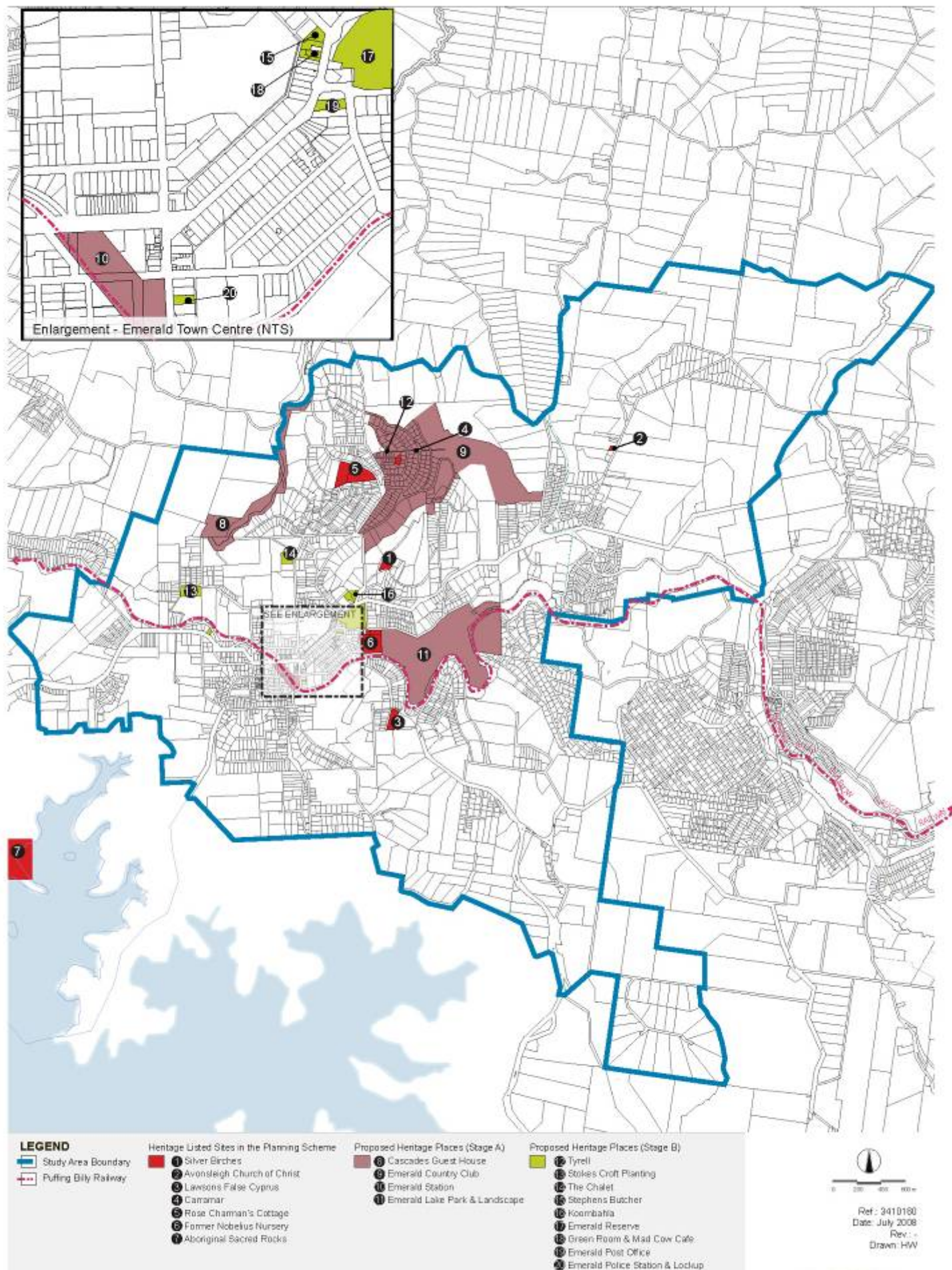


FIGURE 14: HERITAGE SITES

11.5. Key issues

- Protection and maintenance of heritage sites.

11.6. Objective

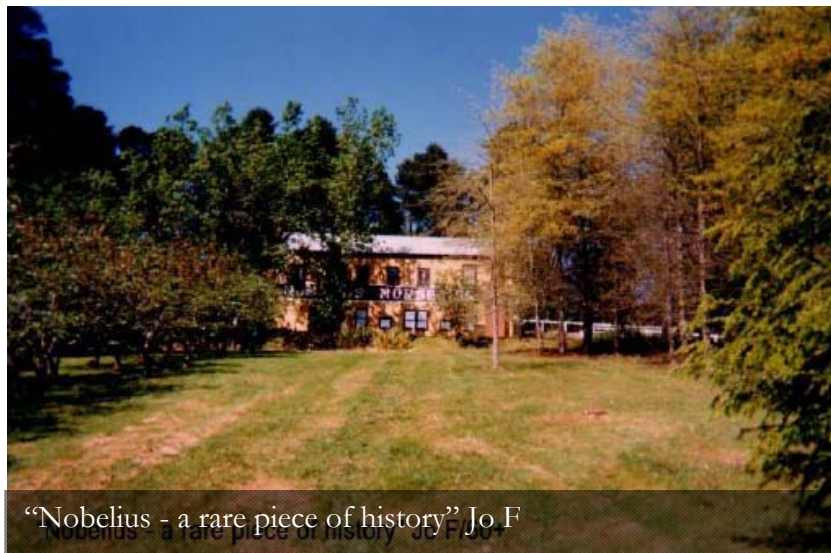
- To identify and protect places of heritage significance.
- To support the maintenance and upkeep of heritage places.

11.7. Policy

- Respect heritage through the recognition of Aboriginal and post-contact culture.

11.8. Actions

- Initiate a planning scheme amendment to incorporate Stage A sites in the Cardinia Planning Scheme.
- Continue to make grants available for the protection and management of heritage sites.
- Investigate tourism potential of heritage places.



12. DESIGN GUIDELINES

12.1. Emerald town centre

Emerald is situated broadly on a narrow ridge-line running in an east-west direction, sloping abruptly to both the north and south. The high point of the Emerald town centre is in fact the highest point in the surrounding locality, giving the town centre a particular prominence and access to major views. The views are particularly prominent to the north, from the ridge associated with the section of Belgrave-Gembrook Road (also referred to as Main Street) within the town centre, across the area known as the amphitheatre. Similar views are also available, to a lesser extent, to the south from the Puffing Billy railway corridor. These views across open agricultural land are an important part of the Puffing Billy visual experience, as a contrast with the woodland character typical of the majority of the railway corridor. These views to the broader landscape are an important aspect of the experience of visiting Emerald and so should be recognised, and enhanced where possible, in land use and urban design proposals.

The Puffing Billy railway skirts the township along its southern edge. In doing so, the railway effectively designates the edge of the town centre. The land south of the railway is an open area of former agricultural land known locally as Pepi's Land. In skirting the western and southern edges of the township, the railway crosses both Belgrave-Gembrook Road and Beaconsfield-Emerald Road. At each of these points, the railway crossing forms a secondary gateway, signifying arrival into the main town centre. The Railway, therefore, plays a significant role in both the physical definition of the town centre, and also announcing arrival at the town centre.

12.2. Design context

Much of the character of Emerald has been determined by design that is site responsive. Built form has generally responded to the particulars of a site (site conditions as set out above) within the context of a small township. In terms of context, the scale of the town is an important feature. Although extending along the ridge for a distance of approximately 600 metres, Emerald is perceived as a contained, small town. This is due in part to the pattern of development which has been contained by the topography, determining that the main concentrations of development and activity are confined to the plateaus and a linear edge of the ridgeline. Further, the scale of built form in Emerald typically responds to a human scale and the scale of the surrounding environment, i.e. the proportion of space, height, mass and void is responsive to human activity and is generally amenable within the surrounding landscape. To date, built form has remained relatively low/ small scale in its proportion of volume and height. The density of development is also low. Influences such as street address and setback, amenity and adjoining uses must also be considered in identifying an appropriate contextual response for new development.

In 1980, an Emerald Civic Committee consulted widely with the local community about the town's needs and future directions and reported to the then Shire of Sherbrooke in a document titled *Emerald Towards 2010*. This report recommended a built form theme that followed a 1900-1920 rural theme which reflected the Puffing Billy and Nobelius connection. Subsequently the Emerald Tourist Railway Board established the Puffing Billy Tourist Railway Scenic Corridor with planning guidelines that required new developments within the corridor to be in character with the 1920s period. This has influenced the built form character of the Central Retail Precinct and has also been emulated in other developments in the Northern Retail Precinct.

12.3. Village atmosphere

The built form and design context of Emerald varies between the different precincts. Community views on what contributes to this variance in context and character also vary, as does support for different design types that exist within the town centre. An outcome of the 2006-2007 Stage 1 consultation (undertaken as part of the Strategic Review process), was the recognition that one of the best features of Emerald was its ‘village atmosphere’. This ‘atmosphere’ or ‘town character’ has been described in various ways, both qualitative and quantitative, such as friendly, providing for social interaction, small scale, pleasant building forms, unobtrusive colour schemes, etc. The following pictures taken by ‘community researchers’ capture some elements of the existing village atmosphere:



“Pleasant, restful area” Jo J



“A place for children, youth and adults – theatre and music” Kate F



“Calming ambience, blossoming trees, village environment, socialising” Wolfram K



“These beautiful eucalypts make Emerald unique; setback from road create a lovely garden atmosphere” Kate F



“Interesting entry into Emerald; great; many people sit here” Chris B



“Example of recent but sympathetic architecture” Jo J

The key interactions between the quantitative and qualitative aspects that define this ‘village atmosphere’ can be described as:

- A town centre with distinctive precincts that have evolved their own characteristics over time.
- A mix of open and closed landscape setting with the vegetation framing views across ridgelines and valleys.
- A town centre as a meeting place offering both public and private realms where people can interact.
- A built form that is varied in architectural styles. Heritage associations are visible in the Central Retail Precinct and the Northern Retail Precinct while the built form in the Central Mixed Use Precinct is evolving as older residential buildings make way for new development.
- A scale that is intimate and engages the passers-by.

These context and character influences, as well as influences such as street address and setback, amenity and adjoining uses, must be considered in identifying an appropriate contextual response for new development.

12.4. Design themes

The Emerald town centre has a number of distinct precincts. The integration of these precincts through the use of common, contextually appropriate design themes is one of the key objectives of the design guidelines outlined in this chapter. The main themes are:

- Land Use
- Form and Character
 - Topography
 - Landscape
 - Design Context
- Amenity
- Accessibility
- Innovation and Detailing
- Scale
- Setback, Entry and Address
- Sustainable Design

Land Use

The commercial and retail centres of Emerald, Avonsleigh and Clematis can be identified by specific land use characteristics. Current land use patterns are quite defined and can be readily delineated into a number of ‘Precincts’. This delineation of land use Precincts:

- Defines particular land use characteristics in order to maintain and strengthen current use patterns.
- Determines the preferred mix, integration and distribution of uses in order to strengthen activity and guide preferred forms of development.

Eight land use Precincts have been nominated as follows:

- Service and Mixed Use
- Central Retail (Kilvington Drive)
- Arts and Community
- Central Mixed Use
- Northern Retail
- Community and Recreation
- Clematis
- Avonsleigh

These nominated Precincts generally maintain current land uses and activity patterns and are consistent with the zoning requirements of the Cardinia Planning Scheme.

Form and Character

Much of the form and character of Emerald can be described by a number of unique features:

- **Topography**

Ridges and valleys are a significant feature of the Emerald district and provide considerable interest and variation. The Emerald town centre is however generally located along a plateau, as part of an east-west oriented ridgeline. Falls occur to the north and south of this ridgeline. The considerable slopes defining this topography are a key challenge for issues such as siting, accessibility and orientation.

The ridges and valleys also mean that there are significant views throughout the district. The views are varied and, depending on location and orientation, can be backdrop views to forest vegetation, views across valleys of cleared agricultural land or filtered views through canopy vegetation. Regardless of elevation on the ridge/valley, there is generally some view afforded by the variance in topography.

- **Landscape**

The character of Emerald is strongly identified by its landscape and environment, with built form generally being recessive to landscape and vegetation, be it backdrop landscape, streetscape or on site landscaping. In particular the vegetation:

- Provides a strong canopy and tree lined backdrop to the town.
- Helps frame views across valleys, ridgelines and along road corridors.
- Is a dominant element, with built form being recessive.
- Is multi-layered and includes canopy trees as well as understorey.
- Indicates the changing topography of the township, as it follows the ridgelines and surrounding valleys.
- Is varied, with areas of open agricultural landscapes as well as areas of closed forest.

The vegetated landscape of the area is varied and includes stands of remnant indigenous vegetation, planted native vegetation and planted exotic vegetation. Emerald is recognised for its historical connections to horticulture which has formed the basis for some of its exotic street tree plantings.

12.5. Town centre design guidelines

The Emerald town centre design guidelines respond to the various themes within the town centre as outlined throughout this section. The design guidelines are intended to promote an understanding of existing design influences and are not intended to determine a consistent 'formulaic' approach to design of built form. The guidelines emphasise a holistic approach to site planning, determining that new development should be site responsive.

The Figure 15 and Figure 16 show the delineation of the precincts and briefly outline the desired form and character and land uses for each precinct. For clarity and useability the guidelines are presented as 'general guidelines' as most of the guidelines are consistent across all Precincts. There are also specific guidelines which set out key characteristics of each of the precincts. For detailed Design Guidelines, see Appendix K. A glossary of urban design terms has been included in Appendix L. The general design guidelines that are consistent across all precincts are as outlined below.

Topography and Siting

Site planning and design shall:

- Take advantage of the natural topography. Buildings should where possible be located on flatter parts of sites.
- Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views.
- Capitalise on site features, forms and existing vegetation.

Landscape Response

Site planning and design shall:

- Demonstrate a strong landscape response and a contribution to the landscape character of the town, in particular the streetscape address.
- Maximise the retention of existing vegetation and ensure building envelopes are sympathetic to the scale, height and location of existing trees.
- The planting of indigenous trees and vegetation is preferred. Exotic vegetation will be considered if it is not an identified weed and if the selection continues existing themes and contributes to the landscape character of Emerald.
- Provide allowances in the design of carpark areas to ensure opportunities for landscaping in particular providing appropriate space for canopy tree planting.
- Any side and rear setbacks shall be landscaped, including provision for canopy trees.

Amenity

- Loading, equipment and storage areas to be sited to ensure minimal visual exposure and to provide suitable screening and noise attenuation measures.
- Provide appropriate buffer treatments, noise attenuation, vehicle separation between adjoining commercial, residential and community uses.
- Promote natural surveillance and observation of streets, rear car parks and laneways, pedestrian networks and public open spaces.

Accessibility

- Pedestrian connections shall be sealed, well lit, separate from roadways, along desire lines, DDA compliant, all weather and free from obstructions.
- Minimise the number of vehicle access points from arterial roads.
- Provide permeability and direct connections between adjoining developments.
- Access for the disabled shall be provided.
- Access to buildings shall be all weather.

Innovation and Detailing

- Design and the selection of appropriate colour schemes and materials within the Puffing Billy Landscape Corridor shall respond to the requirements of the standards of the corridor, and heritage associations.
- Avoid architecture that copies previous designs in or near the precinct, and encourage a high standard of built form design that is individual but compatible with the character and form of Emerald.
- Encourage innovative design and a high standard of built form design and detailing.
- Where sustainable design measures are not consistent with other planning considerations, these shall not be dismissed, due consideration must be given to the environmental benefits of such materials or design solutions.

Scale

- Reduce visual bulk through:
 - detailing and articulation of facades.
 - varied building types
 - forms relative to human scale.
 - mix and contrast.
 - the appearance of several smaller buildings.
- Changes of building height between existing buildings and new buildings should be graduated.

Front Setback, Entry and Address

- Front setbacks shall be maintained as landscaped open space.
- Front setbacks for on-site carparking shall be avoided.
- Corner and gateway sites shall address all street frontages and view corridors, with no blank facades
- Generally the main entry of the development shall be orientated to front existing and/or proposed streets.
- Setbacks from side and rear boundaries shall allow appropriate space for canopy tree planting.

Signage

Signage is an important element in identifying businesses, providing directions and community information and providing traffic information. It is mostly advertising signage in Emerald that is developing without robust control or guidelines to the point where the clutter of signage is having a strong visual impact. This is particularly apparent in the Central Precinct where topography and vegetation constrains visibility so businesses have been placing signage along Main Street. In the Kilvington Retail Precinct and the Northern Retail precinct there is also a proliferation of business paraphernalia along footpaths and in road reserves, acting as ‘pseudo’ signage items for businesses advertising their wares.

