APPENDIX 1

PRECINCT DESCRIPTIONS

Precinct 1 – North Lorne: Summerhills Avenue

North of Stony Creek, this precinct is the most northern residential area of Lorne and is one of the most recent areas to develop. A steeply sloping area, this precinct contains the highest elevated residential land in the township, and this topography allows extensive views over the township and ocean from most properties. Much remnant native vegetation has been removed from developed properties; however retained vegetation on undeveloped land and road reserves maintains a moderate canopy coverage.

Key Characteristics

- Lots are mostly in the range of 600m^2 to 1000m^2. A small number of lots have been re-subdivided to create lots of 300m^2 to 500m^2. There is one large lot of almost 2ha
- Development generally dates from the 1980's to the present day. There is a variety of contemporary architectural forms, with predominant elements including the use of lightweight construction, large areas of glazing to maximise views, and pitched or curved roofs
- Building height is mainly two storey. Some buildings have more than two levels stepping down the land slope
- Siting of buildings is influenced by slope and views, with buildings typically on the higher ground
- Separation between buildings, rather than boundary walls
- Most buildings painted in subdued neutral colours
- Many buildings visually prominent from the Great Ocean Road and foreshore
- Substantial ocean, coastal and forest views available from most properties
- Low to moderate vegetation cover on lots
- Dominant overstorey of Messmate, Mountain Grey Gum and Blue Gum
- Steeply sloping land. South and east facing slopes fall to Stony Creek and the ocean
- Open car parking spaces and carports close to the street
- Most lots are unfenced
- Sealed roads with kerb & channel

Preferred Character

- ❑ Views of the ocean, coast and forested ranges, through foreground vegetation
- ❑ Buildings screened by native vegetation, particularly tall gums
- ❑ Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation
- ❑ Maintenance of a low scale building height
- ❑ Buildings setback from front and side boundaries, with separation between buildings
- ❑ Buildings to be in subdued colours
- ❑ Driveways and car parking to be recessive in the streetscape
- ❑ Properties unfenced or with open post and wire fences

Precinct 2 – North Lorne: Dorman Street

Covering the area along the Great Ocean Road and Dorman Street between Stony Creek and Erskine River, this precinct includes the historical 'Little Colac' area. The topography of this precinct varies considerably from gentle to steep slopes. There are very few undeveloped lots and there is overall a low cover of vegetation.

Key Characteristics

- Lots are mostly in the range of 600m^2 to 900m^2. There are few re-subdivisions or multi-dwelling developments
- There is an eclectic mix of architectural styles reflecting the extended development history. Older buildings are modest holiday homes typified by small footprints, simple geometric forms and flat or sloping roofs
- Older dwellings are typically single storey or split level two storey, whilst newer dwellings tend to be two storey
- Buildings sited in rows along the slope of the land to share views
- Separation between buildings, rather than boundary walls
- Colour schemes vary but with a dominance of light and pale colours
- Some buildings visually prominent from the Great Ocean Road on the northern and southern approaches to the precinct
- Substantial ocean and coastal views available from most properties, including views to Split Point Lighthouse, Aireys Inlet
- Low vegetation cover on most lots
- Vegetation is typically lower growing and includes Messmate Stringybark, Sheoak and Banksia as forming the canopy
- Varied land slopes, falling to the south east towards the ocean
- Many garages under dwellings. Some free standing garages close to street boundaries
- Mix of unfenced and fenced properties. Many properties fronting Great Ocean Road have high front fences, otherwise mostly no front fences
- Mostly sealed roads

Preferred Character

- Views of the ocean and coast, including Lorne Point and Split Point Lighthouse
- Enhancement of vegetation cover, with emphasis on indigenous native vegetation and reinstatement of tree canopy
- Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation
- Maintenance of a low scale building height
- Modest buildings setback from front and side boundaries, with separation between buildings
- Buildings to be in pale, neutral colours
- Driveways and car parking to be recessive in the streetscape
- Properties unfenced or with open post and wire fences

Precinct 3 – Deans Marsh Road and Waverly Avenue

This precinct is the area north of Erskine River and around Deans Marsh Road and is bounded on the north by the Lorne Country Club. The precinct is mostly steep land that falls towards the ocean or the river. The precinct has an extended development history with some old historic buildings but a predominance of recent development since the 1980s. On the whole the tree canopy cover has been maintained across the precinct.

Key Characteristics

- Lot areas vary considerably across the precinct, but are commonly 900m^2 to 2000m^2
- There is a large concentration of small narrow lots (300-400m^2) between Minapre Street and Howard Street, but mostly two or more lots are owned and developed in common. Therefore lot area is not representative of dwelling density
- Re-subdivision has occurred between Normanby Terrace and Holliday Road to create small square lots with a dwelling on each lot, creating higher densities
- Architectural styles vary, but there is a dominance of contemporary architecture. Common elements include lightweight construction, articulated forms and sloping or curved roofs
- Buildings are mostly two storey in height
- Separation between buildings, rather than boundary walls
- Most buildings are painted in dark colours
- Buildings typically recessive in the landscape when viewed from public viewing points outside the precinct
- Ocean views available from some properties, often filtered by vegetation. Some properties have views of the Erskine River or forested ranges
- Vegetation cover varies with density of development. Generally moderate to high canopy cover. Dense vegetation on undeveloped lots in western portion of precinct
- Dominant overstorey of Messmate, Mountain Grey and Manna Gums
- Land slopes are moderate to steep, falling to the south east towards the ocean and Erskine River
- Car parking mostly informal open spaces or carports
- Most lots are unfenced
- Mostly sealed roads

Preferred Character

- Views of the ocean, Erskine River and forested ranges, through foreground vegetation
- Maintain low dwelling density
- Buildings sited within a bush landscape setting, with vegetation dominant over built form
- Vegetation to be maintained during construction
- Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation
- Maintenance of a low scale building height
- Buildings setback from front and side boundaries, with separation between buildings
- Buildings to be in subdued colours that blend with the vegetation
- Driveways and car parking to be informal and recessive in the streetscape
- Roads to be informal in appearance with vegetated verges
- Properties unfenced or with open post and wire fences

Precinct 4 – Polwarth Road and Richardson Boulevard

This precinct is south west of the Erskine River, is bounded by Otway Street on the east and includes Polwarth Road, Hopetoun Terrace, Toorak Terrace, Richardson Boulevard and Clovelly Court. There is an overall steep easterly fall, but the precinct is transect by a number of drainage lines that create an undulating topography. Vegetation cover has been lost over some portions, but on the whole a moderate cover has been maintained. Development of the precinct has occurred over a long timeframe. There has been some recent limited greenfield subdivision.

Key Characteristics

- Lot areas vary considerably across the precinct, between 450m^2 and 1000m^2
- There is a cluster of narrow lots (450-550m^2) between Polwarth Road and Hopetoun Terrace, but mostly two or more lots are owned and developed in common. Therefore lot area is not representative of dwelling density
- There has been a moderate level of multi-dwelling development, particularly in the newer subdivisions
- Architectural styles vary, but there is a dominance of contemporary architecture. Common elements include lightweight construction, articulated forms and sloping or curved roofs.
- Buildings are mostly two storey in height
- Separation between buildings, rather than boundary walls
- Older buildings tend to be in light, pale colours and newer buildings more subdued recessive colours
- Buildings typically recessive in the landscape when viewed from public viewing points outside the precinct
- Ocean views available from some properties, often filtered by vegetation. Some properties have views of the Erskine River or forested ranges
- Vegetation cover varies with density of development. Generally moderate cover
- Land slopes are moderate to steep, falling to the east towards the ocean and Erskine River
- Car parking mostly informal open spaces or carports
- Most lots are unfenced
- Mostly sealed roads

Preferred Character

- ❑ Where available, views of the ocean, Erskine River and forested ranges, through foreground vegetation
- ❑ Maintain low dwelling density
- ❑ Buildings sited within a bush landscape setting, with vegetation dominant over built form
- ❑ Vegetation to be maintained during construction
- ❑ Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation
- ❑ Maintenance of a low scale building height
- ❑ Buildings setback from front and side boundaries, with separation between buildings
- ❑ Buildings to be in subdued colours that blend with the vegetation
- ❑ Driveways and car parking to be informal and recessive in the street-scape
- ❑ Roads to be informal in appearance with vegetated verges
- ❑ Properties unfenced or with open post and wire fences

Precinct 5 – Central Lorne

This precinct covers the hillside above the commercial centre of the township between Otway Street and Bay Street. The precinct includes a number of non-residential facilities, including Stribling Reserve, Lorne P-12 College and emergency services. This precinct is almost fully developed but is undergoing a process of redevelopment, including multi-dwelling development. Vegetation coverage across the precinct is generally low, but large canopy trees have been retained within most road reserves. The land has a moderate to steep slope, falling to the east.