The following principles for advertising signage (including retail paraphernalia) aim to ensure that signage is controlled and is sympathetic to the character of the town. These principles should be read in conjunction with the Cardinia Planning Scheme provisions for advertising signage, Clause 52.05.

In all Precincts:

- Signs are to identify the location, name and nature of a business.
- Where buildings have a zero front setback, signs are to be located on buildings and generally be limited to a single awning sign or verandah sign, or within a built element.
- Where multiple businesses occupy a premise, a single sign should be displayed.
- Signs on windows are to be limited.
- Signage above verandahs and sky signs are discouraged.
- Illuminated signs are to be permitted only where it can be demonstrated that there is no detrimental affect on the amenity of the area.
- Signs should be integrated with the style and character of the building and surrounds.
- The size of signs is to be consistent with the scale of the building and its surrounds.
- Signage colours and graphics are not to detract from the amenity of the area.
- Signs are to be of a high standard and design quality.

In the Central Mixed Use Precinct and elsewhere where buildings are setback from the street frontage, signs shall meet the following design guidelines:

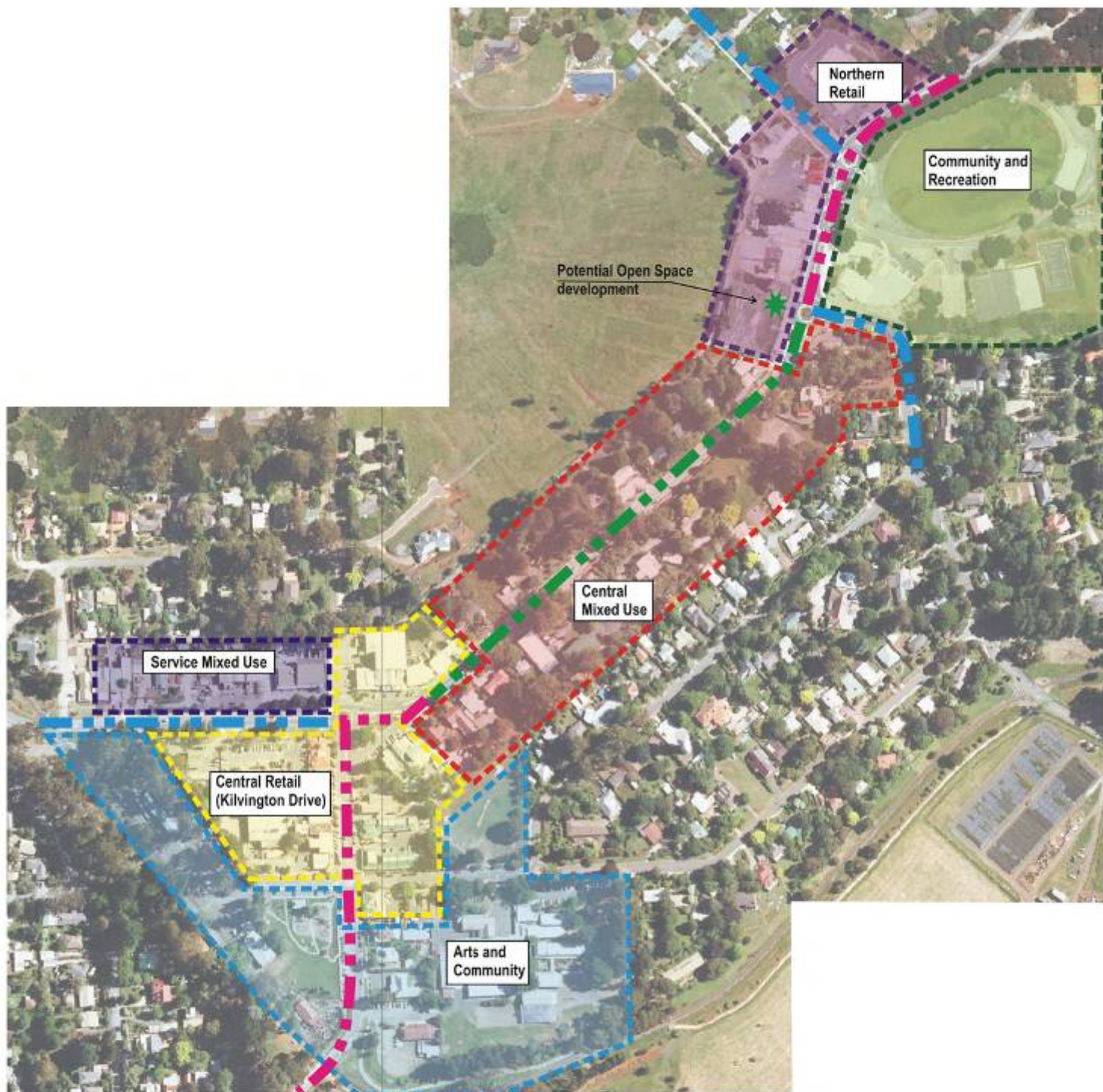
- all signs shall be located on buildings.
- where it can be demonstrated that topography and/or vegetation obscures sightlines to the buildings, signs may be stand alone pole signs.
- a single signage plate is allowable for each allotment and only one sign shall be used whether there is a single or multiple businesses on the site.
- double sided signage plates are accepted.

Sustainable design







The environmental issues raised during consultation were augmented by a strong 'sustainability' theme which expressed a desire for community-wide improvements in areas including energy and water use and application of sustainable building methods. As part of the development of the design guidelines, some principles have been developed to address sustainability issues. The principles mainly relate to Environmentally Sustainable Design (ESD) and Water Sensitive Urban Design (WSUD) initiatives. The general guidelines that apply to all developments are as outlined below. The requirements of Environmentally Sustainable Design (ESD) and Water Sensitive Urban Design (WSUD) may see the introduction of new architectural forms in Emerald (i.e. solar panels, roof vents, rainwater tanks, shading devices). It is expected that these can be successfully integrated within the existing character and environment of Emerald.

Developments should:




- Ensure that site planning means that the building functions well when subjected to prevailing winds, seasonal variations in temperature and rainfall.
- Be designed to minimise fossil fuel energy use.
- Maximise use of natural ventilation and daylight penetration.
- Have layouts and an orientation that make use of solar energy where practical.
- Have larger wall openings/windows on the northern side where solar access is available.
- Minimise glazing or provide shading devices to east and west facades to reduce heat loss and gain.
- Use double-glazing on all windows and glazed doors to improve energy efficiency and help attenuate noise.
- Use local and recycled materials, energy efficient and sustainable materials.
- Developments shall implement WSUD initiatives, considering the following systems:
 - Swale trenches/bio retention cells for filtration and to diffuse/slow down water infiltration.
 - Sediment traps and interceptor/filter systems



LEGEND - TOWN CENTRE PRECINCTS

-  Service and Mixed Use Precinct
-  Central Retail Precinct (Kilvington Drive)
-  Central Mixed Use Precinct
-  Arts and Community Precinct (including Puffing Billy)
-  Northern Retail Precinct
-  Community and Recreation Precinct

LEGEND - STREETScape CHARACTER

-  Key Gateway / Entry Avenue
-  Activity Zone
-  Emerald Link



Ref: 06/1562
Date: September 2008
not to scale


CARDINIA

FIGURE 15 - TOWN CENTRE PRECINCTS



Service and Mixed Use Precinct

Desired Form and Character

- High pedestrian amenity and connections.
- Strong landscape setting, built form recessive.
- Dominant landscape.
- Building height appropriate to topography, views.
- Sustainable development.
- Design quality in built form.
- Appropriate signage.
- Screened service areas.
- Off street carparking.



Northern Retail Precinct

Desired Form and Character

- High pedestrian amenity and connections.
- High levels of activity.
- Strong landscape setting, built form recessive.
- Building height appropriate to topography, views.
- Sustainable development.
- Design quality in built form.
- Appropriate signage.
- View corridors protected.
- Mix of on street and off street carparking.



Central Retail Precinct (Kilvington Drive)

Desired Form and Character

- High pedestrian amenity and connections.
- High levels of activity.
- Building height appropriate to topography, views.
- Sustainable development.
- Design quality in built form.
- Appropriate signage.
- Mix of on street and off street carparking.



Community and Recreation Precinct

Desired Form and Character

- High pedestrian amenity and connections.
- Strong landscape setting.
- Civic associations.
- Building height appropriate to topography, views.
- Sustainable development.
- Design quality in built form.
- Appropriate signage.
- Off street carparking.



Arts and Community Precinct (Incl. Puffing Billy)

Desired Form and Character

- High pedestrian amenity and connections.
- Strong landscape setting, built form recessive.
- Heritage and cultural associations.
- Building height appropriate to topography, views.
- Sustainable development.
- Design quality in built form.
- High levels of activity.
- Appropriate signage.
- Mix of on street and off street carparking.



Central Mixed Use Precinct

Desired Form and Character

North Side

- High pedestrian amenity and connections.
- Strong landscape setting, built form recessive.
- Building height appropriate to topography, views.
- Sustainable development.
- Design quality in built form.
- Appropriate signage.
- Off street rear carparking, limited on street parking.

South Side

- High pedestrian amenity and connections.
- Establishment of 'Emerald Link' as a streetscape environment.
- View corridors towards north maintained.
- Building height appropriate to topography, views.
- Appropriate signage.
- Strong landscape setting, built form recessive.
- Sustainable development.
- Design quality in built form.
- Off street rear carparking, limited on street parking.

Ref: 06/ 1562
Date: September 2008





CLEMATIS - Precinct Character



Characteristics To Retain

- Accessibility and visibility
- Landscape setting
- Scale of development



AVONSLEIGH - Precinct Character



Characteristics To Retain

- Accessibility and visibility
- Landscape setting
- Scale of development



Ref: 06/ 1562
Date: September 2008



12.6. Other issues

Opportunities for Emerald Link (Main Street)

The issue of built form along Emerald Link (Main Street), particularly what constitutes an appropriate scale and form, has emerged as a key aspect to be addressed by the guidelines.

The 1999 Emerald Strategy identifies Main Street between Kilvington Drive and Beaconsfield Road as problematic from a number of points of view - it does not provide a thematic link between the two shopping centres, it does not convey a consistent visual image and it does not encourage pedestrian activity. To address these issues, the strategy recommended a number of actions including the development of 'Nobelius Walk'. The main feature of Nobelius Walk was the establishment of exotic trees to form a lineal arboretum demonstrating the horticultural heritage of Emerald with additional seating to encourage wider pedestrian use. Although this term was then used to describe this precinct, it is considered to be a misnomer and is hereafter referred to as Emerald Link in this Strategy. Other recommendations included establishing a mixed use/activities zone mid-way and the development of a new small scale public open space area, to be known as 'central park'.

Since then, the mixed-use zone has been established between the Northern Retail Precinct and the Central retail Precinct. But the 'central park' idea has not materialised due to a number of factors including the non-availability of centrally located land. However, there is the opportunity to integrate an open space within any future development of the former nursery site on the northern side of Emerald-Beaconsfield Road and Belgrave-Gembrook Road roundabout. There could also be a potential vehicular and pedestrian access through this site connecting to Madigan Way. Another potential access point to Madigan Way is via the current Maternal and Child Health Centre site if this facility is relocated. The opportunities are illustrated in Figures 17, 18 and 19.

Opportunities for other Emerald town centre precincts

- Mixed Use and Service Precinct – A formal tree avenue linking the railway crossing and Kilvington Drive. This avenue will provide a strong sense of entry and direction leading to the Central Retail Precinct and will create a dramatic contrast with the informal woodland character surrounding the town. To reinforce this contrast, the avenue trees should be exotic and preferably deciduous. Potential species would include *Populus yunnaensis*, *Quercus coccinea* and *Liquidambar styraciflua*. The avenue should be developed in conjunction with a framed pedestrian path linking to residential development west of the railway line.
- Northern Retail Precinct - The commercial area of the Northern Retail Precinct should be modified to improve its pedestrian amenity and the definition of its parking areas. Some line marking works have been carried out on the north side of Belgrave-Gembrook Road. But there is the potential for improvements works on the south side incorporating additional parking. The delivery of these works could complement the relocation of the CFA to the new site on Emerald-Monbulk Road. Pedestrian amenity could be improved through the installation of feature trees, pavements, seating and building verandahs corresponding with Kilvington Drive treatments.
- Central Retail Precinct – Streetscaping works including tree planting and works to improve pedestrian amenity.
- Arts and community precinct - The development of the Gem Community Arts Centre will regenerate this precinct and establish it as the arts and culture hub. The EMCPAC development will address issues like car parking, pedestrian and vehicular access, interface with adjoining uses and Puffing Billy design requirements. There are

opportunities for the EMCPAC and any future Puffing Billy railway station proposals to be integrated to ensure the best possible outcomes, ensuring strong connections between the arts and community precinct and the railway station.

- Community and recreational precinct – The SES building is to be upgraded at its current location. The review of the Worrell Reserve master plan should respond to address the design guidelines for this precinct.
- Key gateway - The Puffing Billy railway crossing at Beaconsfield-Emerald Road is a key gateway to the Emerald town centre. As part of future streetscape initiatives, the existing hedge treatment could be further strengthened to provide a strong sense of entry and direction leading to the Emerald town centre.



Central Mixed Use Precinct

- Establish connectivity to other precincts
- Increase pedestrian access to & through
- Maintain landscape setting
- Preserve existing views & vegetation through establishment of green corridors
- Minimum setbacks from street & between buildings to allow for tree canopy
- Maintain aspects of streetscape as developed in Central Retail Precinct (paving, street furniture, lamp standards, etc.)

Increase pedestrian access through to & across Main St

Primary pedestrian route, the 'Emerald Link', located on north side of Main St

Use of setbacks to create green corridors that retain the precinct's treed/landscaped appearance & to frame desirable views to the north

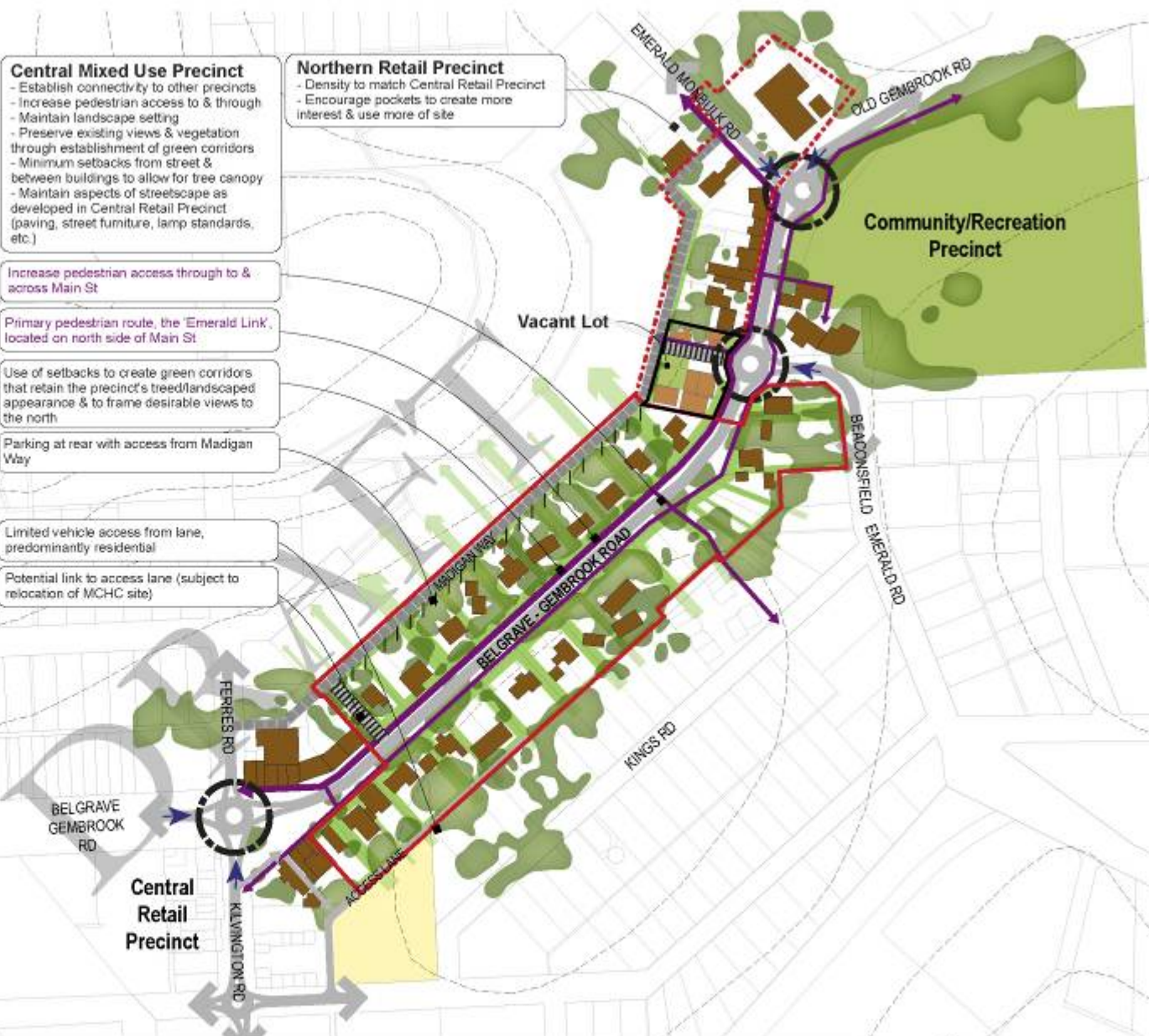
Parking at rear with access from Madigan Way

Limited vehicle access from lane, predominantly residential

Potential link to access lane (subject to relocation of MCHC site)

Northern Retail Precinct

- Density to match Central Retail Precinct
- Encourage pockets to create more interest & use more of site



LEGEND

- Central Mixed Use Precinct Boundary
- Northern Retail Precinct Boundary
- Key Gateway
- Vehicular Movement

- Potential Vehicular Movement
- Access Lane Upgrade Required
- Pedestrian Route
- Pedestrian Crossings

- View/Green Corridors
- 10m Contours
- Existing Vegetation
- Existing Buildings

- Possible Locations for Future Buildings
- Schoolgrounds Adjacent to Subject Site
- Open Space
- Intersection to be Upgraded

Scale: 1:1500m @ A1
Scale: 1:3000m @ A3

0 15 30 45m

Ref.: 3410160
Date: August 2008
Rev.: B
Drawn: APB/HW

FIGURE 17: EMERALD LINK OPPORTUNITIES

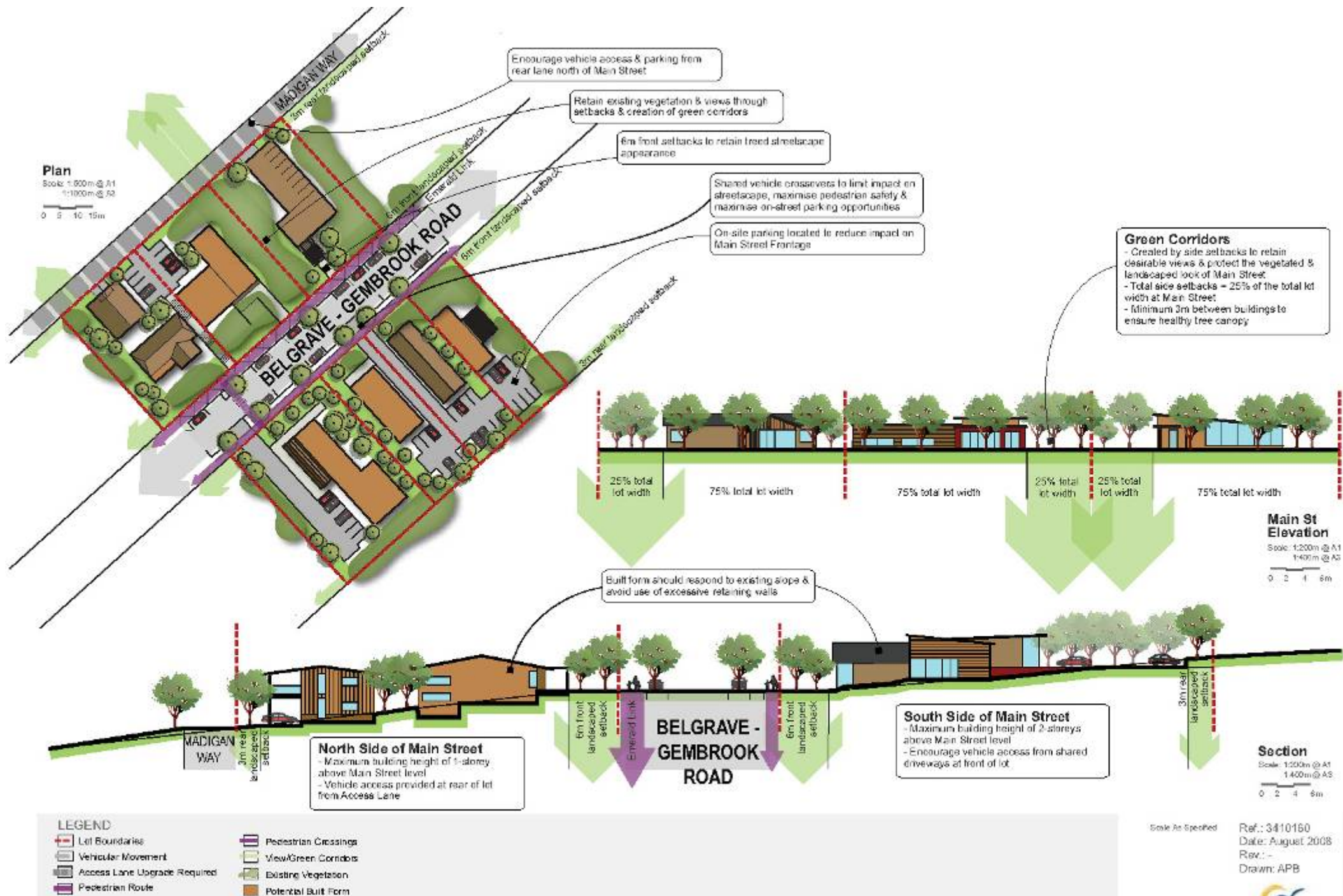


FIGURE 18: EMERALD LINK - DESIGN PRINCIPLES

Scale As Specified

Ref.: 3410160
Date: August 2008
Rev.: -
Drawn: APB



Facades should be articulated & interesting, & should respond to a pedestrian or people scale. Blank walls should be avoided & main entrances defined through use of form & materials.

Entry points at Main Street should negotiate the existing steep gradient to provide enhanced access onto individual sites.

Architectural form should enhance the landscape setting of the Central Mixed Use Precinct by responding to existing site conditions



Built form should be understated & should not detract from the natural setting.



Built form should consider & be sympathetic to existing slope & vegetation.



Built form should frame & enhance views to the north so that they are accessible from Main Street.



please note:
Images shown are for the purposes of representing an appropriate response to landscape setting & natural environment, & should not be interpreted as specific design proposals to Emerald. They are to describe intent only.

Scale As Specified

Ref.: 3410180
Date: August 2008
Rev: -
Drawn: HW/APB

FIGURE 19: EMERALD LINK - BUILT FORM PRINCIPLES

12.7. Key issues

- Principles to guide development within the town centre
- Built form (particularly along Main Street)
- Variety of shops (including undesirable retail uses)
- Potential development of key sites (particularly former nursery)
- Vegetation (including roadside vegetation)
- Proliferation of signage
- Traffic and car parking
- Pedestrian connectivity and accessibility
- Steep access to properties along Main Street
- Drainage
- Views to the north of Main Street

12.8. Objective

- To create an attractive and functional town centre that has a sense of place and identity for the community and enhances the village atmosphere.
- To form a memorable entry experience to Emerald along key roads and open space linkages.

12.9. Policy

- Ensure that future development within the town centre is in accordance with the design guidelines for the Emerald town centre.
- Ensure that any future infill development enhances the visual amenity of the town centre and considers important adjoining uses, heritage, landscape values and environmental sustainability.
- Incorporate built form, environment and landscape principles in any proposed development within the areas covered by Significant Landscape Overlay (Schedule 1: Puffing Billy Railway).

12.10. Actions

- Introduce a Design and Development Overlay for the Emerald town centre which incorporates the built form and design guidelines outlined in this Strategy.
- Allocate funds in the budget for town centre design and landscape improvements and continue to investigate alternate funding opportunities.
- Promote the maintenance and upkeep of the commercial premises (i.e. repainting, refurbishment, etc.).
- Conduct an audit of signage in the Emerald town centre to ensure compliance with Planning Permits and regulations.
- Facilitate the redevelopment of the former nursery site on the northern side of Emerald-Beaconsfield Road and Belgrave-Gembrook Road roundabout based on the guidelines outlined in this Strategy.
- Further refine and formalise the detailed design for streetscape improvements along the Emerald Link within the Central Mixed Use precinct.
- Develop detailed design guidelines for streetscape improvements within:
 - the Service and Mixed-Use Precinct
 - the Central Retail Precinct
 - the Northern Retail Precinct.

13. IMPLEMENTATION AND REVIEW

Implementation of the draft Emerald District Strategy 2008 will be undertaken as outlined in an implementation plan. The implementation plan will identify responsibilities as well as set priority for actions. Some of the actions are to be entirely funded and implemented by council, others by other levels of government and some by the Emerald community and developers. The priority of the actions will be identified as short term (1-5 years), medium term (5-10 years) or long term (10-15 years). The implementation plan will be reviewed annually in relation to actions completed and future priorities.

This is the first review undertaken since the preparation and adoption of the Emerald Strategy in 1999. This review has given an opportunity to council to update the Strategy in light of new and emerging issues. The key directions to address these issues have been informed by the feedback received during the community consultation process. To ensure that the Strategy is relevant in light of any changes in the assumptions for development, it is recommended that a full review of the Strategy should be undertaken in 5 years.

14. REFERENCES

- Cardinia Shire Council, Cardinia Planning Scheme, Municipal Strategic Statement.
- Cardinia Shire Council, 1997, Guidelines for Rural Residential Development.
- Cardinia Shire Council, 1999, Emerald Strategy.
- Cardinia Shire Council, 1996, Cardinia Shire Heritage Study, Volume 1, Heritage Program.
- Cardinia Shire Council, 1998, Cardinia Shire Heritage Study, Volume 1, Environmental History (Former Sherbrooke and Cranbourne Shire Areas).
- Cardinia Shire Council, 1998, Cardinia Shire Heritage Study, Volume 2 Heritage Places (Former Sherbrooke and Cranbourne Shire Areas).
- Cardinia Shire Council, 2001, Weed Management Strategy.
- Cardinia Shire Council, 2002, Stormwater Management Plan Volume 1.
- Cardinia Shire Council, 2003, Cardinia Pedestrian and Bicycle Strategy.
- Cardinia Shire Council, 2004, Local Road Strategy.
- Cardinia Shire Council, 2004, Roadside Management Plan.
- Cardinia Shire Council, 2004, Nobelius Heritage Park Strategic Conservation Plan.
- Cardinia Shire Council, 2004, Environment Management Strategy 2004 – 2007.
- Cardinia Shire Council, 2005, Waste Management Strategy 2005-2009.
- Cardinia Shire Council, 2005, Municipal Wildfire Preparedness Plan.
- Cardinia Shire Council, 2006, Emerald Lake Park Strategic Plan.
- Cardinia Shire Council, 2005, Responsible Gaming Policy 2005-2009.
- Cardinia Shire Council, 2006, Sustainable Development and Greenhouse Reduction Strategy.
- Cardinia Shire Council, 2006, Sustainable Water Use Plan.
- Cardinia Shire Council, 2006, Cardinia Local Heritage Study Review, Volume 1, Stage A.
- Cardinia Shire Council, 2006, Cardinia Local Heritage Study Review, Volume 2, Stage B.
- Cardinia Shire Council, 2007, Council Plan 2007 - 2011, Creating the future.
- Cardinia Shire Council, 2007, Youth Policy and Strategy 2007-2011.
- Cardinia Shire Council, 2007, the Disability, Access and Inclusion Policy.
- Cardinia Shire Council, 2007, the Disability Access Design Guidelines.
- Cardinia Shire Council, 2007, Municipal Fire Prevention Plan.
- Country Fire Authority, 2007, Building in a Wildfire Management Overlay, Applicant's Kit.
- Department of Infrastructure, 2002, Melbourne 2030.
- Department of Sustainability and Environment, 2003, Victoria's Native Vegetation Management – A Framework for Action.
- Emerald Civic Committee report to Sherbrooke Council, 1990, Emerald –Towards 2010.
- Id.Profile, Cardinia Shire Community Profile, 2001 and 1996 census information for Emerald - Clematis - Avonsleigh - Menzies Creek.
- Melbourne Water, 2004, Port Philip and Western Port Regional River Health Strategy.
- Scenic Spectrums Pty Ltd, 1992, Puffing Billy Corridor Landscape Evaluation Study.

APPENDICES

APPENDIX A: NEIGHBOURHOOD CONTEXT GUIDELINES

NEIGHBOURHOOD PRECINCT 1

Sunnyside Terrace; Messmate Court

Existing Character

- Undulating, ridge top.
- Views from lots limited by density of vegetation and canopy lines. Linear views along road corridor.
- Density of vegetation provides screening of built form and canopy cover reduces visual exposure.
- Tall canopy trees. Native vegetation dominant.
- Low density, large blocks typical. Pattern of subdivision not apparent.
- Narrow, undulating to very steep road network. Informal, meandering to follow topography and sometimes remnant vegetation.
- Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths.

Preferred Character

- Reinforce the undulating ridge top character and dense vegetation through sensitive siting of buildings and works, retention of vegetation and ensuring minimal visual exposure of built form.

Neighbourhood Guidelines

- Ridge top location a key determinant for siting, views and landscape response.
- Minimise the visual exposure of roads and infrastructure on the ridgelines ensuring the orientation and layout of lots and the street network follow topography and contours.
- Large lots preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location
- Landscape and vegetation shall dominate views and be the strongest character determinant in the Neighbourhood, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

NEIGHBOURHOOD PRECINCT 2

Meadowview Lane; Charman Avenue; Pinnocks Road; Old Beaconsfield Road

Existing Character

- Undulating, ridge top.
- Views from lots limited by density of vegetation and canopy lines. Linear views along road corridor.
- Density of vegetation provides screening of built form and canopy cover reduces visual exposure.
- Tall canopy trees. Native vegetation dominant.
- low density, large blocks typical. Pattern of subdivision not apparent.
- Narrow, undulating to very steep road network. Informal, meandering to follow topography and sometimes remnant vegetation.
- Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths.

Preferred Character

- Reinforce the undulating ridge top character and dense vegetation through sensitive siting of buildings and works, retention of vegetation and ensuring minimal visual exposure of built form.

Neighbourhood Guidelines

- Location generally to side of ridge, top of ridge a key determinant for siting, views and landscape response.
- Larger lot sizes preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location
- Landscape and vegetation shall dominate views and be the strongest character determinant in the Neighbourhood, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.
- Minimise the visual exposure of roads and infrastructure up ridgelines ensuring the orientation and layout of lots and the street network follow topography and contours.

NEIGHBOURHOOD PRECINCT 3

Anne Street; South of Boundary Rd; Hamilton Road

Existing Character

- Undulating, sides and top of ridge.
- Restricted linear views along road corridor.
- Density of vegetation provides screening of built form and canopy cover reduces visual exposure.
- Tall canopy trees. Native vegetation dominant.
- Low density, block size varies. Pattern of subdivision not apparent.
- Narrow, undulating to very steep road network. Formal grid layout.
- Sealed/unsealed roads with open drainage channels. Narrow road verges, no footpaths.

Preferred Character

- Retain the dense vegetation character and minimal visual exposure of built form, through sensitive siting of buildings and works and the retention of vegetation particularly tall canopy trees.

Neighbourhood Guidelines

- Ridge top and side of ridge location a key determinant for siting, views, landscape response.
- Larger lots preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location.
- Landscape and vegetation shall dominate views and be the strongest character determinant in the Neighbourhood, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

- Minimise exposure of roads and infrastructure up ridgelines ensuring the orientation and layout of lots and the street network follow topography and contours.

NEIGHBOURHOOD PRECINCT 4

Westlands Road; Heroes Avenue

Existing Character

- 'Traditional township' character.
- Generally along the plateau at the top of a ridge.
- Linear views along road corridors, framed by vegetation.
- Open landscape, mix of exotic and native. Formal street tree avenues.
- Medium density, small blocks, single storey typical. Standard pattern of subdivision fences define allotments.
- Formal grid layout to road network, generally accommodating two lanes and carparking.
- Sealed roads, mostly kerb and channel. Narrow verges, limited footpaths.
- Road network varied width, generally accommodating two lanes and carparking. Formal grid layout. Sealed, mostly kerb and channel. Narrow road verges, limited footpaths.