Key Characteristics

- ❑ Lots are mostly in the range of 600m^2 to 1000m^2. There are a number of re-subdivisions or multi-dwelling developments
- ❑ There is an diverse mix of architectural styles reflecting the extended development history
- ❑ Separation between dwellings, but garages and carports often located on boundaries
- ❑ Colour schemes vary but with a dominance of light and pale colours
- ❑ Buildings in this precinct visually prominent, as a group, from the Great Ocean Road on the northern approaches to the precinct
- ❑ Substantial ocean and coastal views available from most properties, including views to Lorne Point and Split Point Lighthouse, Aireys Inlet
- ❑ Low native vegetation cover on most lots. Constructed gardens with predominantly exotic vegetation
- ❑ Tree canopy dominated by Manna and Blue Gum
- ❑ Moderate to steep land slopes, falling to the east towards the ocean
- ❑ Car parking typically formalised, garage or carport often attached to dwelling
- ❑ Most properties are divided by timber paling fences. Front fencing varies, but typically low open style. Many lots remain unfenced to street
- ❑ Sealed roads with kerb and channel

Preferred Character

- ❑ Views of the ocean and coast including Lorne Pier and Split Point Lighthouse
- ❑ Enhancement of vegetation cover, with emphasis on indigenous native vegetation and reinstatement of tree canopy
- ❑ Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation
- ❑ Multi-dwelling developments to respect and enhance landscape values
- ❑ Maintenance of a low scale building height
- ❑ Buildings to be in pale or light colours
- ❑ Driveways and car parking to be recessive in the streetscape
- ❑ Front fencing to maintain open streetscape character

Precinct 6 – South Lorne

The landscape of tall gum trees extending to the ocean defines this precinct that covers the north facing slopes of southern Lorne between Bay Street and Point Grey. Development along George Street ridgeline marks the southern limit of the precinct. This precinct includes the Golden Mile heritage area. The precinct contains many grand old houses on large lots, but has also experienced substantial recent infill development and redevelopment.

Key Characteristics

- Lots are mostly in the range of 500m^2 to 1000m^2. There are some larger lots, currently developed by single dwellings
- Limited multi-dwelling development
- Older buildings in the Golden Mile area are mostly large stately buildings on large lots. Typically pitched roofs and may include intricate detailing
- Modern buildings vary in style. Often lightweight construction, pitched or curved roofs and articulated forms
- Building height is mainly two storey. Some buildings have more than two levels stepping down the land slope
- Siting of buildings is influenced by slope and views, with buildings typically on the higher ground
- Separation between buildings, rather than boundary walls
- Most buildings painted in subdued neutral colours
- Buildings have the appearance of being sited in a natural landscape setting
- Substantial ocean and coastal views available from most properties, normally filtered by vegetation
- Low to moderate vegetation cover on lots. Moderate to high canopy cover overall
- Dominant overstorey of Manna and Blue Gum
- Moderate to steeply sloping land. North facing slopes falling to ocean
- Open car parking spaces and carports, often close to the street
- Most lots are unfenced or post and wire fences
- Sealed roads with informal, vegetated verges

Preferred Character

- ❑ Where available, views of the ocean and coast through foreground vegetation
- ❑ Maintain low dwelling density and sense of space around buildings
- ❑ Buildings sited within a bush landscape setting, with vegetation dominant over built form
- ❑ Vegetation to be maintained during construction with particular emphasis on tall tree canopy
- ❑ Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation, and respects the heritage value of significant historic buildings
- ❑ Heritage values of Golden Mile precinct to be protected
- ❑ Maintenance of a low scale building height
- ❑ Buildings setback from front and side boundaries, with separation between buildings
- ❑ Buildings to be in subdued colours that blend with the vegetation
- ❑ Driveways and car parking to be recessive in the streetscape
- ❑ Roads to be informal in appearance with vegetated verges
- ❑ Properties unfenced or with open post and wire fences

Precinct 7 – Point Grey

Covering the southern limits of the township, this small precinct is heavily influenced by early development, including the historic Pacific Hotel, but has also been subject to substantial redevelopment. The precinct has a low cover of vegetation, particularly indigenous native vegetation, which combined with the location, makes most buildings in the precinct visually prominent. The Lorne pier is pre-eminent in vistas from this precinct and a beloved icon of the township.

Key Characteristics

- Lots are mostly in the range of 700m^2 to 1000m^2
- There are many modest holiday homes that date from the early 20th century. These buildings display small footprints, simple forms, and sloping or pitched roofs
- The Pacific Hotel is a dominant historic building for the precinct
- Substantial redevelopment has occurred within the precinct, including Pacific and Kalimna Apartments. These developments exhibit modern architectural styles utilising rectangular forms and flat roofs
- Building height is a mix of one and two storeys for detached dwellings. Apartment developments are three and four storeys
- Separation between buildings, rather than boundary walls, other than apartment developments
- Most buildings painted in pale or subdued colours
- Buildings visually prominent from the Great Ocean Road and foreshore
- Substantial ocean and coastal views available from all properties, may include Lorne Pier and Split Point Lighthouse, Aireys Inlet
- Low vegetation cover with almost no indigenous native vegetation
- Moderate sloping land, falling north and east towards the ocean
- Enclosed car parking under dwelling, or open parking or carport close to street
- Timber paling fences between most properties. Very few front fences
- Sealed roads

Preferred Character

- ❑ Views of the ocean and coast including Lorne Pier
- ❑ Enhancement of vegetation cover, with emphasis on indigenous native vegetation and reinstatement of tree canopy
- ❑ Architecturally diverse housing that is consistent with the principles of 'Surf Coast Style', in particular mass and surface articulation
- ❑ Maintenance of a low scale building height
- ❑ Buildings setback from front and side boundaries, with separation between buildings
- ❑ Buildings to be in pale, neutral colours
- ❑ Driveways and car parking to be recessive in the streetscape
- ❑ Properties unfenced or with open post and wire fences

APPENDIX 2

A STUDY OF RESIDENT PERCEPTIONS OF NEIGHBOURHOOD CHARCATER IN LORNE

DR RAY GREEN, 2002

A Study of Resident Perceptions of Neighbourhood Character in Lorne

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December 2002

Executive Summary

This study examined the way residents of the town of Lorne perceive and evaluate the contribution that existing environmental features make to neighbourhood character. Initially, a range of local features (with an emphasis on built features), considered by residents to contribute to neighbourhood character, (or to detract from local character), were identified through a projective mapping mail questionnaire (N = 263). Four neighbourhood precincts were also identified through the mail survey by asking respondents to indicate the area they considered to comprise their neighbourhoods. The features most frequently identified in the mail survey were then photographed and used as stimuli in a photo rating exercise held during a community workshop (N = 44). During the photo rating exercise respondents were asked to rate (on a seven point, bi-polar scale) the features depicted in the photographs in terms of perceived neighbourhood character compatibility. A range of built features, key views and natural elements, associated with each of the four neighbourhood precincts, were tested in the photo rating exercise. Simple statistical analytical procedures were used to order the various features as depicted in the photographs according to perceived degree of character compatibility and to determine the degree of consensus between respondents' in their ratings.

The results suggest particular attributes are shared by those features perceived to strongly contribute to neighbourhood character. Likewise those features rated as being most detracting of local character also shared similar attributes. Various natural environmental features, including views of the ocean, beach, the Erskine River, vegetation and vegetated open space areas and the surrounding hills, were rated as the features most highly compatible with neighbourhood character. In respect to the built form, several older, historic buildings and iconic structures, such as the pier and the swing bridge, were also rated as being highly compatible with neighbourhood character. In addition, several unsealed roads in bush settings were rated relatively highly in terms of neighbourhood character compatibility. Residential houses that are small in scale (in both bulk and height), that have a moderate to high degree of surface and mass articulation and that are substantially screened from the road by vegetation were also associated with high neighbourhood compatibly ratings. Features related to perceived incompatibility with neighbourhood character include utility poles, large boxy looking unit developments, houses and buildings with little surface and mass articulation, areas of high density housing development, views blocked by rooftops, "messy" looking residential properties, houses that appear to be transplanted from other places and those that look "suburban" in nature.

The results of this study provide useful information in respect to how members of the Lorne community conceptualise neighbourhood character. This information can be used to help predict how proposed new development, or other environmental changes, may be evaluated by the community in terms of neighbourhood character compatibility. Results of this study have identified a range of positive design attributes associated with high perceived character compatibility. In contrast a range of design attributes associated with low perceived character compatibility were also identified. Based on these results and the results of other studies also currently being undertaken as part of the Council's overall analysis of neighbourhood character, appropriate planning strategies can be formulated and implemented with the aim of maintaining and enhancing positive aspects of neighbourhood character while minimising incompatible aspects where possible.

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Introduction

Australian coastal towns located near major metropolitan areas, such as Lorne, are under increasing pressure from both residential and commercial development. In such places it is common to hear local residents complain that the "character" of their town or neighbourhood is being degraded or lost due to inappropriate development and other environmental changes associated with town growth. Often local communities oppose any new development on the grounds that it may negatively alter or destroy valued town and neighbourhood character. Local planning authorities are attempting to respond to such public concerns by devising strategies for controlling development and growth with the aim of maintaining a positive expression of local character over time.