Preferred Character

- Retain the traditional township character of this precinct. Ensure that new development is sensitive to existing character and that the delineation between the public domain and private allotments does not compromise the landscape setting.

Neighbourhood Guidelines

- Township location a key determinant for contextual design and site planning.
- Site planning to respond to existing character, in particular:
- Grid patterns and orientation of built form.
- Lot size.
- Consistent setback.
- Landscape character and streetscape character.
- Amenity issues.
- Front fencing acceptable, with, landscaped or hedge boundaries preferred. High fences should be avoided. The design of front fences should complement the design of the dwelling and any front fences on adjoining properties.

NEIGHBOURHOOD PRECINCT 5

Old Gembrook Road

Existing Character

- Strong connection with Emerald Lake Park. Front Gardens have a strong 'parkland' character.
- Undulating, within a valley. Orientation south for views across Emerald Lake Park.
- Contained views within the valley, framed linear views along road corridors.
- Limited visual exposure from higher elevations.
- Tall canopy trees, connection of canopy lines around periphery of the Park. Hedging a common feature along lot frontages.
- Predominantly native vegetation, but strong exotic character along periphery of Park. Strong backdrop vegetation along ridgelines

- Low density, large blocks typical. Pattern of subdivision somewhat defined by side fencing, front hedging.
- Narrow, undulating road network. Sealed/unsealed roads with open drainage channels. Narrow road verges, no footpaths.

Preferred Character

- Retain the 'parkland' character and contained nature of the valley through retention of exotic and native vegetation, provision of a soft edge between public and private domains and the sensitive siting of buildings and works.

Neighbourhood Guidelines

- Proximity to Emerald Lake Park and the connection of the public/private landscapes, creates an open parkland feel in this Neighbourhood which is an important determinant for siting, views, landscape response.
- Minimise exposure of built form, roads and infrastructure from the Park and from higher elevations and ridge tops.
- Maintain larger lot sizes to allow opportunities for a strong landscape response and flexibility in site planning and built form location and setback.
- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - landscaped setbacks
 - strong landscape response.
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - exotic species considered (non weed species) in allotments adjacent Emerald Lake Park.

NEIGHBOURHOOD PRECINCT 6

Edenmont Road; Belgrave-Gembrook Road; Albert Road

Existing Character

- Generally plateau at top of ridge, undulating.
- Linear views along road corridors.
- Density of vegetation limits visual exposure of built form.
- Tall canopy trees, dense canopy cover.
- Predominantly native vegetation, but strong exotic character in private landscapes.
- Low density, large blocks typical. Allotment pattern defined by front fencing. Hedging is a feature in front setbacks.
- Allotments with direct frontage to main roads. Internal roads narrow, undulating. Sealed/unsealed roads with open drainage channels. Narrow verges, no footpaths

Preferred Character

- Retain the dense, mixed vegetation character through retention of exotic and native vegetation, provision of a soft edge between public and private domains and the sensitive siting of buildings and works

Neighbourhood Guidelines

- Location generally along a 'plateau' of the ridge line, a key determinant in siting, views, landscape response.
- Exotic vegetation character of private landscapes a desirable characteristic, particularly hedging to front setbacks.

- If fencing is required for security reasons, landscaped or hedge boundaries are preferred. High fences should be avoided. The design of front fences should complement the design of the dwelling and any front fences on adjoining properties.
- Minimise exposure of built form, roads and infrastructure from higher elevations and lower valleys.
- Large lot sizes preferred to allow opportunities for a strong landscape response and flexibility in site planning and built form location and setback.
- Landscape and vegetation shall dominate views and be the strongest character determinant in the Neighbourhood achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
- Exotic species considered (non weed species) in private allotments.

NEIGHBOURHOOD PRECINCT 7

Pinnocks Road; Station Avenue; Ozone Avenue; Davey Road

Existing Character

- Undulating, side of ridge and valley formation.
- Filtered to open views across valleys.
- Density of vegetation limits visual exposure of built form.
- Tall canopy trees, open to closed cover. Backdrop vegetation a strong feature along surrounding ridgelines. Predominantly native vegetation, ferns a feature in valley pockets. Mixed exotic character in private landscapes.
- Low density, large blocks typical. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to follow topography. Sealed/unsealed roads with open drainage channels. Narrow verges, no footpaths

Preferred Character

- Retain the dense, mixed vegetation character through retention of exotic and native vegetation, provision of a soft edge between public and private domains and the sensitive siting of buildings and works.

Neighbourhood Guidelines

- Side of ridge, valley location a key determinant for siting, views, landscape response.
- Minimise exposure of built form, roads and infrastructure from across valleys and from ridge tops.
- Large lots preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location.
- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

NEIGHBOURHOOD PRECINCT 8

Cornish Road; Bellbird Crescent; Wright Road

Existing Character

- Undulating, side of ridge.
- Filtered to open views across valleys and surrounding ridges.
- Density of canopy vegetation limits visual exposure of built form.
- Tall canopy trees, primarily to lot boundaries and road verges, providing a density of cover. Backdrop vegetation a strong feature along surrounding ridgelines. Predominantly native vegetation.
- Low density, large blocks typical. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to follow topography. Sealed/unsealed roads with open drainage channels. Some newer areas all sealed with kerb and channel. Narrow verges, no footpaths

Preferred Character

- Retain the dense vegetation character, minimal visual exposure of built form, and protection of views to surrounding ridgelines through sensitive siting of buildings and works and the retention of vegetation particularly tall canopy trees.

Neighbourhood Guidelines

- Side of ridge location a key determinant for siting, views, landscape response.
- Minimise exposure of built form, roads and infrastructure from across valleys and from ridge tops.
- Large lots preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location.
- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

NEIGHBOURHOOD PRECINCT 9

Emerald-Monbulk Road; Alexander Street; Lawson Road; Majestic Drive

Existing Character

- Undulating, side of ridge to valley.
- Linear views along road corridors.
- Density of canopy vegetation limits visual exposure of built form.
- Tall canopy trees, closed cover. Predominantly native vegetation, mixed exotic character in private landscapes.
- Low density, large blocks typical. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to follow topography. Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths. Verge planting a feature, particularly with stands of remnant vegetation.

Preferred Character

- Retain the dense vegetation character, particularly along roadsides, and ensure minimal visual exposure of built form through sensitive siting of buildings and works and the retention of vegetation particularly tall canopy trees.

Neighbourhood Guidelines

- Side of ridge, valley location a key determinant for siting, views, landscape response.
- Minimise exposure of built form, roads and infrastructure from across valleys and from ridge tops.
- Large lots preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location.
- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

NEIGHBOURHOOD PRECINCT 10 Emerald Country Club Estate

Existing Character

- Within Emerald Country Club Estate heritage area. Several residences nominated as 'contributory' to the heritage of the Estate.
- Undulating, side of ridge to valley.
- Linear views along road corridors.
- Views from lots limited by density of vegetation and canopy cover. Visual exposure of built form limited by vegetation.
- Tall canopy trees predominantly native. Mixed exotic character in private landscapes, strong 'gardenesque' character.
- Low density, large blocks typical. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to very steep. Meandering to follow topography and often remnant vegetation. Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths.

Preferred Character

- Preserve the heritage values of the precinct, enhancing the strong landscape character (both exotic and native). Sensitive siting of buildings and works to complement the existing character and minimise visual exposure of built form.

Neighbourhood Guidelines

- The strong landscape character of the public/private landscapes and the heritage contribution of some of the gardens and residences provide a distinct character to this neighbourhood and are important determinants for site planning and landscape response.
- Larger lot sizes preferred to allow opportunities for a strong landscape response and flexibility in site planning and built form location and setback.
- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - a strong landscape response.
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
- Exotic species appropriate (non weed species) in private landscapes and setbacks.

NEIGHBOURHOOD PRECINCT 11

Clematis

Existing Character

- Undulating, sides of ridge to top of ridge.
- ‘Clustered’ location along the main road.
- Enclosed views due to density of vegetation.
- Density of vegetation and canopy cover limits exposure of built form.
- Tall canopy trees open to closed cover, ‘bushland character’. Predominantly native vegetation with stands of remnant vegetation. Mixed exotic character in private landscapes.
- Low density, large blocks typical. Large setbacks from boundaries. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to follow topography. Service road access from main roads. Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths.

Preferred Character

- Retain the dense ‘bushland’ character and ensure minimal visual exposure of built form through sensitive siting of buildings and works and the retention of vegetation particularly tall canopy trees.

Neighbourhood Guidelines

- Top and side of ridge location a key determinant for siting, views, landscape response.
- Minimise visual exposure to built form and infrastructure, particularly from Wellington Road, and ensure a strong landscape response and retention of existing vegetation to preserve the ‘Bushland’ character.
- Larger lot sizes preferred to allow opportunities for a density of vegetation and flexibility in site planning and built form location
- Landscape and vegetation shall dominate views and be the strongest character determinant in the Neighbourhood, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

NEIGHBOURHOOD PRECINCT 12

Avonsleigh

Existing Character

- Undulating, side of ridge to valley.
- Linear views along road corridors.
- Density of canopy vegetation limits visual exposure of built form.
- Tall canopy trees, closed cover. Predominantly native vegetation, mixed exotic character in private landscapes.
- Low density, large blocks typical. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to follow topography. Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths. Verge planting a feature, particularly with stands of remnant vegetation.

Preferred Character

- Retain the dense vegetation character, particularly along roadsides, and ensure minimal visual exposure of built form through sensitive siting of buildings and works and the retention of vegetation particularly tall canopy trees.

Neighbourhood Guidelines

- Location generally to side of ridge, top of ridge a key determinant for siting, views, landscape response.
- Minimise visual exposure to built form and infrastructure, particularly from Belgrave-Gembrook Road, and ensure a strong landscape response, including retention of existing vegetation to preserve the 'Bushland' character.
- Maintain larger lot sizes to allow opportunities for a density of vegetation and flexibility in site planning and built form location
- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - landscaped setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

NEIGHBOURHOOD PRECINCT 13

Rural

Existing Character

- Undulating, side of ridge to valley.
- Enclosed views due to density of vegetation and canopy cover. Some open views where rural properties are adjoining.
- Density of canopy cover limits exposure of built form.
- Tall canopy trees open to closed cover, 'bushland character'. Allotments well screened from roads by vegetation. Predominantly native vegetation with stands of remnant vegetation. Mixed exotic character in private landscapes.
- Low density, large blocks typical. Large setbacks from boundaries. Pattern of subdivision not readily apparent.
- Roads narrow, undulating to follow topography. Service road access from main roads. Sealed/unsealed roads with open drainage channels. Wide road verges, no footpaths.

Preferred Character

- Retain the dense 'bushland' character and ensure minimal visual exposure of built form through sensitive siting of buildings and works and the retention of vegetation particularly tall canopy trees.

Neighbourhood Guidelines

- Location generally to side of ridge, valley a key determinant for siting, views, landscape response.
- Minimise visual exposure to built form and infrastructure and ensure a strong landscape response, including retention of existing vegetation to preserve the 'Bushland' character.
- Maintain larger lot sizes to allow opportunities for a density of vegetation and flexibility in site planning and built form location

- Landscape and vegetation shall dominate views and be the strongest character determinant, achieved through:
 - responsive site planning
 - landscape setbacks
 - retention of existing canopy vegetation; revegetation, particularly canopy trees.
 - building heights shall not break the canopy line or be silhouetted above ridgelines.

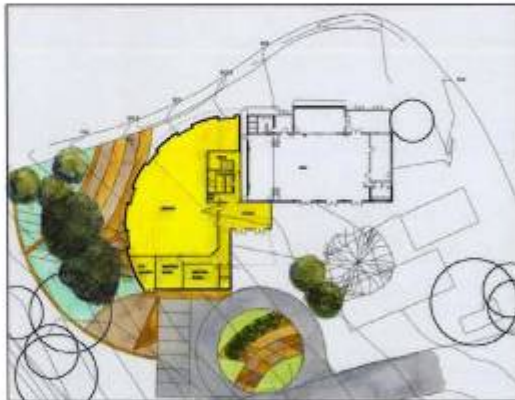
APPENDIX B: LIBRARY AND COMMUNITY CENTRE PROJECT



The scope of the project has been divided into 5 Parts NOT 5 stages. It was very important that each part of the project could be individually costed to help with the process of applying for funds and determining future budgets.

Each element of the project has been looked at to determine the scope of work that has to be included to allow that part to be complete and capable of being used safely and realistically.

Below is a more detailed summary of each of the parts that make up the whole.

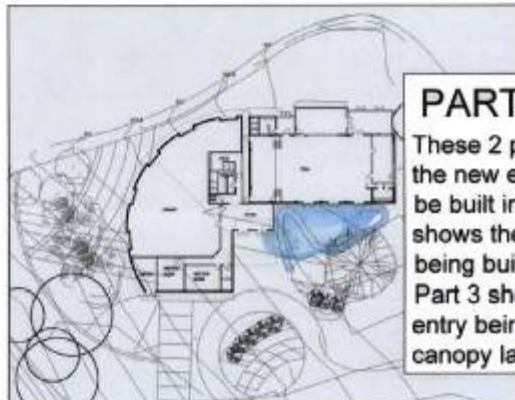


PART 1

The provision of a new building to accommodate: the library, community meeting rooms, toy library and toilets.

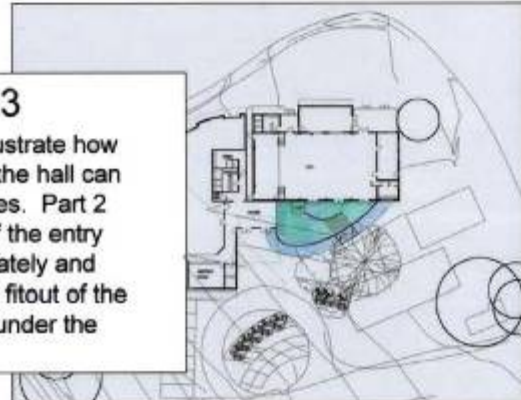
The foyer is designed to be expanded to incorporate the new entry to the Mechanics Institute Hall.

This part also includes the roadworks required to make the new entry feasible and the start of the community plaza space with landscaping.



PART 2 & 3

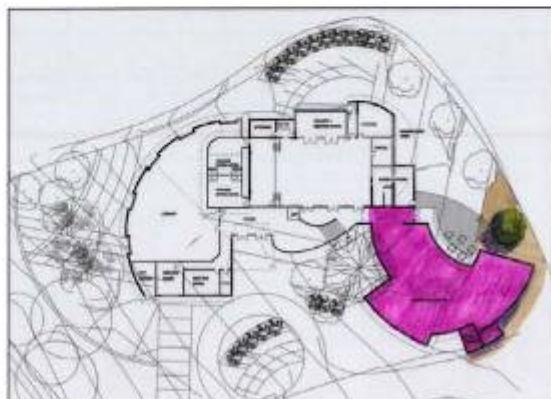
These 2 plans illustrate how the new entry to the hall can be built in 2 stages. Part 2 shows the roof of the entry being built separately and Part 3 shows the fitout of the entry being built under the canopy later.



PART 4

This part involves the refurbishment of the hall to restore the hall space to its original ceiling height. The hall building is extended to accommodate a new commercial kitchen where the roof extends to create an undercover area for bus users and the radio station with new change rooms being built over the toilets provided at the library level. The change rooms are accessible from the back of the stage.

A glazed gallery / meeting area with sun shading has been developed facing the Emerald Lake Road. On this side is also the second stage of the Community Plaza with landscaping.



PART 5

Is the creation of a Community Centre that works at the street level and engages in the public space surrounding the facility.

The Community Centre is linked through to the hall and the library complex.

APPENDIX C: EMERALD AREA BUS STOP OBSERVATIONS

The following is a collated report from several members of the Emerald Village Committee regarding the state of bus stops in our area.

The consensus from the Emerald Village Committee is to get community members out of their cars and onto public transport, in a community effort to reduce greenhouse gas emissions from car travel.

We focused our attention on the increased bus services on Route 695/695F & 838. In order to make bus travel a **real** option and **appealing** to people who would not otherwise consider bus travel, we believe that by making the bus stops attractive and safe will encourage their use. It has also been suggested to repaint the existing dark green bus shelters a much lighter colour to match the newer colorbond-type bus shelters, particularly for safety reasons.

The reports start from Avonsleigh and move towards Menzies Creek, with Sheila Hampson's report looking at bus stops along the Emerald – Beaconsfield Rd.

Please note: some of these comments have been superseded by recent work on the handstand area at most bus-stops.

REPORT FROM PETER HADWEN

Reviewed here are six bus stops in Avonsleigh beginning first with those on the north side, for east travelling buses towards Cockatoo. This is a winding road, with many accidents in the time we have lived here, 11 years.

Lawsons Road

This has a properly constructed off road concreted parking spot, but has no shelter. Visibility is good; it serves Emerald Secondary College, and appears to me to be safe except that there is only a poorly defined pathway on the grass verge for offloading passengers, to east as well as to west.

Avonsleigh General Store

This bus stop is on a bend, and because of trees and property boundaries, there is less than half a bus width of space in which to stop, leaving a very narrow dirt track onto which passengers can dismount. There is no shelter, and because of General Store shopping, there is often a number of passengers dismounting. West travelling traffic is partially blocked by a stationery bus. With all these factors, there are a number of dangers to pedestrians.

Corner Phillips Road and Belgrave - Gembrook Road

The bus stops on the beginning of Phillips Road which is unsealed, and at this time of year (late winter/early spring) is badly potholed at the bus stop. There is no shelter, and the stop is on a long bend. There is no pavement on this north side of the road, and dismounting passengers find themselves at the road side of an unsealed road meeting the main road at an obtuse angle. Traffic passing westwards can either take the dirt road, or continue on the asphalt road towards Cockatoo. Dismounting passengers need to take avoiding action by keeping close to the road side (no pavement) if there are vehicles approaching after the bus leaves. It is a dangerous place to be, and especially in wet weather. Rain run off down the slope of Phillips Road causes mud to cross the asphalt road.

South of the Main Road

Corner Phillips Road and Belgrave - Gembrook Road

This bus stop is on a bend, has a bus shelter, and there is adequate off road parking on the dirt shoulder for the bus. Visibility is fairly OK (more than 50 m each way). The bus stop is unsafe from traffic travelling from Cockatoo to Emerald due to the likelihood to skid on the bend in wet weather – numerous incidents have occurred in recent months purporting to this. **Crash barriers on this bend are urgently needed.**

Opposite Avonsleigh General Store

This stop is on a bend, and has a shelter. There is sufficient off road parking on the gravel shoulder and passengers dismount onto this gravel. There is no pathway in either east or west direction for dismounted passengers. While relatively safe immediately off the bus, passengers have to choose between the dangerous choices of cutting along the road side on a narrow verge, or crossing on a bend where visibility is poor in both directions. Altogether an unsafe place to alight!

Opposite Lawsons Road

This stop has a shelter, ample off road parking on the gravel shoulder, and good visibility. There is a sharp drop of about 15cm from the shoulder onto the level of the bus shelter, (which is located on a gravel path). In the dark, this could be dangerous to dismounting passengers.

Concluding, there are inherent and real dangers to passengers alighting from any of the bus stops in Avonsleigh. These dangers are heightened during wet weather or during the dark. These dangers are made worse because there is lack of a define pathways at some of the stops, or limited street lighting on this very winding stretch of road. From our own knowledge, speeding cars are a problem, and a case can be made out to lower the legal speed limit to 50kph, as is the case on Macclesfield Rd Avonsleigh.

REPORT FROM LEE FULLER

The bus stop on the corner of Belgrave – Gembrook & Emerald – Monbulk Rd (outside Blue Hills Fish Café & Warren’s Sport & Recreation) has no bus shelter and has no hard standing. The gravel layout has eroded over time, so that the drop from the concreted verge drops down considerably making alighting from the bus much steeper than it needs to be. It should be noted that this is also a designated bus stop for students catching the bus to Special Schools, quite inappropriate and more difficult for these students in wheelchairs. This bus stop does have a rubbish bin & a timetable displayed.

The bus stop outside the Emerald Fire Station on the corner of Belgrave – Gembrook & Emerald – Beaconsfield Road is in good condition, has a rubbish bin, a bus shelter, but no timetable displayed (passengers waiting go across the road to read the timetable in the window of the Emerald Fish Shop). Since the area around the bus stop was recently concreted the height of the bus shelter seat needs to be raised, as it is very low and uncomfortable as a result of it being low set. This is a high usage bus stop that is used for students that travel to other schools in outlying areas such as Beacons Hills College, St Josephs College, Mater Christi College, etc. Also it is a dark bus shelter that could do with a makeover.

REPORT FROM FRANK MCGUIRE

- Bus stop at Ferres Rd - good except for:
 - surface which is rough, muddy and tree roots protruding;
 - western exit is steep and slippery
 - roof gutters are full of rubbish
- Bus stop at Church Rd- fairly good, but needs painting
- Bus stop at Community House - good.

REPORT FROM KEVIN TEASDALE

(Bracketed Nos. refers to the photos thereafter)

Here are some thoughts on the bus stops between Emerald and just beyond Clematis. All bus shelters have a bench seat. Most stops have rubbish bins but there is evidence of some extraneous rubbish (e.g. 0788). There is no internal lighting for any of the bus shelters. All are clearly signed as bus stops. There is considerable variation in the space ratio of buses to through traffic and patrons. Some are spacious and well off the road with no impediment to through traffic while others seem cramped on the side of the road, making them awkward for vehicles and passengers alike. Hasty inspections indicated that all shelters seem to be in a good state of repair with little sign of abuse- no vandalism or graffiti.?

The two bus stops at Edzell Rd (near Menzies Rd) Clematis are fairly typical of others in Emerald, consisting of a shelter on only one side of the road (Refer 0784).? This shelter is clear of vegetation except wet grass of which there is a fair width separating the shelter from where the bus stops (See 0786). The effectiveness of the waterproofing would depend upon the prevailing wind. The area is reasonably flat and, to that extent, suitable for wheel-chairs. However there is no platform from which to step onto the bus.

The stop opposite is much the same but with the absence of a shelter. (Refer 0785).

The bus shelter at Clematis central is relatively good. The elevated paved area in the shelter runs to the curb where the bus pulls up. This ensures dry feet and an easy step up into the bus (See 0788). The stop opposite is similar except that it faces the opposite direction and hence passengers waiting for the bus would get wet in one while staying dry in the other during wind-driven rain (0789).

The Pinnocks Rd stops are poor. The one on the Pinnocks Rd side has no shelter and is reached by walking along the busy Belgrave-Gembrook Road. The passengers join the bus on a muddy patch (See 0796).

The bus shelter situated opposite Pinnocks Road backs on to bush and has a concrete floor. It is cramped with no acceptable access. Patrons from the Anne/Church Street junction must walk down a bush track which becomes perilously steep where it drops down to the bus shelter (Refer 0797). *NB. There is a considerable amount of overhanging branches at this bus stop that needs regular pruning and attention.* All others must reach the shelter by walking along the busy Belgrave-Gembrook Road. It should be noted that elderly people who prefer the closer bus stop must negotiate the slippery slope. Otherwise, the Church St stop is available to them.

The Church St stop is of a similar good standard to Clematis central in that it has an elevated concrete floor that extends to the bus which ensures that feet stay dry and a relatively easy step up into the bus. (Refer 0795). It is also similar in that when the buses

pull up there is not much space between the driver's side of the bus and through traffic, compared with the Edzell Road stop. However, much valuable roadside vegetation would be lost if all bus stops were as spacious as Edzell Road.



Edzell Rd-Clematis-IMG_0784



Edzell Rd-Clematis-IMG_0785



Edzell Rd-Clematis-IMG_0786



Clematis-IMG_0788



Clematis-IMG_0789



Church St-Emerald-IMG_0795



Pinnocks Road-Emerald-IMG_0796



Pinnocks Road-Emerald-IMG_0797

REPORT FROM SHEILA HAMPSON

This is part of the bus route for 695F for Fountain Gate.

Station Avenue leaving Emerald

The bus can pull off the road onto gravel.

There is a shelter in good repair with a gravel base.

There is a large pine branch leaning on top of the shelter.

Safe to enter and leave bus.

Security - homes nearby and visible from road and Station Ave.

Sign clear. No timetable.

Station Avenue going to Emerald

The bus pulls to the side of the road, but visibility coming from Beaconsfield end for cars to see around the bus is not good. Bit of a bend. Edge of 80 km zone.

The bus shelter is up on a bank. The bus would need to be very close to the bank for people to jump across or jump down.

The shelter was good. The grass verge was mowed by the neighbours and they have planted some agapanthus on the edge. Dirt base and neat.

Can see the other bus stop and homes behind.

Ozone Ave leaving Emerald

80 km zone.

Large cut rectangle in the bank. Bus can pull to the edge of the road. Good visibility for other traffic.

Sign good, but no timetable or other traffic signs to say a bus might stop, but there is a pedestrian sign about 50 m away.

No shelter. Gravel area to wait. Could be room for a shelter.

Ozone Avenue going to Emerald

80 km zone

High bank. Sign is on the bank, but the shelter is on the Ozone Ave service road about 20 m away. Set back from Beaconsfield Road. Bus is able to get right off the road onto the gravel.

The shelter is good with gravel inside.

Homes nearby.

All the shelters were metal and a light brown colour. The seats were wooden.

Paradise Hotel, Clematis going to Emerald

Shelter is dark green, concrete floor, signage, turn in area for the bus off the road.

Going away from Emerald

Dark green shelter concrete floor, close to post box

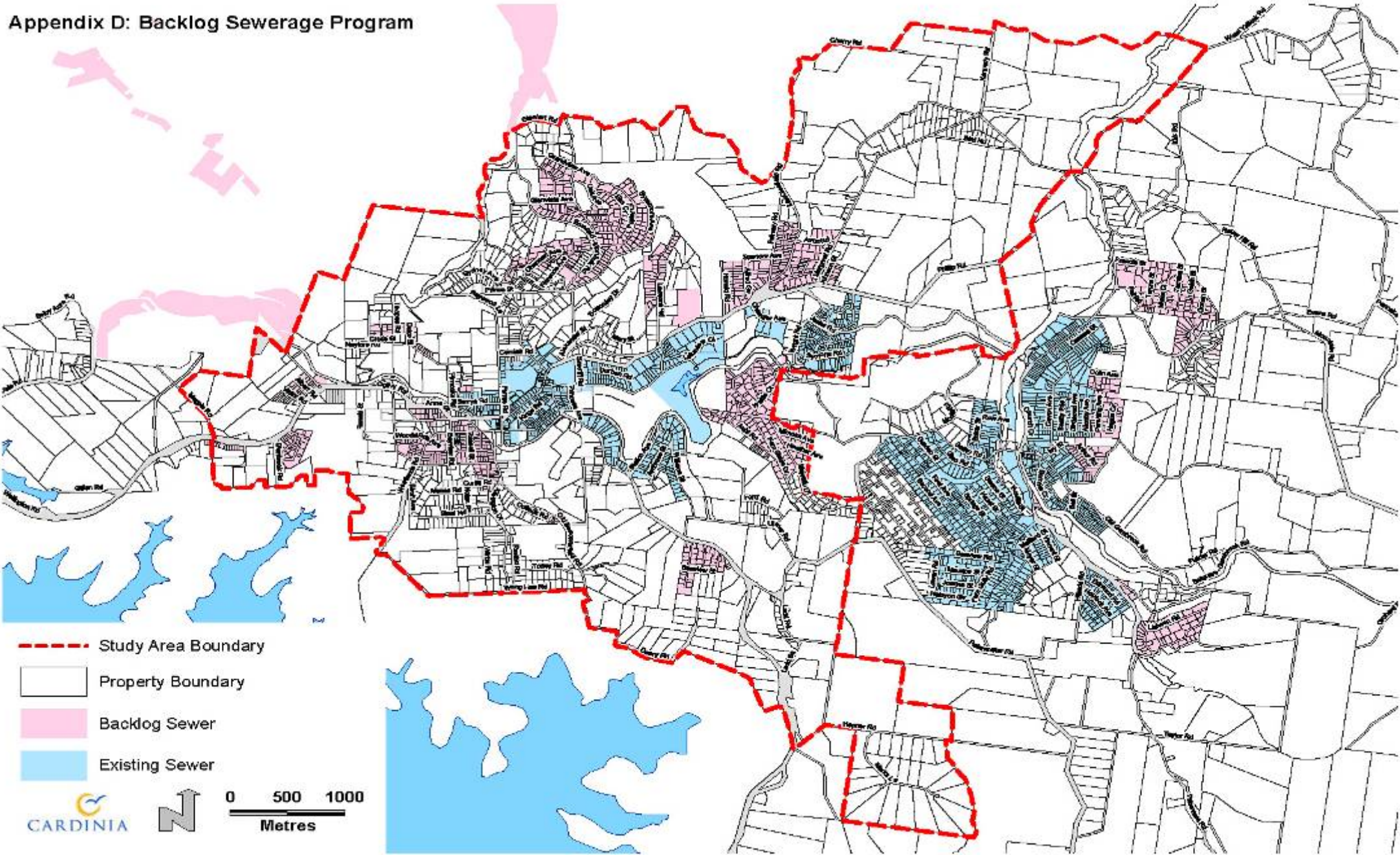
Corner of Wellington Road & Paradise Avenue

Both sides of the road are gravel coming to Clematis the stop is hard to see around the bend. Cars must go around the bus stopped on the side of the road and visibility is poor. No shelters.

Corner of Wellington Road & Magpie Road

It is right on the corner. Both stops are gravel and have no shelters. The signs hard to see with overhanging trees, etc.

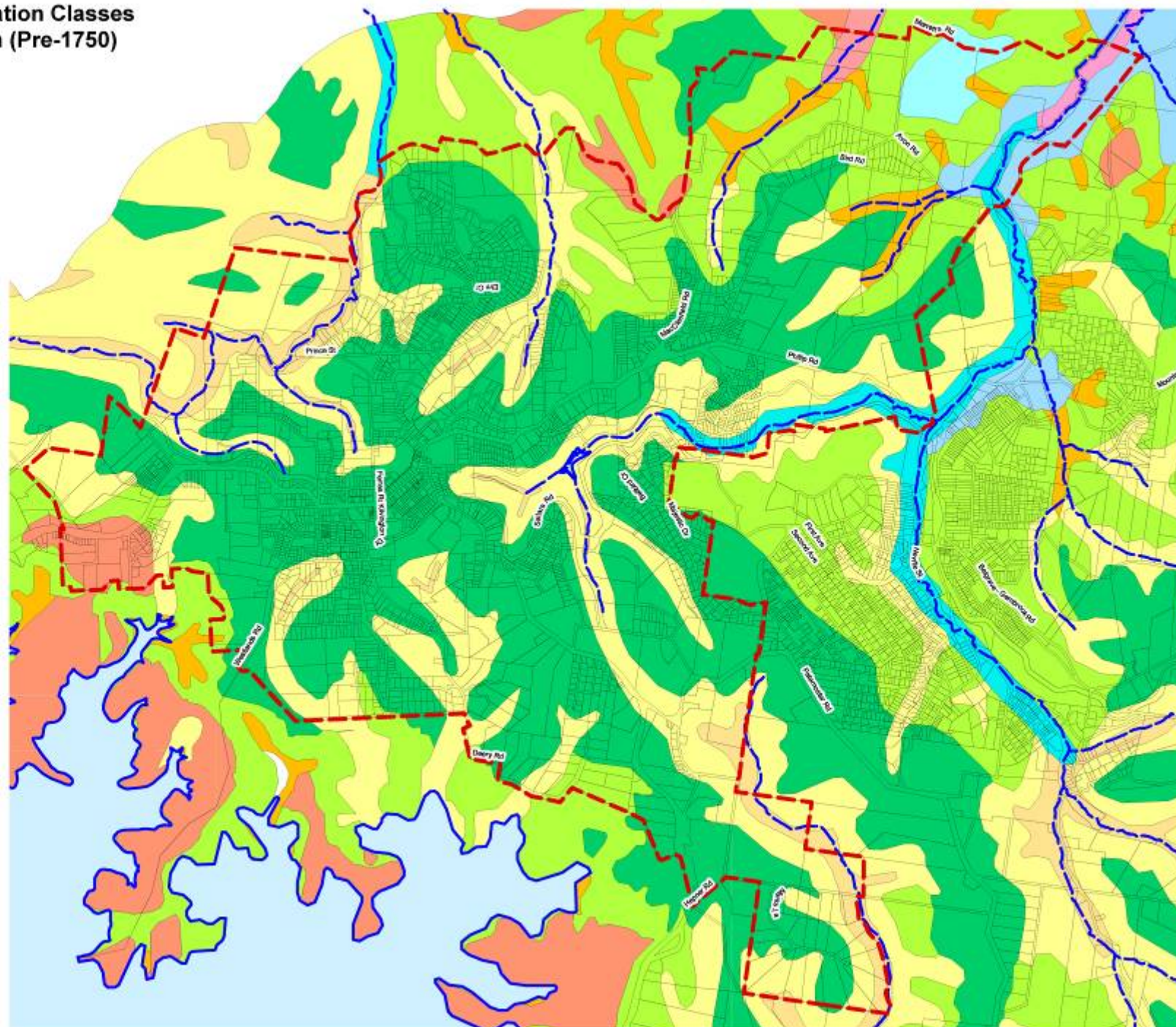
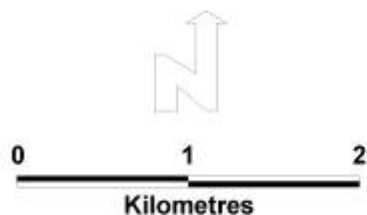
Appendix D: Backlog Sewerage Program