State planning policy in Victoria has recently mandated that local governments must now consider neighbourhood character when revising their planning schemes. In response to this mandate many councils are in the process of undertaking neighbourhood character studies to identify environmental features thought to be important in conveying local character. Generally town planning, landscape architectural or urban design professionals are engaged to undertake these studies. These consultants use their expert judgement to define what they believe constitutes the character of a town or neighbourhood and to identify the environmental features, and associated attributes, they consider are most important to the character of specified areas, such as neighbourhoods. Subsequent to carrying out such studies various planning mechanisms may be incorporated into local planning schemes to try and maintain, enhance and control changes in town and neighbourhood character. The idea is that if key elements of town and neighbourhood character can be identified it may be possible to propose ways in which towns can allow, and even welcome, growth while shaping it to maintain a positive expression of town and neighbourhood character.

Most character studies have focused on objectively inventorying physical features of towns thought, for what ever reason, to convey positive expressions of town and neighbourhood character. Such studies generally ignore perceptual and experiential responses of local residents to such features and as a consequence may neglect to identify those features and attributes that are most strongly associated with the manner in which residents actually conceptualize the character of their town or neighbourhood. Typically in such studies experts are retained to use their judgement to determine what are, and what are not, the features of a town or neighbourhood(s) that are important in conveying character, and thus worthy of conservation and/or special management. Yet the assumption that professional, expert judgements are necessarily congruent with community environmental perceptions and values has been challenged by the findings of several international landscape and architectural perception studies (Devlin and Nasar, 1989; Hershberger, 1988; Kaplan, 1983; Perrantz and Elinga, 1990; Uzzell and Leward, 1990). These studies cast doubt on the validity of basing town and neighbourhood character assessment solely on expert standards and suggest the need for perceptually based procedures that directly involve local communities in such assessments to complement purely physical inventories of likely character defining features.

The research described in this report assumes that people who are familiar with their local environment will possess a high degree of understanding of the character of their towns and neighbourhoods, and the contribution that associated physical features make to local character. The research reported here assumes that local residents are the true experts when it comes to defining town and neighbourhood character. Thus, by documenting perceptions and values of local residents in respect to town and neighbourhood character, and using this understanding in managing environmental change, the likelihood that positive expressions of town and neighbourhood character will be maintained and/or enhanced, and negative expressions will be minimised, can be optimised.

Study Aims and Research Questions

The aim of the study reported here was to define neighbourhood character from the perspective of the local community - what people in the community think and feel about the character of their individual neighbourhoods. Dr. Ray Green of the Faculty of Architecture Building and Planning at The University of Melbourne was engaged to undertake this study of community perceptions of neighbourhood character using a research methodology he has developed over several years for this purpose (for details on past studies see - Green, 1985, 1995, 1998, 1999, 2000a, 2000b). The results, when considered in relation to results from studies that are simultaneously being undertaken by others, such as inventorying physical characteristics of the town's various neighbourhoods and mapping vegetation cover, can help Council planners in assessing the effectiveness of the current planning scheme in terms of managing neighbourhood character and revising the existing planning scheme where this is deemed necessary.

Specifically, the aim of this study was to understand how people who live, or who own property in Lorne conceptualise "neighbourhood character" by exploring the following questions:

- How do members of the local community define the character of their neighbourhood(s)?
- How do residents conceptualise the geographic extend of their neighbourhood areas?
- What are the environmental features within the various neighbourhood precincts considered by residents to be important in conveying neighbourhood character?
- What are the environmental features within neighbourhood precincts considered by residents to negatively detract from neighbourhood character?
- How do residents evaluate these character features (both those that detract and those that are seen as important) in terms of perceived character compatibility?
- Are there discernable differences between neighbourhoods in respect to perceived neighbourhood character?

Although town and neighbourhood character will generally be conveyed by a range of features including both built and natural elements, views and social characteristics of towns, this particular study focused more on the built features associated with the town's various neighbourhoods. However, the contribution of natural features, such as vegetation, the settings in which such vegetation occurs, as well as important views and certain "iconic" town features, that were found to be strongly associated with the perceived character of certain neighbourhoods, were so overwhelmingly mentioned by respondents that some of these features were also documented and tested in the study.

Study Area

The study addressed residential neighbourhood areas within the town of Lorne. Through an initial projective mapping survey – as discussed below – four neighbourhood precinct areas were identified within the town. The size of the neighbourhood precincts assured that each neighbourhood area would have a sufficient number of respondents to allow statistical aggregation of the data within neighbourhoods. The study area, including boundaries of the four neighbourhood precincts, is illustrated in Figure 1.

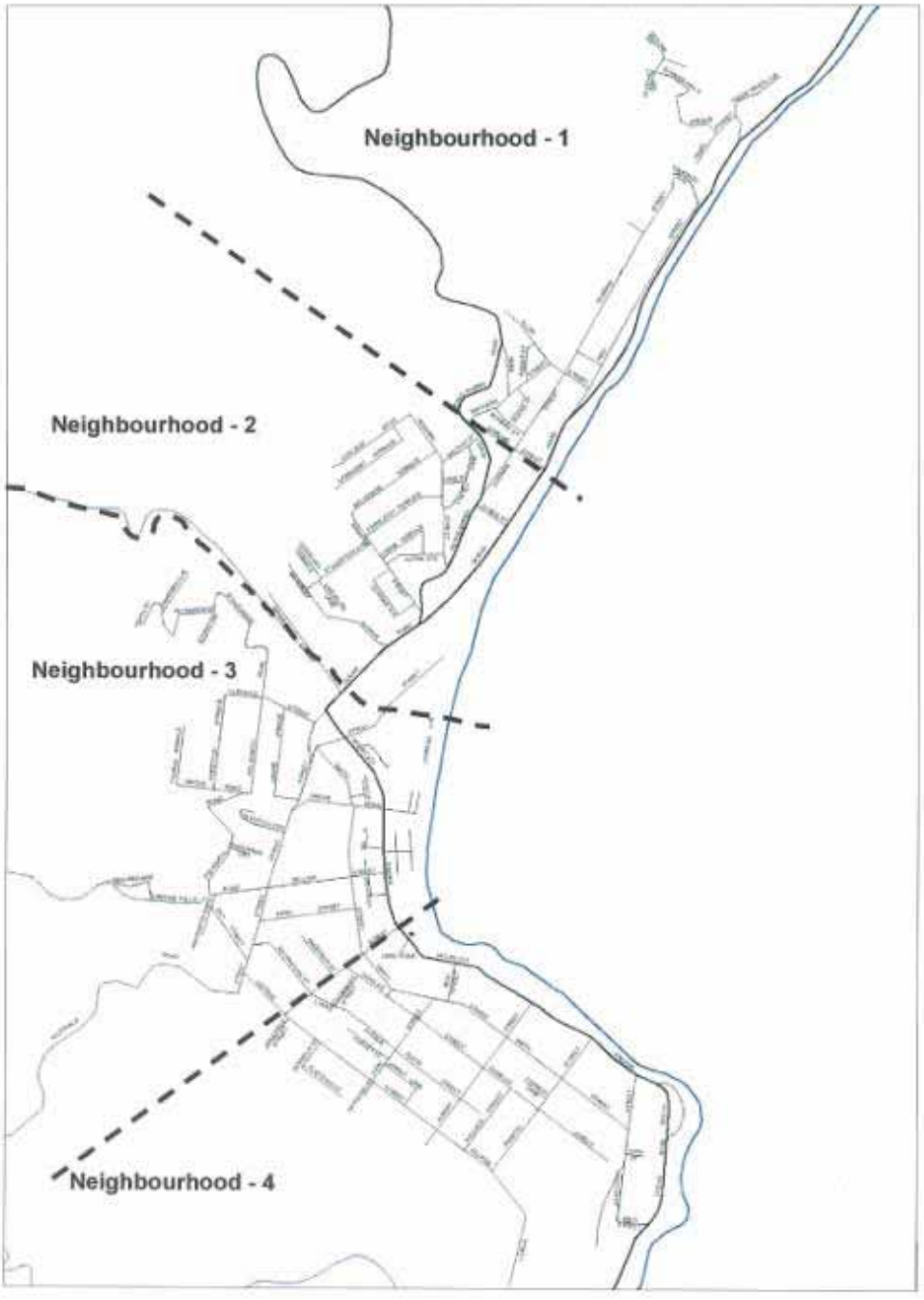

Figure 1: Study Area Map with Neighbourhood Precincts
Map Source: Surf Coast Shire Council

Methods

As previously mentioned, the methodology used in conducting this study has been developed, tested and refined by the author over several years and has proven both reliable and extremely sensitive in describing and assessing community perceptions of town and neighbourhood character. The results obtained from this methodological approach have proven capable of providing useful information for planning purposes as well as providing information to advance our theoretical understanding of how communities perceive town and neighbourhood character, particularly in small town settings. Specifically, methods used to delineate neighbourhood precinct boundaries, identify stimuli elements (features identified by the community to be salient to local character) and assessing these features in respect to "neighbourhood and town character compatibility", were employed in this study. This multi-stage research design initially incorporates a mail projective mapping survey, a photographic inventory of local features identified through the projective mapping survey and finally a photo rating exercise. These methods were applied sequentially to identify a range of local environmental features and places residents' associate with the character of their neighbourhoods and then to measure the perceived degree of "character compatibility" of these features from the perspective of local residents.