Appendix E: Ecological Vegetation Classes original vegetation distribution (Pre-1750)

- Clay/Wet Heathland/Riparian Scrub
- Damp Forest
- Damp Heathy Woodland
- Grassy Forest
- Herb-rich Foothill Forest
- Lowland Forest
- Riparian Forest
- Riparian Scrub/Swampy Riparian Woodland
- Shrubby Foothill Forest
- Swampy Riparian Complex
- Swampy Riparian Woodland
- Valley Grassy Forest
- Wet Forest

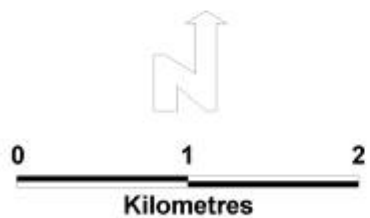
- Study Area
- Drainage
- Property Boundary



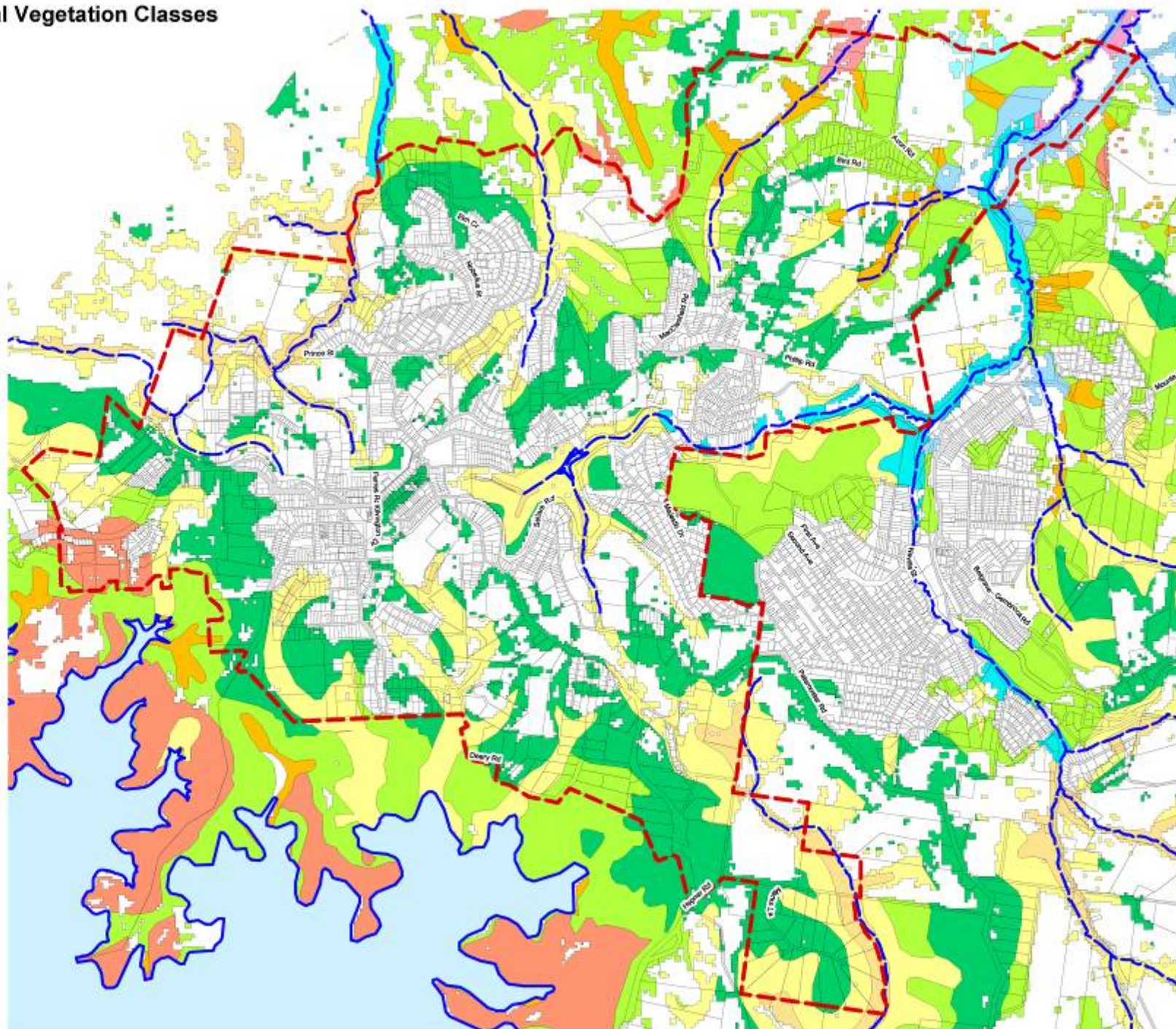
Appendix F: Current Ecological Vegetation Classes and Communities



 Study Area
 Drainage
 Property Boundary



CARDINIA



APPENDIX F CONTINUED: CURRENT ECOLOGICAL VEGETATION CLASSES AND COMMUNITIES

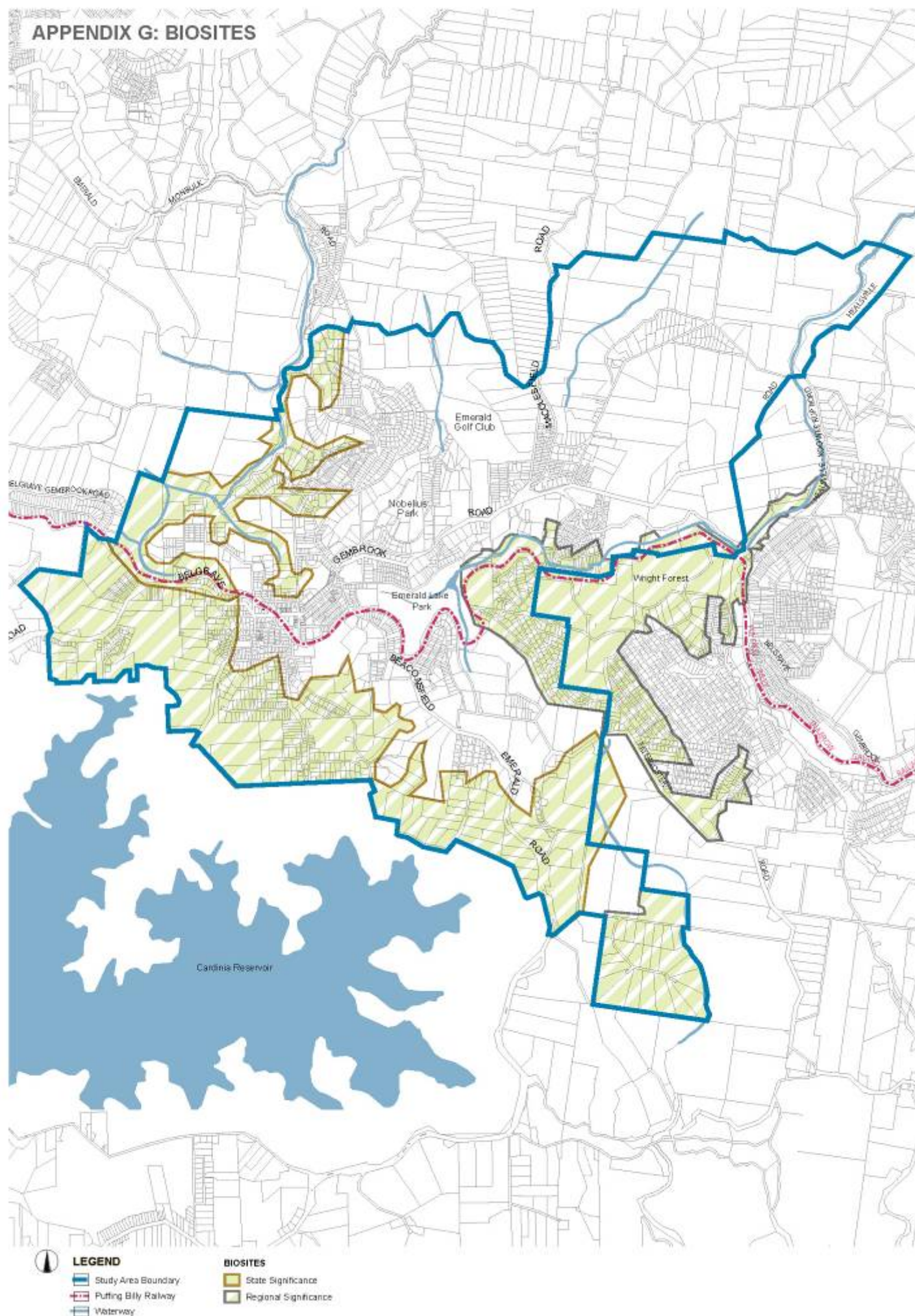
Ecological Vegetation Class	Vegetation Communities	Structure	Conservation Status of EVC
Low Land Forest (EVC 16)	<ul style="list-style-type: none"> Silvertop Ash Lowland Forest (Community 6) 	<ul style="list-style-type: none"> open forest up to 30m tall dominated by Silvertop Ash, usually in conjunction with Messmate and/or Narrow-leaf Peppermint understorey includes scattered narrow-leaved and heathy shrubs, along with a diverse range of grasses, sedges and herbs 	Least concern
	<ul style="list-style-type: none"> Messmate Lowland Forest (Community 7) 	<ul style="list-style-type: none"> open forest up to 30m tall dominated by Messmate and Narrowleaf Peppermint understorey includes scattered narrow-leaved and heathy 	
	<ul style="list-style-type: none"> White Stringybark Lowland Forest (Community 8) 	<ul style="list-style-type: none"> open forest up to 30m tall dominated by White Stringybark, usually in conjunction with Messmate and/or Narrow-leaf Peppermint understorey includes scattered narrow-leaved and heathy shrubs, along with a diverse range of grasses, sedges and herbs (often supporting a diversity of terrestrial orchids) 	
Damp Forest (EVC 29)	<ul style="list-style-type: none"> Mountain Grey Gum Damp Forest (Community 3) 	<ul style="list-style-type: none"> open forest up to 40m tall dominated by Mountain Grey Gum and Messmate understorey includes broad-leaved lower trees and shrubs, along with a range of smaller shrubs, ferns, herbs and grasses favouring moister forest conditions (typically includes Rough Tree-fern & Forest Wire-grass) 	Least concern
Wet Forest (EVC 30)	<ul style="list-style-type: none"> Mountain Ash Wet Forest (Community 2) 	<ul style="list-style-type: none"> open forest up to 40m tall dominated by Mountain Ash understorey includes a range of broad-leaved lower trees and shrubs, along with the widespread occurrence of tree-ferns, ground layer ferns, shade-tolerant herbs and climbers 	Least concern
Shrubby Foothill Forest (EVC 45)	<ul style="list-style-type: none"> Messmate Shrubby Foothill Forest (Community 5) 	<ul style="list-style-type: none"> open forest up to 40m tall dominated by Messmate, usually in conjunction with Brown Stringybark and/or Narrow-leaf Peppermint understorey includes a range of narrow-leaved and prickly shrubs, with ground layer vegetation dominated by patches of grasses, sedges and ferns 	Least concern
Damp Heathy Woodland (EVC 793)	<ul style="list-style-type: none"> Silver-leaf Stringybark Damp Heathy Woodland (Community 15) 	<ul style="list-style-type: none"> open forest or woodland up to 15m tall dominated by Silver-leaf Stringybark, often in conjunction with Messmate <i>and/or</i> Narrowleaf Peppermint . understorey includes scattered lower trees and heathy shrubs, usually with a diverse ground layer supporting a range of grasses, sedges, herbs, lilies and terrestrial orchids 	Depleted

Ecological Vegetation Class	Vegetation Communities	Structure	Conservation Status of EVC
Wet Heathland (EVC 8)	<ul style="list-style-type: none"> Scented Paperbark Wet Heathland/Riparian Scrub (Community 23) 	<ul style="list-style-type: none"> open or closed scrub up to 8m tall dominated by Scented Paperbark (often with Manuka <i>andior</i> Woolly Tea-tree), sometimes with scattered emergent trees understorey includes. scattered lower shrubs and is otherwise dominated by ferns, sedges and semi-aquatic plants 	Depleted
Shrubby Gully Forest (EVC 938)	<ul style="list-style-type: none"> Swamp Gum Shrubby Gully Forest (Community 14) 	<ul style="list-style-type: none"> open <i>forest</i> or woodland up to 20m tall dominated by Swamp Gum understorey includes patches of lower trees and shrubs (particularly Sweet Bursaria), with ground layer dominated by grasses and sedges 	Vulnerable
Riparian Scrub Complex (EVC 17)	<ul style="list-style-type: none"> Swamp Gum Shrubby Gully Forest (Community 14) 	<ul style="list-style-type: none"> open <i>forest</i> or woodland up to 20m tall dominated by Swamp Gum understorey includes patches of lower trees and shrubs (particularly Sweet Bursaria), with ground layer dominated by grasses and sedges 	Vulnerable
	<ul style="list-style-type: none"> Scented Paperbark Wet Heathland/Riparian Scrub (Community 23) 	<ul style="list-style-type: none"> open or closed scrub up to 8m tall dominated by Scented Paperbark (often with Manuka <i>andior</i> Woolly Tea-tree), sometimes with scattered emergent trees understorey includes. scattered lower shrubs and is otherwise dominated by ferns, sedges and semi-aquatic plants 	
Riparian Forest (EVC 18)	<ul style="list-style-type: none"> Manna Gum Riparian Forest (Community 4) 	<ul style="list-style-type: none"> open forest up to 40m tall dominated by Manna Gum understorey dominated by a range of lower trees and shrubs, along with herbs, sedges, ferns and semi-aquatic plants / favouring moister conditions 	Least concern
Herb Rich Foothill Forest (EVC 23)	<ul style="list-style-type: none"> Messmate Lowland Forest (Community 7) 	<ul style="list-style-type: none"> open forest up to 30m tall dominated by Messmate and Narrowleaf Peppermint understorey includes scattered narrow-leaved and heathy shrubs, along with a diverse range of grasses, sedges and herbs 	Least concern
	<ul style="list-style-type: none"> White Stringybark Lowland Forest (Community 8) 	<ul style="list-style-type: none"> open forest up to 30m tall dominated by White Stringybark, usually in conjunction with Messmate and/or Narrow-leaf Peppermint understorey includes scattered narrow-leaved and heathy shrubs, along with a <i>diverse</i> range of grasses, sedges and herbs (often supporting a diversity of terrestrial orchids) 	

Ecological Vegetation Class	Vegetation Communities	Structure	Conservation Status of EVC
Heathy Woodland (EVC 48)	<ul style="list-style-type: none"> Silver-leaf Stringybark Damp Heathy Woodland (Community 15) 	<ul style="list-style-type: none"> open forest or woodland up to 15m tall dominated by Silver-leaf Stringybark, often in conjunction with Messmate <i>and/or</i> Narrowleaf Peppermint. understorey includes scattered lower trees and heathy shrubs, usually with a diverse ground layer supporting a range of grasses, sedges, herbs, lilies and terrestrial orchids 	Least concern
	<ul style="list-style-type: none"> Coast Manna Gum Damp Sands Herb-rich Woodland (Community 16) 	<ul style="list-style-type: none"> open woodland or forest up to 20m tall dominated by Coast Manna Gum and Narrow-leaf Peppermint understorey includes scattered lower trees and heathy shrubs, usually with a diverse ground layer supporting a range of grasses, sedges, herbs, lilies and terrestrial orchids 	
Swamp Scrub (EVC 53)	<ul style="list-style-type: none"> Swamp Paperbark Swamp Scrub (Community 21) 	<ul style="list-style-type: none"> open or closed scrub up to 10m tall dominated by Swamp Paperbark understorey includes scattered lower shrubs and is otherwise dominated by ferns, sedges and semi-aquatic plants 	Endangered
Swampy Riparian Woodland (EVC 83)	<ul style="list-style-type: none"> Swamp Gum Swampy Riparian Woodland (Community 19) 	<ul style="list-style-type: none"> open woodland or forest up to 20m tall dominated by Swamp Gum understorey includes a moderately dense shrub layer (usually including Swamp Paperbark, Scented Paperbark and/or Woolly Tea-tree), with ground layer dominated by sedges, ferns and semi-aquatic plants 	Depleted
	<ul style="list-style-type: none"> Manna Gum Floodplain Riparian Woodland (Community 18) 	<ul style="list-style-type: none"> open woodland or forest up to 40m tall dominated by Manna Gum, usually in conjunction with Swamp Gum understorey includes a relatively dense patches of lower trees and shrubs (characteristically including Muttonwood, Tree Violet and Swamp Paperbark), with ground layer supporting a range of sedges, grasses and semi-aquatic plants typical of floodplain areas (including Common Reed) 	
Swamp Riparian Complex (EVC 126)	<ul style="list-style-type: none"> Swamp Gum Swampy Riparian Woodland (Community 19) 	<ul style="list-style-type: none"> open woodland or forest up to 20m tall dominated by Swamp Gum understorey includes a moderately dense shrub layer (usually including Swamp Paperbark, Scented Paperbark and/or Woolly Tea-tree), with ground layer dominated by sedges, ferns and semi-aquatic plants 	Endangered
	<ul style="list-style-type: none"> Swamp Paperbark Swamp Scrub (Community 21) 	<ul style="list-style-type: none"> open or closed scrub up to 10m tall dominated by Swamp Paperbark understorey includes scattered lower shrubs and is otherwise dominated by ferns, sedges and semi-aquatic plants 	

Ecological Vegetation Class	Vegetation Communities	Structure	Conservation Status of EVC
Grassy Forest (EVC 128)	<ul style="list-style-type: none"> Narrow-leaf Peppermint Grassy Forest (Community 9) 	<ul style="list-style-type: none"> open forest or woodland up to 20mtall dominated by Narrowleaf Peppermint understorey includes scattered shrubs and ground layer dominated by grasses (also supporting a range of ground layer herbs and lilies) 	Vulnerable
	<ul style="list-style-type: none"> Long-leaf Box Grassy Forest (Community 10) 	<ul style="list-style-type: none"> open forest or woodland up to 20m tall dominated by Long-leaf Box, usually in conjunction with Broad-leaf Peppermint <i>and/or</i> Messmate understorey includes scattered shrubs and ground layer dominated by grasses and sedges (also supporting a range of ground layer herbs and lilies) 	
	<ul style="list-style-type: none"> Green Scentbark Grassy Forest (Community 11) 	<ul style="list-style-type: none"> open forest or woodland up to 20m tall dominated by Green Scentbark and Narrow-leaf Peppermint understorey includes scattered shrubs and ground layer dominated by grasses and sedges (also supporting a range of ground layer herbs and lilies) 	
	<ul style="list-style-type: none"> Manna Gum Grassy Forest (Community 12) 	<ul style="list-style-type: none"> open forest or woodland up to 20m tall dominated by Manna Gum and Narrow-leaf Peppermint understorey includes scattered shrubs and ground layer dominated by grasses (also supporting a range of ground layer herbs and lilies) 	

APPENDIX G: BIOSITES



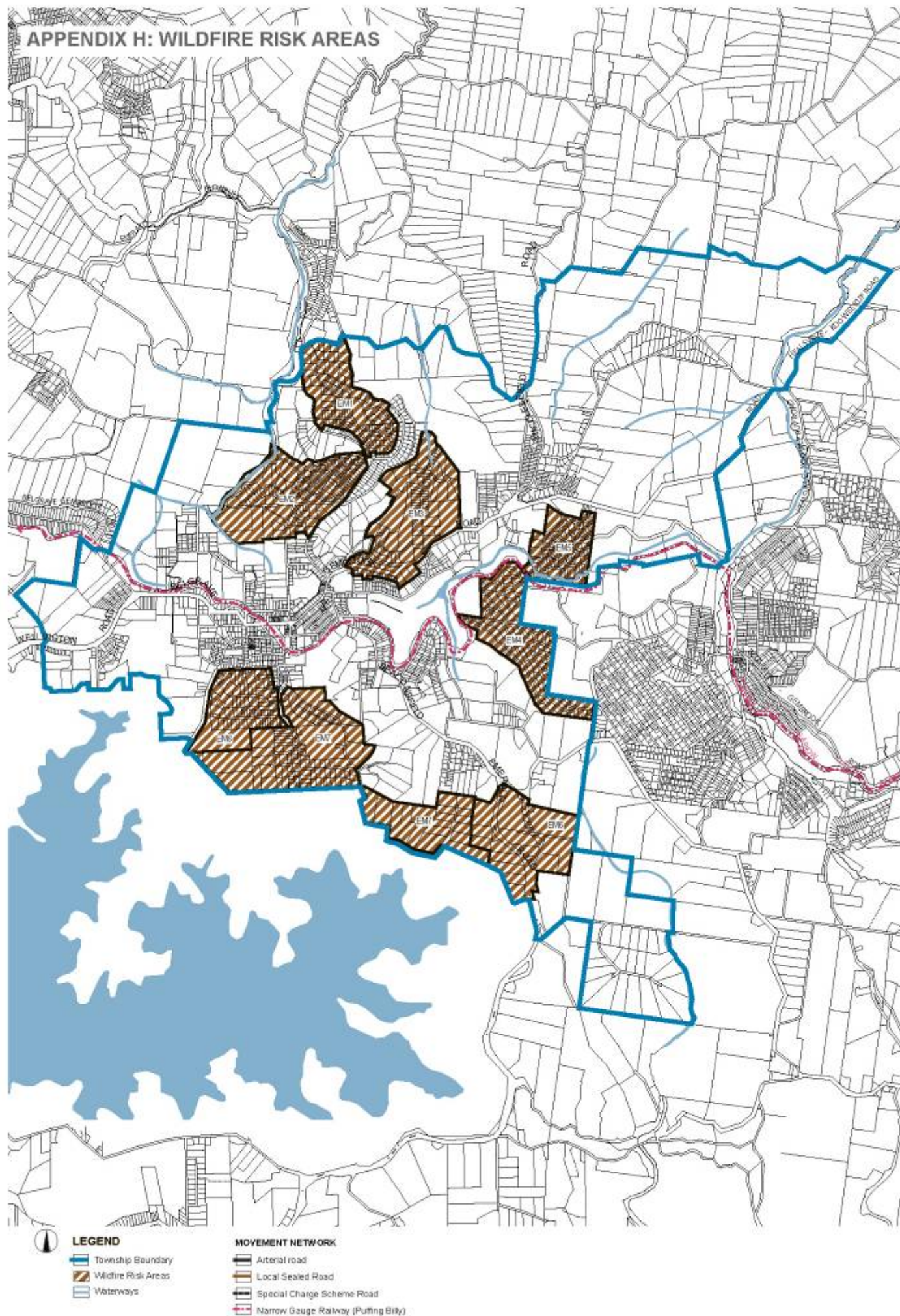
APPENDIX G CONTINUED: BIOSITES

The following features describe the Biosite and list its significance:

Eastern area. Biosite 4746. State Significance		
4746	O000115	Hollow-bearing trees
4746	P000513	Burnettia cuneata
4746	A000248	Ninox strenua
4746	A000253	Tyto tenebricosa
4746	A000436	Cinclosoma punctatum
4746	A000504	Chthonicola sagittata
4746	A002283	Varanus varius
4746	A004036	Galaxias olidus
4746	A003125	Pseudophryne semimarmorata
4746	E000026	Lowland Forest
4746	A004127	Gadopsis marmoratus
4746	E000094	Damp Forest
4746	E000163	Shrubby Foothill Forest
4746	E000099	Wet Forest
4746	E000257	Swampy Riparian Woodland
South/Western area. Biosite 4805. Regional significance		
4805	O000080	High richness and diversity
4805	O000135	Other reason - contact database coordinator to have added
4805	P002040	Corunastylis ciliate
4805	P002702	Prasophyllum lindleyanum
4805	P003694	Caladenia oenochila
4805	P004088	Xanthosia tasmanica
4805	P005175	Eucalyptus fulgens
4805	A000010	Coturnix ypsilophora
4805	A000050	Porzana pusilla
4805	A000099	Phalacrocorax varius
4805	A000045	Rallus pectoralis
4805	A000192	Nycticorax caledonicus
4805	A000238	Falco subniger
4805	A000187	Ardea alba
4805	A000218	Circus assimilis
4805	A000216	Oxyura australis
4805	A000217	Biziura lobata
4805	A000248	Ninox strenua
4805	A000226	Haliaeetus leucogaster
4805	A000212	Anas rhynchotis
4805	A000215	Aythya australis
4805	A000385	Melanodryas cucullata
4805	A000436	Cinclosoma punctatum
4805	A000253	Tyto tenebricosa
4805	A000270	Cacatua leadbeateri
4805	E000026	Lowland Forest
4805	E000017	Wet Heathland
4805	E000039	Riparian Forest
4805	E000094	Damp Forest
4805	E000072	Herb-rich Foothill Forest
4805	E000099	Wet Forest
4805	E000163	Shrubby Foothill Forest
Central area. Biosite 4803. Regional significance		
4803	O000080	High richness and diversity
4803	O000135	Other reason - contact database coordinator to have added
4803	O000150	Representative type
4803	P000541	Caladenia flavovirens
4803	P002821	Pterostylis truncate
4803	P003404	Tmesipteris ovata
4803	A000248	Ninox strenua
4803	A000217	Biziura lobata

4803	A000212	Anas rhynchotis	Australasian Shoveler
4803	A001092	Isodon obesulus obesulus	Southern Brown Bandicoot
4803	A000253	Tyto tenebricosa	Sooty Owl
4803	A000309	Lathamus discolor	Swift Parrot
4803	A000385	Melanodryas cucullata	Hooded Robin
4803	A003125	Pseudophryne semimarmorata	Southern Toadlet
4803	E000017	Wet Heathland	
4803	E000039	Riparian Forest	
4803	E000026	Lowland Forest	
4803	E000094	Damp Forest	
4803	E000065	Grassy Dry Forest	
4803	E000072	Herb-rich Foothill Forest	
4803	E000182	Heathy Woodland	
4803	E000099	Wet Forest	
4803	E000163	Shrubby Foothill Forest	
4803	E000308	Grassy Forest	
4803	E000418	Riparian Scrub	
4803	O000045	FFG listed species or community	
Northern area. Biosite 1590. Regional significance			
1590	O000048	Rare or threatened species or community (not FFG listed)	
1590	O000135	Other reason - contact database coordinator to have added	
1590	O000210	Wildlife corridor	
1590	A000181	Platalea regia	Royal Spoonbill
1590	A000099	Phalacrocorax varius	Pied Cormorant
1590	A000168	Gallinago hardwickii	Latham's Snipe
1590	A000010	Coturnix ypsilophora	Brown Quail
1590	A000216	Oxyura australis	Blue-billed Duck
1590	A000220	Accipiter novaehollandiae	Grey Goshawk
1590	A000192	Nycticorax caledonicus	Nankeen Night Heron
1590	A000215	Aythya australis	Hardhead
1590	A000217	Biziura lobata	Musk Duck
1590	A000212	Anas rhynchotis	Australasian Shoveler
1590	A000218	Circus assimilis	Spotted Harrier
1590	A000238	Falco subniger	Black Falcon
1590	A000187	Ardea alba	Great Egret
1590	A000226	Haliaeetus leucogaster	White-bellied Sea-Eagle
1590	A000319	Alcedo azurea	Azure Kingfisher
1590	A000246	Ninox connivens	Barking Owl
1590	A000498	Hylacola pyrrhopygia	Chestnut-rumped Heathwren
1590	A000253	Tyto tenebricosa	Sooty Owl
1590	A000555	Climacteris picumnus	Brown Treecreeper
1590	A000385	Melanodryas cucullata	Hooded Robin
1590	A000436	Cinclosoma punctatum	Spotted Quail-thrush
1590	A000248	Ninox strenua	Powerful Owl
1590	A004036	Galaxias olidus	Mountain Galaxias
1590	E000026	Lowland Forest	
1590	E000072	Herb-rich Foothill Forest	
1590	E000163	Shrubby Foothill Forest	
1590	E000099	Wet Forest	
1590	E000094	Damp Forest	
1590	O000045	FFG listed species or community	

APPENDIX H: WILDFIRE RISK AREAS



APPENDIX H CONTINUED: WILDFIRE RISK AREAS

Fire Risk Area	Risk Rating	Existing Treatments	Other Treatments
EM1-Emerald Quarry	9	<ul style="list-style-type: none"> Community Fireguard group Fire Access Track Slashing northwestern and western boundary 	<ul style="list-style-type: none"> Strategic Fuelbreak along Emerald-Monbulk Road Tactical Firebreak along Stewart Road Review Fire Management Plan Buffer Zone along both sides of Nobelius Street Buffer Zone in 21 Nobelius Street
EM2-Prince Street	6	<ul style="list-style-type: none"> Community Fireguard group 	<ul style="list-style-type: none"> Strategic Fuelbreak along Emerald-Monbulk Road Fire Access Track Buffer Zone along southern side of Prince Street Potential community Fireguard Program
EM3-Lakeside Drive/Lawsons Road	5	<ul style="list-style-type: none"> Community Fireguard group 	<ul style="list-style-type: none"> Strategic Fuelbreak along Belgrave-Gembrook Road Buffer Zone along Lawsons Road Buffer Zone on private properties in Mary Street, Bottomley drive and Lakeside Drive Designated Water Point at golf course lake Fire protection measures for Emerald Secondary College
EM4-Majestic Drive	7	<ul style="list-style-type: none"> DSE Fire Protection Plan for Wright Forest CSC Fire Management Plan for Emerald Lake Park Emerald Lake park patrolled on fire ban days Puffing Billy works Buffer Zone along eastern and southern boundary of Emerald Lake Park 	<ul style="list-style-type: none"> Buffer Zone along Bellbird Crescent Weed control by DSE/Parks Victoria in vacant blocks in Auhl Road Potential Fireguard Program for Fernglade Drive (CFA)
EM5-Wright Road	5	<ul style="list-style-type: none"> DSE Fire Protection Plan for Wright Forest Puffing Billy works Community Fireguard group 	<ul style="list-style-type: none"> Belgrave-Gembrook Road as Strategic Fuelbreak Buffer Zones on western side of Wright Road
EM6-Ladd Road	5	<ul style="list-style-type: none"> Community Fireguard group Fire Access Track Fire Protection Plan for Cardinia Reservoir (Melbourne Water) 	<ul style="list-style-type: none"> Beaconsfield-Emerald Road as Strategic Fuelbreak Paternoster Road as Tactical Fuelbreak Potential Fireguard Program for Ladd Road (CFA)
EM7-Deery Road	6	<ul style="list-style-type: none"> Community Fireguard group Fire Access Track Fire Protection Plan for Cardinia Reservoir (Melbourne Water) 	<ul style="list-style-type: none"> Old Beaconsfield Road as Tactical Fuelbreak Buffer Zone on either side of a section of Kilvington Drive Further fuel reduction works within reservoir
EM8-Steel Road	7	<ul style="list-style-type: none"> Community Fireguard group Fire Protection Plan for Cardinia Reservoir (Melbourne Water) 	<ul style="list-style-type: none"> Westlands Road as Tactical Firebreak Buffer Zone on private property in Westlands Road

APPENDIX I: SITES INCLUDED IN HERITAGE OVERLAY


Heritage Overlay	Site	Significance
HO3	Silver Birches, 1 Mary Street, Emerald	The Silver Birches property is of significance for its historical associations with Dr Bottomley (house and garden), the Emerald Country Club as a physically and historically related development, and the development of new and exclusive rural residential enclaves in the State. Bottomley was one of the major forces behind creation of the club (which is itself of State significance), an institution which has left behind built and landscape evidence of an exclusive country club development in a similar conceptual form to the Griffin Mt Eliza Ranelagh estate, and a secondary association with Russell Grimwade (the original property, CA53 & 53A) who initiated the Bosisto & Company research farm around this site, evidence (Camden woollybutt plantation) of which still remains outside of the property but within CA53A; The Silver Birches property is of architectural significance within the State as an unusual combination of a well-preserved, stark International Modern style house set within a landscaped setting, in a rural location. This combination is uncommon within the State for rural properties developed during the 1930s, with only a small number of similar properties known to reflect the stylistic avant garde within a country setting. The Silver Birches property is of architectural significance within the State for the comprehensive exposition of the International Modern style, with unusual imported floor tiles throughout, imported door furniture and light fittings, an unusually deep upper level terrace overlooking the garden, and the style's characteristically severe geometric lines, accentuated by the present white colour. The Silver Birches property is of landscape significance within the State for its role as a well preserved, mature and contemporary setting for a notable architect designed house and as a fine collection of landscape elements (mature and some unusual trees, hard landscape, the gateway and the later pool) representative of the period. It is believed that, as in the case of Burnham Beeches, that the architect was closely involved with the landscape layout.
HO13	Avonsleigh Church of Christ, 17 Avon Road, Avonsleigh	(Included in an indicative list of potential heritage places in Cardinia Heritage Study 1998)
HO20	Lawsons False Cyprus at Verlys 40 Beaconsfield-Emerald Road, Beaconsfield	The National Trust have recognised the tree for its size and as an outstanding example of the type. The tree was also thought to have strong associations with Nobelius nursery and the Emerald pioneer, Nellie Exley. The Lawson false cypress at Verlys is of importance to the Cardinia Shire and the garden of importance to the locality of Emerald because they show the development of nurseries in the district and the developing forms of the gardens associated with the district's resorts or rural retreats. This tree is also significant for its: expression of the lives or lifestyles of locally important people (Nobelius, Exley) and the rarity as a specimen.