Projective Mapping Mail Survey

Initially, a "Neighbourhood Character Questionnaire" was formulated and mailed to 1760 rate payers and residents of Lorne. The primary aim of this projective mapping questionnaire was to help identify those features of the town considered to be most important in conveying neighbourhood character, and likewise those features considered to be incompatible with local character, so that these features could then be photographed in the field and used in a subsequent phase of the study (photo rating exercise). The questionnaire was aimed at understanding:

- What geographic areas people thought constituted their local neighbourhood and the reasons for this understanding.
- The features people believe to be most compatible with the character of their neighbourhood.
- The features people believe to be most incompatible with character in their neighbourhood.

The questionnaire consisted of two A3 format maps with instructions requesting respondents to indicate, on one map, where they would take a set of photographs to illustrate the features and places they considered to be most important in positively contributing to the character of their neighbourhood, and on the other map, where they would take a set of photographs to illustrate those features they considered to be most incompatible with neighbourhood character. Respondents were also asked to describe what features they would include in their photographs and the vantage points from which they would take such photographs.

In addition, respondents were instructed to draw a line on the map to indicate the boundary of the area they considered to represent their neighbourhood and to give reasons why they considered the area they delineated to represent their neighbourhood. Analysis of this data consisted of overlaying all the individual neighbourhood boundaries on a composite map and identifying a limited number of shared neighbourhood precincts from the patterns that emerged. From this analysis four neighbourhood precincts where identified. The reason for reducing the number of individual neighbourhoods to four was, as previously mentioned, to allow data collected from subsequent methods to be aggregated by precinct.

Out of the 1760 questionnaires delivered 263 useable questionnaires were returned resulting in a 14.9% overall response rate. Although this response rate is fairly typical for mail questionnaires, it cannot be assumed to be a representative sample of the community due to the possibility of non-response bias. This means that those who responded, and those who did not response, to the questionnaire, may be systematically different from one another. Only one mail-out was conducted yet had follow-up mailings been undertaken a higher response rate would have been expected.

The actual demographics of the respondent sample, in regard to those demographic questions that were asked in the questionnaire, are given in Appendix A. It is notable that the respondent group included very few young people. Typically older people and people with higher levels of education are more likely to respondent to such mail surveys than younger people and those with lower levels of education. Education level could not be determined in this survey as no question on education of respondents was asked. For the purposes of this study; to identify a range of environmental features associated with neighbourhood character for use in a subsequent data collection procedure (photo rating exercise), and due to the high degree of consensus observed in the features most frequently identified within neighbourhoods from the questionnaires that were returned, the data generated from the questionnaire was considered suitable for the purposes of this study. Although the responses from those who mailed back questionnaires were adequate for the purpose they were used for (to identify a range of neighbourhood features salient to neighbourhood character) the results should still be generalised to the entire Lorne population with caution.

Photographic Inventory

Based on results of the projective mapping questionnaire, a set of photographs were taken of the most frequently mentioned features in each neighbourhood precinct. Over two hundred photographs were taken, from which 81 depicting a range of features and environmental characteristics from each neighbourhood, with an emphasis on built features, were selected for use as stimuli for a photo rating exercise. These were the neighbourhood features most frequently cited in the projective maps (mail questionnaire). These photographic images were scanned and incorporated into a PowerPoint presentation for use at a community photo rating exercise that formed part of a community workshop. The aim of the photo rating procedure was to collect quantitative data on the perceived "character compatibility" of the depicted features/places in respect to the different neighbourhood precincts.

Past research has found that photographs used in such perceptually based environmental perception research generally elicit very similar responses to those obtained *in situ*, particularly if the respondents have a degree of cognitive familiarity with the depicted environments (Craik, 1972a; Daniel and Boster, 1976; Hershberger and Cass, 1974; Nasar, 1988, Shafer and Richards, 1974; Shuttleworth, 1980; Stamps, 1990; Steward et al., 1984). Past research by the author has also confirmed the utility and reliability of using photographs as surrogates for actual on site environmental assessments in town character assessment research (Green, 1985, 1998, 1999, 2000a). Colour photographic slides have proven to be the most valid in this respect, however, in this study colour photographic prints were originally taken and then digitally scanned and incorporated into a Powerpoint presentation for use in the photo rating exercise, which was assumed to approximate a colour slide presentation.

Community Workshop

Once the photographic inventory was complete a community workshop was held in Lorne. The workshop was divided into two parts beginning with a photo rating exercise in which 81 neighbourhood character features (as displayed in the photographs) were rated by participants followed by focus group discussions concentrating on various aspects of neighbourhood character (as discussed in another report). Photographs used in the photo rating exercises were those identified in the projective mapping questionnaire and then photographed in the field as previously discussed. Descriptive labels used most frequently by the mail questionnaire respondents in describing features to photograph were also included for each photographic image in the Powerpoint presentation.

One of the questions in the mail questionnaire asked respondents to indicate if they would be willing to participate in future exercises associated with the neighbourhood character study. Of the 263 valid questionnaires returned 188 (72%) indicated they would be willing to participate in such future activities. These people were subsequently sent invitations to a community workshop held on Oct 6, 2002 at the senior citizens hall. Also, in August, all rate payers were sent a newsletter in

which the workshop was flagged and at the same time an advertisement for the workshop was placed in the local newspaper – *the Echo*.

Of the 44 respondents who participated in the photo rating exercise 21 were males and 20 females (3 did not respond to this question). Twenty participants lived full time in Lorne while 22 did not (two did not respond to this question). Most respondents were in the 51 to 60 year old age category (n=17) followed by the 61 to 70 year old category (n=11) and the over 70 year old category (n=9). There was only one respondent each represented in the 21 to 30 and 31 to 40 year old categories. Thirty-four respondents grew up in a large or regional city, eight had a rural or small town background, one said they had grown up in both types of environment and there was one person who did not respond to this question. All four neighbourhood precincts were represented by respondents, however this distribution was unequal, with Neighbourhood Four represented by 17 respondents while Neighbourhood One had only six respondents (see Appendix B for demographic and background details of the respondent group).

Since the photo rating exercise sample consisted of a relatively small group of 44 respondents, who were all self selected, the results of the photo rating exercise can not be presumed to be representative of the entire community and thus generalisations, as with the mail questionnaire, should be made cautiously. However, there is substantial environmental perception research that shows remarkable consistency across people in how they rate landscape scenes, particularly in regard to scenic beauty in respect to natural environmental settings. It has also been found that intra-group consistency, using relatively small group sizes (N = 25 to 30), in regard to rating landscape scenes in respect to perceived beauty, is consistently very high across various groups (Daniel and Boster, 1976; Schroeder, 1984). Past research by the author has also found both high inter and intra group consistency in town character assessment studies with some differences observed along certain dimensions, particularly social attributes of places (Green, 1998).

A 1975 study undertaken in Lorne to assess resident and non-resident perceptions of the town's scenic quality (Zube and Mills, 1976) suggests that the reliability of the results of the present study may be high, despite the relatively small sample size and despite the fact that past research has shown that the notion of town character is multidimensional in nature in which scenic beauty is only one salient dimension of several (Green, 1999, 2000b). In Zube and Mill's study 24 colour panoramic photographs, consisting of three views within each of eight distinct scenic zones in Lorne, were rated for scenic beauty by 101 individuals using a Q-sort technique (generating the same type of data as the photo rating technique used in the present study). Of the 101 Lorne respondents, 25 were year round residents and 76 were seasonal residents or visitors. In addition, a group of 22 post-graduate students at the University of Massachusetts in the United States also rated the same photos. The results showed there to be very high agreement between all three groups with the Lorne seasonal/visitor group and the year round resident group having the highest correspondence (r =.89), with the overseas student group also showing high correlations in their scenic assessments in relation to both the year round resident and the non-resident groups (r = .76 and r = .87 respectively). While that study was concerned specifically with assessing scene quality rather than perceived neighbourhood character compatibility, the findings do suggest that reliable perceptual ratings can be obtained using relatively small respondent groups and that year round and part-time residents may show a high degree of consistency in their perceptual judgements in relation to local landscape scenes. In the present study local full-time and part-time residents were used as respondents because it was assumed that visitors would not have the same cognitive familiarity with the character of local neighbourhoods that residents would have.

Photo Rating Exercise

At the community workshop participants were shown the stimuli photographs, in random order, in a PowerPoint presentation, and asked to rate each feature/place (as depicted in the photos) in terms of perceived neighbourhood character compatibility. Participants were shown the 81 photos and asked to record their responses for each photo on a preformatted response recording booklet. They were asked to rate each feature/environment depicted in the photos on a seven point, bi-

polar rating scale intended to measure the degree of perceived "neighbourhood character compatibility" Three additional rating scales were included to assess qualities found in past research to be strongly associated with perceived character in similar small coastal towns; perceived beauty, distinctiveness and naturalness (Green, 1998, 1999, 2000b), however, the data from these additional scales turned out to be highly correlated with data generated from the neighbourhood character scale and are therefore not reported here. Each of the 81 slides was displayed for 30 seconds resulting in approximately one hour of photo rating during the workshop.

Data Analysis

Projective Mapping Questionnaire

The projective mapping questionnaires where content analysed to identify:

- shared neighbourhood precincts
- features most frequently mentioned as contributing to neighbourhood character
- features most frequently mentioned as detracting from neighbourhood character
- locations where the above features could be photographed

Analysis of the questionnaires consisted of tallying the frequency of mention of both specific and more general types of features and then plotting where these features occur on the ground in each of the four neighbourhoods. Features most frequently mentioned were recorded on tables and categorised into:

- development and built features,
- vegetation,
- views,
- access and transport,
- other elements that did not fit into the above categories.

Vantage points where the most frequently mentioned features could be photographed were plotted on larger scale neighbourhood maps for use in conducting the field photography.

Analysis of data from the question that asked people to draw a line around their neighbourhood was aimed at defining a relatively few neighbourhood precinct areas. This was accomplished by overlapping each person's individual maps on transparent overlays and determining patterns that suggested consensus in neighbourhood boundaries. From this analysis four general neighbourhood precincts were identified as shown in Figure 1.

Photo Rating Exercise

Analysis of the photo rating data (from the photo rating exercise) consisted of generating simple mean and standard deviation values aggregated across all respondents for each photograph (depicted feature/place) (see Appendix C for all photos along with their associated character compatibility rating values).

Results

Analysis of open-ended data from the mail questionnaire, when combined with data obtained from the photographic rating exercise, yielded information about how local residents conceptualise and evaluate the character of their particular neighbourhoods. These results are summarised below. All the photos tested and their corresponding mean and standard deviation values are given in Appendix C. Appendix D illustrates photos collectively associated with each of the four neighbourhoods accompanied by comments gleaned from what people mentioned in response to the mail questionnaire.

Features Rated Most Compatible with Neighbourhood Character

Because the photo rating data was collected using a seven point "neighbourhood character compatibility" scale, any photo with a mean rating between 1 to 4 signifies it was rated as being compatible with neighbourhood character to some degree, (from strongly to slightly), while any mean score in the range of 4 to 7 represents varying degrees of perceived character incompatibility. Therefore, mean ratings in the range of one to two suggest strong perceived character compatibility. Features rated in the photo rating exercise as being most strongly compatible with neighbourhood character (means from 1.26 to 1.77) were predominately natural elements or views of such features; views of the sea, the river, the beach, vegetation and nature reserves.

Culturally modified environments and built features that rated highly in terms of neighbourhood character included two unsealed roads edged by tall indigenous trees, the Swing Bridge, the Pier and two historic houses. The photo (Figure 2) that received the highest character compatibility rating of all depicted a view looking down a street in Neighbourhood Three with the ocean and distant hills in the background and large Eucalyptus trees on the road sides framing the view (Photo 12– $M = 1.26$, $SD = .96$). The low mean and standard deviation values associated with this photo suggest there was strong agreement that the scene depicted in this photo was very important to neighbourhood character. While this particular road and view are located in Neighbourhood Three it would be expected that similar scenes in the same or other neighbourhoods would also be rated very highly. Of the five most highly rated photos the sea is depicted in four and the river in one. In four of the highest rated five photos indigenous trees form an integral part of the scenes. This finding suggests that the sea and tree cover, and views comprised of these elements, are essential and dominate elements in defining Lorne's character.

Figure 2: View Looking Down Street in Neighbourhood Three (Photo. No. 12)

The feature rated second highest in respect to contributing to neighbourhood character (Figure 3) is of the Erskine River seen from the bridge on the Great Ocean Road at the border of

Neighbourhoods Three and Two (Photo 55 - *M* = 1.42, *SD* = 1.55). The Swing Bridge that crosses the river was also rated highly (Photo 58 – *M* =1.50, *SD* = 1.37).

Figure 3: The Erskine River seen from the Bridge (Photo. No. 55)

Area of indigenous vegetation, such as found in the nature reserves depicted in Photo 67 (*M* = 1.81, *SD* = 1.75) and Photo 62 (*M* = 1.60, *SD* = 1.76), were also rated as being strongly compatible with neighbourhood character. In other cases large, old trees, such as the Cypress trees on the foreshore (Photo 43 – *M* = 1.71, *SD* = 1.40), and two unsealed roads which are bordered by large trees where also rated as particularly strong in conveying neighbourhood character (Photo 21 – *M* = 12.55, *SD* = 1.61 and Photo 27 – *M* = 1.55, *SD* = 1.40).

The house that was rated the highest of all residential buildings is a large historic house on Smith Street (Figure 4) in Neighbourhood Three (Photo 1 – *M* = 1.49, *SD* = .55). Of the seven buildings that were rated as being highly compatible with neighbourhood character (mean values from 1.26 to 1.98) four are historic structures (Photos 1, 4, 81 and 31) while one photo depicts the boathouse and café (Photo 46), located on the town side of the river near the end of the Swing Bridge, which although recently built, are reminiscent of an older architecture style. The boathouse and café received a high character compatibility rating (*M* = 1.77, *SD* = 1.53).

Figure 4: Historic House on Smith Street Rated Highest in Neighbourhood Character Compatibility of all Residential Buildings (Photo. No. 1)

The highest rated (Photo 48 – *M* = 1.76, *SD* = 1.17) contemporary house (Figure 5) is barely visible through the vegetation; however, what can be seen is a low, pale coloured house with convex rooflines and substantial areas of glass windows. Many respondents to the mail questionnaire mentioned that this house and others along Mountjoy Parade were compatible with the neighbourhood because they were set back from the road and sited within established

vegetation and gardens. The house depicted in Figure 5 was also described by some people in the mail questionnaire as the first example of this type of contemporary architectural style that was later copied in other areas of the town.

Figure 5: House on Mountjoy Parade that was Rated Highest in Neighbourhood Character Compatibility of all Contemporary Residential Buildings (Photo. No. 48)

Two other contemporary houses that received relatively high character compatibility ratings include those depicted in Photos 57 (*M* = 1.95, *SD* = 1.67) and 3 (*M* = 2.28, *SD* = 1.40). Like the house depicted in Figure 5 both of these houses are set in established vegetated settings and heavily screened from the outside and are painted in darker colours that help them blend into the surrounding vegetation.

Features Rated Moderately Compatible with Neighbourhood Character

Features that were rated moderately compatible with neighbourhood character (mean ratings between 2.00 to 3.00) primarily comprised a range of different built structures, both old and new. These houses represent a range of architectural styles reflecting different times in the town's history (Figure 6). Also included in this group is a photo of the golf course (Photo 36, *M* = 2.26, *SD* = 1.77) and a view of the bay looking down a street in Neighbourhood Four (Photo 53, *M* = 2.55, *SD* = 1.81). This view is similar to that depicted in Photo 12 (Figure 2), which, as was previously discussed, was the most highly rated photo of all those tested in the study, with the apparent difference in these two scenes being that in Photo 12 the view is framed by tall Eucalyptus trees whereas the view depicted in Photo 53 is looking down a visibly wider street with minimal vegetation cover along the edges.

Other built features that rated moderately high in regard to character compatibility are a collection of older, small shops off the Great Ocean Road in Neighbourhood Two (Photo 44 – M = 2.05, SD = 1.54) and the Lorne Hotel in Neighbourhood One (Photo 72 – M = 2.59, SD = 1.45), both of which were mentioned as positive features in the mail questionnaire. An example of newer houses that were rated as slightly compatible with neighbourhood character are those depicted in Figure 7. These houses are located adjacent to the golf course and the effort made to retain large trees during their construction no doubt helped to increase the character compatibility rating of this scene.

Photo 64 (M = 2.30, SD = 1.59)

Photo 28 (M = 2.31, SD = 1.79)

Photo 20 (M = 2.56, SD = 1.59)

Photo 29 (M = 2.71, SD = 1.98)

Figure 6: Houses Rated Moderately Compatible with Neighbourhood Character from Various Times in the History of Lorne.

Figure 7: New Houses Rated Slightly Compatible with Neighbourhood Character (Photo 2).

Features Rated as Slightly Incompatible with Neighbourhood Character

Developments considered to be only slightly detracting (mean 4.05 to 4.87) from neighbourhood character include a variety of newer style houses and unit developments. Several of these developments appear to represent higher density (Photo 32 and 24) and, like the housing developments depicted in Photo 40 (rated moderately incompatible with neighbourhood character), were described in the projective mapping mail questionnaire as being "crowded". Many of the other developments in this group are large in scale, and due to a lack of vegetative screening are visually prominent from the street. The only older house in this range was the so called "Doll's

House" depicted in Photo 4 (*M* = 4.44, *SD* = 1.86) located in Neighbourhood Three. It is difficult to explain why this particular older style house was rated as low as it was because all other older houses were rated substantially higher and this house was identified by several respondents in the mail questionnaire as important to the character of this neighbourhood. This rating may have been the result of the vantage point from which this building was photographed that resulted in a photo showing a preponderance of flat surfaces with no screening and small windows, unlike how this house would typically be seen from the street.