Heritage Overlay	Site	Significance
HO29	Carramar Homestead, 5 Carramar Court, Emerald	Carramar, the former CA Nobelius house, is of metropolitan significance for its expression of the close relationship with the important nurseryman Carl Axel Nobelius and his family, and by its location and siting, the relationship of the house with the nursery itself which survives in part within the nearby Nobelius Heritage Park and Emerald Lake Park. Carramar is also connected by association to the nearby significant Emerald Country Club Estate and the Emerald Country Club to form a distinctive and important grouping of sites from differing eras in the history of the Emerald district. The landscape elements cited are contributory to the importance of the place.
HO34	Rose Charman's Cottage, 77 Emerald-Monbulk Road, Emerald	(Included in an indicative list of potential heritage places in Cardinia Heritage Study 1998)
HO106	Former Nobelius Nursery, Princess Avenue, Emerald	Nobelius Heritage Park and landscape are significant to the Cardinia Shire for their representation of the vast Gembrook Nursery which was operated from here and other parts of the Emerald district by Carl Axel Nobelius; the plantings provide an important link with other Nobelius places and the context for the adjoining Belgrave to Gembrook narrow gauge railway line and siding which served the orchards, nurseries and market gardens in this district. This site is also contributory to a larger cultural landscape of State significance which includes all of the Nobelius related places. The Nobelius Gembrook Nursery was the originator of an extensive range of exotic ornamental and fruiting plantings throughout the state, interstate and overseas.


APPENDIX J: NATIONAL TRUST LISTED HERITAGE SITES




Name	Location
Emerald Shire Hall	Gembrook Road Emerald
Railway Station - Emerald	Kilvington Drive Emerald
"Morning Glory"	40 Steele Road Emerald
Nobelius nurseries	Emerald
Carramar homestead	Carramar Court Emerald
Emerald Golf & Country Resort	48 Lakeside Drive Emerald
Russo's licenced store	Main Street Emerald
Old bakery	Corner Main Street & Kilvington Drive Emerald
"Silver birches"	1 Mary Street Emerald
Bakehouse - Macclesfield	Avonsleigh/Macclesfield Road Macclesfield
Nobelius nursery and Emerald country club	Lakeside Drive, (Country Club) Emerald
Chamaecyparis lawsoniana	Verlys, Emerald-Beaconsfield Road, 2 km from Emerald Hall
Cupressus himalaica	Emerald Lake Park on slope s-w of lake, second tree above carpark Emerald
Knightia excelsia	Nobelius Nursery, Crichton Road, Emerald
Alnus glutinosa 'laciniata'	Nobelius Nursery, Crichton Road Emerald


APPENDIX K: TOWN CENTRES GUIDELINES




Precincts	Guidelines
<p>Service and Mixed Use Precinct</p> 	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Ensure that views are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views particularly along Belgrave-Gembrook Road. Consideration shall be given to the views into the site from the gateway area at the crossing of the Railway line. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response and a contribution to the landscape character of the town, in particular the address to Belgrave-Gembrook Rd and the Puffing Billy landscape corridor. • Provide building envelopes that are sympathetic to the scale, height and location of existing trees. <p>Accessibility</p> <ul style="list-style-type: none"> • Minimise the number of vehicle access points from Belgrave-Gembrook Road. This shall also apply to any future service road access points. • Where possible and practical (in relation to topography, amenity, accessibility, compatibility with neighbouring uses), vehicle access shall be provided from the rear laneway. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • Design and the selection of appropriate colour schemes and materials shall respond to the requirements of the Puffing Billy Landscape Corridor standards. • Encourage innovative design and a high standard of built form design and detailing, appropriate to the gateway location of this precinct. <p>Scale</p> <ul style="list-style-type: none"> • Building height to be 1-2 storey. Building height shall also respond to topography (views; limited cut and fill) as well as amenity (adjoining uses) and streetscape context. <p>Front Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be 3.0m minimum, however consideration will be given to reduced setbacks where it can be demonstrated that the reduced setback is in response to retention of existing vegetation, limiting cut and fill, protection of views and response to slope/elevation. • Setbacks from side and rear boundaries shall be a minimum of 3.0m to allow appropriate space for canopy tree planting.


Precincts	Guidelines
<p>Central Retail Precinct (Kivington Drive)</p> 	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views, particularly the views from Main Street and from the Puffing Billy Railway corridor. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response and the contribution to the landscape and streetscape character of the town, in particular the address to Kivington Drive. <p>Accessibility</p> <ul style="list-style-type: none"> • Minimise the number of vehicle access points from Kivington Drive. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • Design and the selection of appropriate colour schemes and materials shall respond to the requirements of the Puffing Billy Landscape Corridor standards. • Encourage design that respects the context, materials, colours and forms of existing built form in the precinct, without necessarily copying past styles. <p>Scale</p> <ul style="list-style-type: none"> • Building height to be 1 -2 storey. Building height shall respond to amenity (adjoining uses) and streetscape context. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be zero, consistent with existing setbacks. • Front setbacks for carparking shall be avoided. • Require active edges on street frontages and along all pedestrian connections, avoiding blank facades.


Precincts	Guidelines
<p>Arts and Community Precinct</p> 	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views particularly along Kilvington Drive. Consideration shall be given to the views from the Puffing Billy railway corridor and Emerald Primary School. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response and a contribution to the landscape and heritage character of the town and the address to Kilvington Drive. • Provide building envelopes that are sympathetic to the scale, height and location of existing trees. <p>Accessibility</p> <ul style="list-style-type: none"> • Minimise the number of vehicle access points from Kilvington Drive. • Provide permeability and direct connections between adjoining developments, with direct connections to Emerald Primary School encouraged. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • Design and the selection of appropriate colour schemes and materials shall respond to the requirements of the Puffing Billy Landscape Corridor standards. • Encourage design that respects the context, materials, colours and forms of existing built form in the precinct. <p>Scale</p> <ul style="list-style-type: none"> • Building height to be 1 -2 storey. Building height shall also respond to topography (views; limited cut and fill) as well as amenity (adjoining uses) and streetscape context. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be 3.0m minimum, however consideration will be given to reduced setbacks where it can be demonstrated that the reduced setback is in response to existing setbacks in adjoining properties, retention of existing vegetation, limiting cut and fill, protection of views and response to slope/elevation.

Precincts	Guidelines
<p>Central Mixed Use Precinct</p>   	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Take advantage of the natural topography. • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views particularly from Main Street and Murphy's Way. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response and a contribution to the landscape character of the town, particularly the address to Belgrave-Gembrook Road. • Front hedging and a density of canopy vegetation are desirable. <p>Accessibility</p> <ul style="list-style-type: none"> • Minimise the number of vehicle access points from Belgrave-Gembrook Rd and ensure site planning avoids steep driveways. • On the north side, encourage vehicle access and parking from the rear lane. • On the south side, encourage shared vehicle crossovers and rear carparking. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • New development should be innovative, with due regard and recognition of the surrounding village character, without necessarily copying past styles. • Select colour schemes and materials which <ul style="list-style-type: none"> ◦ do not dominate in the strong landscape setting, or within the streetscape. ◦ contribute to and strengthen a sense of place through the use of local and natural materials (such as timber and stone) <p>Scale</p> <ul style="list-style-type: none"> • Building heights from natural ground level should be: <ul style="list-style-type: none"> ◦ south side max height presented to Main Street, not more than 2 storeys above natural ground level. ◦ north side max height presented to Main Street, not more than 1 storey above natural ground level. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be 6.0m minimum, however consideration will be given to reduced setbacks where it can be demonstrated that the reduced setback is in response to retention of existing vegetation, limiting cut and fill, protection of views and response to slope/elevation. • Front setbacks shall be maintained as landscaped open space. • On the north side of Main Street, all developments shall incorporate a public shared path as well as canopy trees, as a contribution to the development of 'Emerald Link'. • Front setbacks for carparking shall be avoided. • Setbacks from side and rear boundaries shall be a minimum of 3.0m to allow for canopy tree planting.

Precincts	Guidelines
<p>Northern Retail Precinct</p> 	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Take advantage of the natural topography and capitalise on existing site features, forms, vegetation. • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views particularly from Belgrave-Gembrook Road, Emerald-Monbulk Road and the recreation reserve. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response and a contribution to the landscape character of the town, in particular the streetscape address. <p>Accessibility</p> <ul style="list-style-type: none"> • Minimise the number of vehicle access points from Belgrave –Gembrook Rd and Emerald –Monbulk Road. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • Encourage design that respects the context, materials, colours and forms of existing built form in the precinct, without necessarily copying past styles. <p>Scale</p> <ul style="list-style-type: none"> • Building height to be 1 -2 storey. Building height shall also respond to topography (views; limited cut and fill) as well as amenity (adjoining uses) and streetscape context. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be zero for buildings fronting Main Street/Belgrave-Gembrook Road. • On Emerald-Monbulk Road, setbacks shall be generally consistent with existing average setbacks and be maintained as landscaped open space. • Front setbacks for carparking shall be avoided, however consideration will be given to maintaining existing carparking locations on the existing Supermarket site

Precincts	Guidelines
<p>Community and Recreation Precinct</p>   	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views particularly from all main entry points into the town centre. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response and a contribution to the landscape character of the town and in particular respond to the context of the recreation reserve and the address to the main entry roads. • Provide building envelopes that are sympathetic to the scale, height and location of existing trees. <p>Accessibility</p> <ul style="list-style-type: none"> • Encourage permeability by integrating new pedestrian connections with the circulation patterns and desire lines around the existing Library and Recreation Reserve. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • New development shall ensure a high standard of built form design and detailing that is harmonious with the form and character of existing development. <p>Scale</p> <ul style="list-style-type: none"> • In larger scale developments, provide varied building types and forms relative to human scale and create the appearance of several smaller buildings. • Building height to be 1 -2 storey. Building height shall also respond to topography (views; limited cut and fill) as well as amenity (adjoining uses) and streetscape context. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be consistent with the setback of the Library development.

Precincts	Guidelines
<p>Clematis activity hub</p> 	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views. Consideration shall be given to the views from Wellington Road and Belgrave-Gembrook Road. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Demonstrate a strong landscape response. A landscape plan is to be provided for all new developments to illustrate the contribution to the landscape character of the precinct. • Provide building envelopes that are sympathetic to the scale, height and location of existing trees. • Provide appropriate buffer treatments to adjoining residential and community uses. <p>Accessibility</p> <ul style="list-style-type: none"> • Provide sealed, well lit pedestrian connections, separate from roadways, along desire lines between entries, street footpaths and carparks. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • Design and the selection of appropriate colour schemes and materials shall respond to the requirements of the Puffing Billy Landscape Corridor standards. Avoid reproduced architecture, encouraging design that respects the context, materials, colours and forms of existing built form in the precinct, without necessarily copying past styles. <p>Scale</p> <ul style="list-style-type: none"> • Building height to be 1 -2 storey. Building height shall also respond to topography (views; limited cut and fill) as well as amenity (adjoining uses) and streetscape context. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall be 3.0m minimum, however consideration will be given to reduced setbacks where it can be demonstrated that the reduced setback is in response to retention of existing vegetation, limiting cut and fill, protection of views and response to slope/elevation. • Setbacks from side and rear boundaries shall be a minimum of 3.0m to allow for canopy tree planting. • Require active edges on street frontages and along all pedestrian connections, avoiding blank facades. • Where the site is on a corner or is a gateway site, buildings shall address all street frontages and view corridors, with no blank facades • Generally the main entry of the development shall be orientated to front existing and/or proposed streets.

Precincts	Guidelines
<p>Avonsleigh activity hub</p> 	<p>Topography and Siting Site planning and design shall:</p> <ul style="list-style-type: none"> • Ensure that view corridors are not unreasonably reduced, providing view corridors between buildings and ensuring retention of public views. Consideration shall be given to the views from Macclesfield Road and Belgrave-Gembrook Road. <p>Landscape Response Site planning and design shall:</p> <ul style="list-style-type: none"> • Provide building envelopes that are sympathetic to the scale, height and location of existing trees. • <p>Amenity</p> <ul style="list-style-type: none"> • Provide appropriate buffer treatments to adjoining residential and community uses. <p>Accessibility</p> <ul style="list-style-type: none"> • Provide sealed, well lit pedestrian connections, separate from roadways, along desire lines between entries, street footpaths and carparks. <p>Innovation and Detailing</p> <ul style="list-style-type: none"> • Building height to be 1 -2 storey. Building height shall also respond to topography (views; limited cut and fill) as well as amenity (adjoining uses) and streetscape context. <p>Setback, Entry and Address</p> <ul style="list-style-type: none"> • Front setbacks shall generally be consistent with existing average setbacks. • Where the site is on a corner or is a gateway site, buildings shall address all street frontages and view corridors, with no blank facades • Generally the main entry of the development shall be orientated to front existing and/or proposed streets.

APPENDIX L: GLOSSARY OF URBAN DESIGN TERMS

Active Uses

Uses that provide opportunities for people to interact. They are generally considered 'busy' places. They are uses that attract people to play, meet, shop, relax, eat and drink. They generally provide a level of activity throughout the day, at night and on weekends.

Active Edges

Active edges are generally associated with active uses. This term refers to the level of activity or interaction that is provided by a retail shop frontage, or a cafe with street tables and chairs. It also means the edge where the main entry is or where the main frontage is located. It also applies to a row of shops facing onto a street or a public space.

Address

Prominence, visibility, focus usually concerning how a development interacts with a street frontage.

Carpark Sharing

Two or more uses share carparking areas and access points, rather than many single carpark areas. Day and night uses, weekday and weekend uses also share carparks.

Development

This includes the construction or exterior alteration or exterior decoration of a building; the demolition or removal of a building or works; the construction or carrying out of works; the subdivision or consolidation of land, including buildings or airspace; the placing or relocation of a building or works on land; the construction or putting up for display of signs or hoardings.

ESD – Environmentally Sustainable Design

ESD supports key principles including limiting energy use, water reuse and recycling, waste minimisation, materials recycling.

Frontage

The road alignment at the front of a lot. The side of a building which faces the road.

Gateway

A point of focus at an entry to a place. Visual cues (structures, buildings, signs, lighting,

landscape) can help announce a gateway and entry to a place.

Mixed Use

A variety of uses in one development, area or street. Can be a mix of retail, commercial, residential, professional uses.

Sense of Place

A space, place, centre, town, that offers a rich experience and provides a sense of belonging to people who live there or visit.

Setback

The minimum distance from a property boundary to a building or structure.

Storey

That part of a building between floor levels. If there is no floor above, it is the part between the floor level and ceiling. It may include an attic, basement, built over car parking area, and mezzanine. The level/height from which the first storey is measured is generally from the permanent footpath at the centre of the site frontage. If there is no footpath as a base level, it is measured from the natural surface level at the centre of the site frontage.

Permeability (of a space or place)

An open, safe town environment easily accessed and moved through. Also encompasses walkability.

Walkability

Travelling on foot is easy for all members of the community. Walkability encompasses issues of safety (traffic and personal), attractive and active surroundings, and short distances between destinations.

WSUD – Water Sensitive Urban Design

WSUD promotes water reuse and recycling, stormwater management and quality.