Features Rated Moderately Incompatible with Neighbourhood Character

Features that were rated as moderately incompatible with neighbourhood character (mean from 5.05 to 5.95) were all built features, and except one old house, are all new developments. These developments share common design attributes of being relatively large in scale, lacking in screening vegetation, being boxy in appearance and having little surface and mass articulation (example illustrated in Figure 8). These design attributes are also exemplified by houses depicted in Photos 7, 25, 69, 10, 68 and 34. The house depicted in Photo 34 was mentioned repeated in the mail questionnaire as not fitting in with the character of Neighbourhood Four (Figure 9). This house is a reminiscent of a Georgian Mansion reflective of another time and place. "Messy" looking houses and those that exhibit a lack of maintenance, and that were described as such in the mail questionnaire, also seemed to result in lower ratings as exemplified by the house depicted in Photo 18 (*M* = 5.63, *SD* = 1.88). A photo in which the ocean is seen from over a mass of rooftops also was rated as moderately incompatible with neighbourhood character (Photo 30 – M = 5.50, SD = 1.85). Such views of the sea would normally be expected to rate relatively highly in character compatibility, as witnessed in other similar scenes without visible roofs. The presence of the rooftops in this particular scene no doubt detracts from the scenic quality of this view. This suggests that the treatment of roofs as seen from above needs to be a carefully considered aspect of building design as they can negatively impact on views.

Photo 25 – M = 5.14, SD = 1.84

Photo 10 – M = 5.51, SD = 1.83

Figure 8: Houses Rated Moderately Incompatible with Neighbourhood Character that Share Common Design Attributes.

Figure 9: House in Neighbourhood Four Rated Moderately Incompatible with Neighbourhood Character (Photo 34).

Features Rated Strongly Incompatible with Neighbourhood Character

There were only two features that were rated as strongly incompatible with neighbourhood character. The photo rated as most strongly out of character depicts a line of particularly ugly power poles and lines in Neighbourhood One (Photo 37 – $M = 6.51$, $SD = 1.21$). The feature rated second most incompatible with neighbourhood character is the Cumberland Hotel (Figure 10) in Neighbourhood Three (Photo 49 – $M = 6.12$, $SD = 1.60$). This massive building is very dominant visually along the Great Ocean Road and visible from a long distance before entering the town. In the projective mapping mail questionnaire this development was identified by many respondents as being a feature considered to be very incompatible with neighbourhood character and was most frequently described as too big and not in keeping with Lorne; "like something one would find in Noosa".

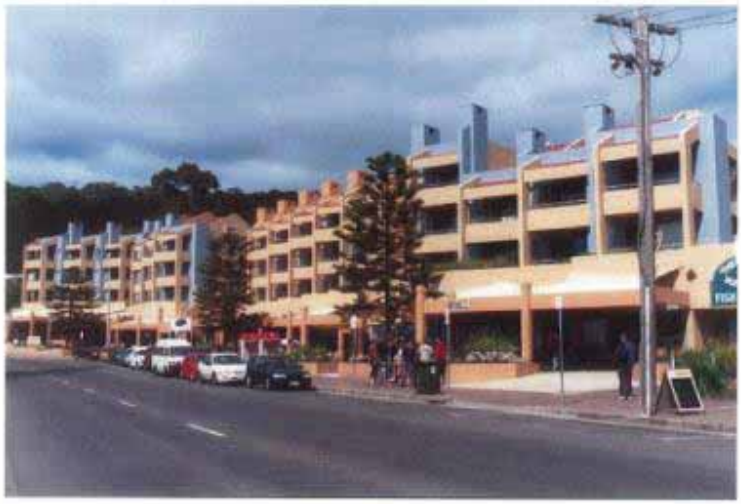

Figure 10: The Cumberland Hotel Rated Strongly Incompatible with Neighbourhood Character (Photo 49).

Neighbourhood Differences and Similarities

Although there are some noticeable differences in the features identified in each of the four neighbourhoods there were perhaps more similarities across neighbourhoods in terms of the types of development considered to be compatible and incompatible with neighbourhood character. Due to the type of stimuli used in this study – photographs of specific environmental features located in the various neighbourhoods – the ability to conduct a detailed assessment of how the neighbourhoods differ was limited. However, by looking at the range of feature types identified in each of the neighbourhoods some idea of the distinctive attributes associated with each neighbourhood can be made. Following are descriptions of the key characteristics associated with each of the four neighbourhood precincts as gleaned from the results of both the projective mapping questionnaire and the photo rating exercise (also see Appendix D).

Neighbourhood One:
Characteristics of features located in this neighbourhood that are perceived as compatible with its character include:

- View opportunities afforded by the higher elevation of newer hillside residential development, specifically views over Louttit Bay and Lorne Township.
- Expansion of this neighbourhood to the north is composed of new development only in areas that were until recently bushland.
- Some new houses set in the bush and screened by existing vegetation.
- Some older, smaller beach style houses on streets closer to town, specifically along Dorman Street and Hall Street.

- Streets in older parts of the neighbourhood are in close proximity and parallel to the coastline, hence having many view opportunities of the ocean and shoreline.

Characteristics of features located in this neighbourhood that are perceived as incompatible with its character include:

- Some areas of tree canopy have been removed due to new and dense residential development. This is often the result of tree clearing during construction to provide increased view opportunities.
- Particularity prominent and ugly power poles and lines that disrupt views.
- Many houses in older areas of the neighbourhood lack vegetative screening.
- Some new hillside developments are visually prominent due to scale of buildings and lack of vegetative screening.

Neighbourhood Two:
Characteristics of features located in this neighbourhood that are perceived as compatible with its character include:

- The Erskine River
- Historical features such as the Swing Bridge and Waverley House.
- Contemporary houses set in bush on the hills.
- The golf course and surrounding indigenous vegetation.
- Unsealed streets in upper part of neighbourhood.
- Small scale traditional beach houses on certain streets – i.e. Howard Street.

Characteristics of features located in this neighbourhood that are perceived as incompatible with its character include:

- High density of houses on hillsides in certain areas – i.e. bordering the golf course.
- High density of houses in some lower lying areas – eg. Alpha Terrace.
- Large unit developments and accommodation on the Great Ocean Road.
- Visually prominent large contemporary houses on hillsides.

Neighbourhood Three:
Characteristics of features located in this neighbourhood that are perceived as compatible with its character include:

- The main commercial area of town and the main beach – the core activity centre of Lorne and community services such as police and school buildings.
- Mix of older and newer housing – eg. Fern Street.
- Historic landmark features such as the Cypress trees on the foreshore and the mansion on corner of Smith and Bay Streets.
- Traditional, older style small beach houses on hillsides.
- Houses with established gardens and mature trees.
- Roads with views to the Bay, coastline and distance hills through the canopy of mature Gum trees.

Characteristics of features located in this neighbourhood that are perceived as incompatible with its character include:

- Inappropriate architecture in recent subdivisions including newer houses and units that lack vegetative screening from the road.
- Units and accommodation buildings that are highly visible due to their prominent locations and that are large in scale in terms of both bulk and height – i.e. The Cumberland Hotel and Erskine House units.

Neighbourhood Four:
Characteristics of features located in this neighbourhood that are perceived as compatible with its character include:

- Many historical houses and landmark historical features such the Grand Pacific Hotel and the Pier.
- Scotchman's Hill, the Blue Gums that grow to the coast and the coastal walking track.
- Nature reserves and established tree canopy.
- Houses along Mountjoy parade which include grand houses and examples of architecture from various periods in the town's history. All of which are set back from the road behind a wide nature strip.
- Streets through mature canopy trees with views to the Bay and distant hills.

Characteristics of features located in this neighbourhood that are perceived as incompatible with its character include:

- Large, boxy and visually prominent unit developments on the Great Ocean Road that lack sufficient screening.
- Certain areas where views to the Bay are negatively impacted by rooftops.
- Some examples of inappropriate architecture.

Conclusions

The scenes that were rated most highly in terms of neighbourhood character compatibility depict natural landscape features or views of natural features. What this finding suggests in terms of town planning is that natural features and views of natural features, specifically views of the beach, the river, the surrounding hills and vegetated areas, should be preserved where possible. Any development that results in disturbance to these features, or the blocking of views comprised of these features should be limited through appropriate planning mechanisms and controls. In this respect planning mechanisms should be implemented that will encourage view sharing and maintain the integrity of significant viewsheds.

Vegetation in general was found to be highly supportive of neighbourhood character and existing established vegetation, nature reserves and views of such vegetation, need to be protected if the valued character of Lorne is to be preserved for the future. In general, development that is screened from the road by vegetation rated higher than did buildings with minimal or no screening. This finding suggests that through the careful use of landscaping, and the siting of new development in such a way as to minimise disturbance to existing vegetation, even development that might by itself be perceived as being out of character may be made to be appear to be more compatible with neighbourhood character than it otherwise might be. In particular built features associated with, or that are adjacent to, areas of indigenous vegetation, should, during their development, minimise destruction of site vegetation. In an effort to maximise the perceived character compatibility of new residential development in such situations, landscape design should be directed at encouraging the built form to appear to blend with the surrounding setting while compatible plant types and planting arrangements should be employed to accentuate this effect.

Opportunities for access to areas of nearby nature and indigenous vegetation, such as found in the few nature reserves identified in this study, also need to be maintained in the neighbourhoods where these features occur. In addition, providing additional nature reserves in neighbourhoods, and/or greater opportunities to access existing natural areas, should be encouraged.

All the photos depicting buildings that were rated as highly incompatible with neighbourhood character exhibit certain design qualities that should be discouraged in new development. In general these attributes are not specific to any one neighbourhood and include buildings that are perceived as being too large in scale, boxy in appearance, lacking sufficient surface and massing articulation, and lacking vegetative screening and sufficient landscaping. Likewise, design attributes exhibited by older, more historic buildings, and those contemporary houses rated as

strongly to moderately compatible with neighbourhood character, should, where possible, be echoed in new development. This includes encouraging smaller, rather than larger scale of development (in terms of mass and height), an emphasis on pecked and convex roofs rather than flat roofs and greater articulation of building massing and surfaces. If the aim is to encourage new development to be more sympathetic with people's perceptions of neighbourhood character than these design attributes, if integrated into the design and siting of new development, are likely to help achieve this objective.

Planning controls should be developed to encourage the incorporation of these positive design attributes and discourage development that exhibits attributes associated with buildings that were rated as incompatible with neighbourhood character. The idea is to encourage creative architectural design within the context of existing valued neighbourhood character by echoing elements and design attributes associated with those features, found in this study to be perceived as compatible with neighbourhood character, and minimise those attributes associated with development perceived to be incompatible with neighbourhood character.

Desirable neighbourhood character needs to be consciously managed though application of appropriate planning mechanisms and development controls, and enforcement of these controls, or it will be lost. Loss of town and neighbourhood character is a gradual, often imperceptible, process. Yet the development and growth of towns can be managed to retain the best aspects of existing town and neighbourhood character and improve areas that are considered to be incompatible with desirable local character. In this way the results of this study, particularly in regard to the character compatibility ratings associated with built features, and implications for conservation of vegetation and existing natural areas and access to these areas, can serve as models to guide future development and town growth.

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APPENDIX A

PROJECTIVE MAPPING MAIL QUESTIONNAIRE - RESPONDENT SAMPLE DEMOGRAPHIC AND BACKGROUND INFORMATION

Lorne Respondents

N=263
N=216 In one of the four neighbourhoods
N=47 (General, overlap and no maps)

No. of Neighbourhoods = 4
N value by neighbourhoods:
N1=41
N2=40
N3=56
N4=78

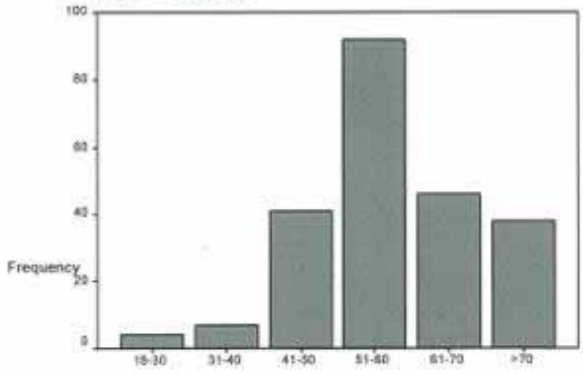
Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	86	32.7	37.7	37.7
Male	130	49.4	57.0	94.7
Both	12	4.6	5.3	100.0
Total	228	86.7	100.0	
Missing	35	13.3		
	263	100.0		

Age Category

	Frequency	Percent	Valid Percent	Cumulative Percent
18-30	4	1.5	1.8	1.8
31-40	7	2.7	3.1	4.8
41-50	41	15.6	18.0	22.8
51-60	92	35.0	40.4	63.2
61-70	46	17.5	20.2	83.3
>70	38	14.4	16.7	100.0
Total	228	86.7	100.0	
0	35	13.3		
	263	100.0		

Age Category

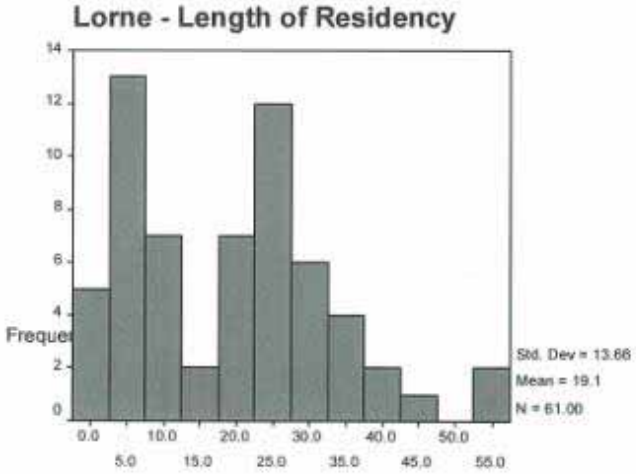


Residency (Lorne or Elsewhere)

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	66	25.1	28.6	28.6
No	164	62.4	71.0	99.6
Both	1	.4	.4	100.0
Total	231	87.8	100.0	
Missing	32	12.2		
	263	100.0		

Length of residency of those who live in Lorne full time

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Length	61	55	1	56	19.07	13.664



Place where respondents grew-up

	Frequency	Percent	Valid Percent	Cumulative Percent
Large-Regional City	156	59.3	68.7	68.7
Rural or Small Town	59	22.4	26.0	94.7
Both	12	4.6	5.3	100.0
Total	227	86.3	100.0	
Missing	36	13.7		
	263	100.0		

Future Participation

	Frequency	Percent	Valid Percent	Cumulative Percent
No	75	28.5	28.5	28.5
Yes	188	71.5	71.5	100.0
Total	263	100.0	100.0	

APPENDIX B

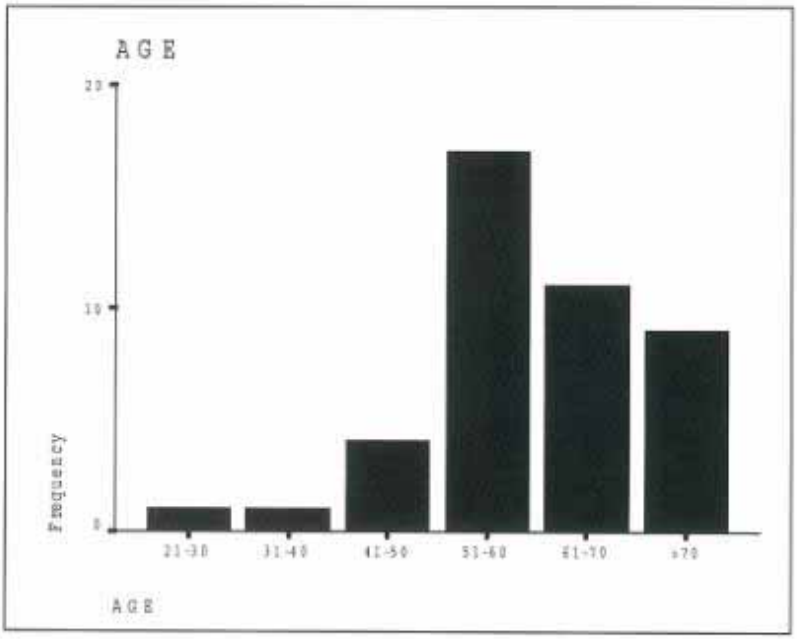
PHOTO RATING EXERCISE RESPONDENT SAMPLE DEMOGRAPHIC AND BACKGROUND INFORMATION

Lorne Workshop - GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	20	45.5	48.8	48.8
Male	21	47.7	51.2	100.0
Total	41	93.2	100.0	
Missing	3	6.8		
	44	100.0		

Lorne Workshop - AGE

	Frequency	Percent	Valid Percent	Cumulative Percent
21-30	1	2.3	2.3	2.3
31-40	1	2.3	2.3	4.7
41-50	4	9.1	9.3	14.0
51-60	17	38.6	39.5	53.5
61-70	11	25.0	25.6	79.1
>70	9	20.5	20.9	100.0
Total	43	97.7	100.0	
Missing	1	2.3		
	44	100.0		



Lorne Workshop – RESIDENT of LORNE

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	20	45.5	47.6	47.6
No	22	50.0	52.4	100.0
Total	42	95.5	100.0	
Missing	2	4.5		
	44	100.0		

Lorne Workshop – GREW UP IN:

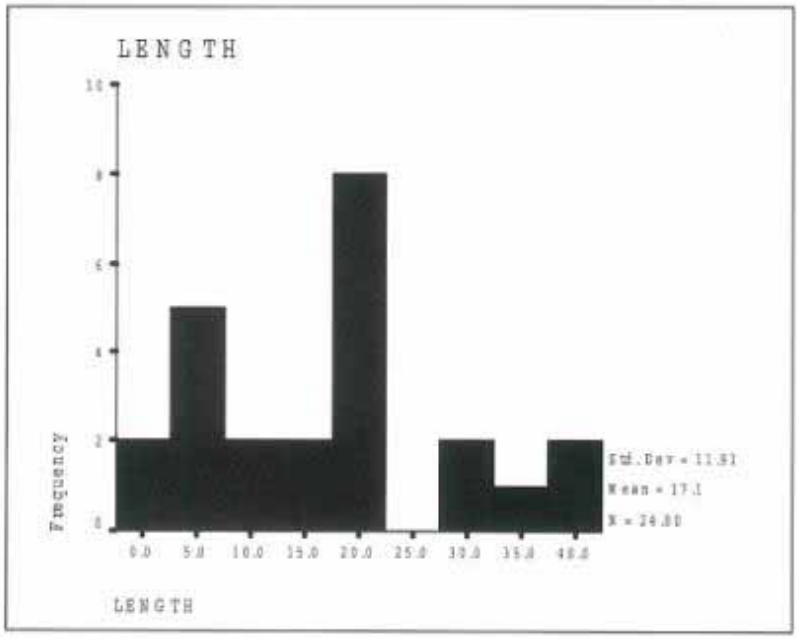
	Frequency	Percent	Valid Percent	Cumulative Percent
Large City	34	77.3	79.1	79.1
Rural/Small Town	8	18.2	18.6	97.7
Both	1	2.3	2.3	100.0
Total	43	97.7	100.0	
Missing	1	2.3		
	44	100.0		

Lorne Workshop – NEIGHBOURHOOD LOCATION OF HOUSE

	Frequency	Percent	Valid Percent	Cumulative Percent
1	6	13.6	14.0	14.0
2	9	20.5	20.9	34.9
3	11	25.0	25.6	60.5
4	17	38.6	39.5	100.0
Total	43	97.7	100.0	
Missing	1	2.3		
	44	100.0		

Lorne Workshop – LENGTH OF RESIDENCY

Years	Frequency	Percent	Valid Percent	Cumulative Percent
1	1	2.3	4.2	4.2
2	1	2.3	4.2	8.3
3	1	2.3	4.2	12.5
4	1	2.3	4.2	16.7
5	3	6.8	12.5	29.2
9	2	4.5	8.3	37.5
13	1	2.3	4.2	41.7
14	1	2.3	4.2	45.8
18	2	4.5	8.3	54.2
20	1	2.3	4.2	58.3
22	5	11.4	20.8	79.2
30	1	2.3	4.2	83.3
32	1	2.3	4.2	87.5
34	1	2.3	4.2	91.7
39	1	2.3	4.2	95.8
40	1	2.3	4.2	100.0
Total	24	54.5	100.0	
Non Full-time Resident	20	45.5		
	44	100.0		



APPENDIX C

PHOTO RATING RESULTS FOR ALL PHOTOS ORDERED FROM MOST TO LEAST COMPATIBLE WITH LOCAL CHARACTER

Features Rated Most (Upper Left) to Least (Lower Right) Compatible with Neighbourhood Character.

Photo 12, View Down Street - N-3
(M = 1.26, SD = .964).

Photo 55, Erskine River - N-2
(M = 1.42, SD = 1.55).

Photo 8, Pier - N-4
(M = 1.45, SD = 1.57).

Photo 70, View - N-1
(M = 1.47, SD = 1.55).

Photo 78, Coastal Track- N-4
(M = 1.47, SD = 1.55).

Photo 1, Old House - N-3
(M = 1.49, SD = .55).

Photo 58, Swing Bridge - N-1
(M = 1.50, SD = 1.37).

Photo 21, Tree Lined Street - N-3
(M = 1.55, SD = 1.61).

Photo 27, Unsealed Street - N-3
(M = 1.55, SD = 1.40).

Photo 75, Beach - N-3
(M = 1.60, SD = 1.76).

Photo 62, Nature Reserve - N-3
(M = 1.60, SD = 1.76).

Photo 43, Cypress Trees - N-3
(M = 1.71, SD = 1.40).

Photo 41, Old House - N-4
(M = 1.72, SD = 1.26).

Photo 48, House - N-4
(M =1.76, SD = 1.17).

Photo 46, Boat House - N-2
(M =1.77, SD = 1.53).

Neighbourhood Features Rated Most (Upper Left) to Least (Lower Right) Compatible (Continued).


Photo 67, Queens Park Reserve - N-3
(M = 1.81, SD = 1.75).


Photo 81, Old House - N-3
(M = 1.95, SD = 1.46).


Photo 57, - House - N-2
(M = 1.95, SD = 1.67).


Photo 31, Pacific Hotel - N-4
(M = 1.98, SD = 1.82).


Photo 44, Shops - N-2
(M = 2.05, SD = 1.54).


Photo 36, Golf Course - N-2
(M = 2.26, SD = 1.73).


Photo 3, Houses- N-3
(M = 2.28, SD = 1.40).


Photo 64, Old House - N-3
(M = 2.30, SD = 1.59).


Photo 28, House - N-3
(M = 2.31, SD = 1.79).


Photo 16, Beach - N-2
(M = 2.33, SD = 1.53).


Photo 9, Cottages - N-2
(M = 2.35, SD = 1.77).


Photo 51, House - N-3
(M = 2.40, SD = 1.35).


Photo 50, Waverly House - N-2
(M = 2.49, SD = 1.45).


Photo 23, Houses on Hillside - N-1
(M = 2.51, SD = 1.64).


Photo 61, House - N-1
(M = 2.52, SD = 1.04).


Photo 53, Street- N-4
(M = 2.55, SD = 1.81).


Photo 20, House - N-2
(M = 2.56, SD = 1.59).


Photo 72, Lorne Hotel- N-4
(M = 2.59, SD = 1.58).


Photo 29, House - N-4
(M = 2.71, SD = 1.98).


Photo 38, House - N-1
(M = 2.76, SD = 1.75).

Features Rated Most (Upper Left) to Least (Lower Right) Compatible with Neighbourhood Character Continued).


Photo 54, House - N-4
(M = 3.14, SD = 1.84).


Photo 2, Houses - N-2
(M = 3.19, SD = 1.42).


Photo 71, House - N-2
(M = 3.21, SD = 1.37).


Photo 78, House - N-3
(M = 3.24, SD = 1.46).


Photo 5, Guest House - N-3
(M = 3.37, SD = 1.96).


Photo 59, House - N-4
(M = 3.45, SD = 1.42).


Photo 65, Houses- N-4
(M = 3.56, SD = 1.92).


Photo 19, Old House - N-2
(M = 3.63, SD = 1.98).


Photo 13, Shops - N-3
(M = 3.70, SD = 1.99).


Photo 56, Beach - N-2
(M = 3.74, SD = 1.96).


Photo 60, Houses - N-1
(M = 3.74, SD = 1.58).


Photo 6, Houses - N-2
(M = 3.77, SD = 1.93).


Photo 33, House - N-3
(M = 3.88, SD = 2.11).


Photo 79, Houses - N-2
(M = 3.88, SD = 1.61).


Photo 15, Police Station - N-3
(M = 3.90, SD = 1.80).

Features Rated Most (Upper Left) to Least (Lower Right) Compatible with Neighbourhood Character (Continued).

Photo 7, House - N-2
(M = 4.87, SD = 2.14).

Photo 63, Units - N-3
(M = 5.05, SD = 2.02).

Photo 25, House - N-1
(M = 5.14, SD = 1.84).

Photo 40, Houses - N-2
(M = 5.19, SD = 1.71).

Photo 69, Houses - N-3
(M = 5.40, SD = 1.73).

Photo 14, Units- N-2
(M = 5.44, SD = 1.89).

Photo 30, View over Roofs - N-4
(M = 5.50, SD = 1.65).

Photo 10, House - N-3
(M = 5.51, SD = 1.83).

Photo 26, Units - N-4
(M = 5.61, SD = 1.83).

Photo 68, House - N-3
(M = 5.62, SD = 1.43).

Photo 18, House - N-1
(M = 5.63, SD = 1.88).

Photo 77, Houses - N-3
(M = 5.67, SD = 1.91).

Photo 52, House - N-3
(M = 5.79, SD = 1.73).

Photo 34, House - N-4
(M = 5.95, SD = 1.75).

Photo 49, Units - N-3
(M = 6.12, SD = 1.60).

Photo 37, House - N-1
(M = 6.51, SD = 1.21).

APPENDIX D

PHOTO RATING RESULTS FOR ALL PHOTOS GROUPED BY NEIGHBOURHOODS WITH COMMENTS FROM PROJECTIVE MAPPING QUESTIONNAIRE

Mail Questionnaire Comments and Photo Ratings by Neighbourhood

Neighbourhood Precinct - 1		
Positive Attributes*	**Negative Attributes**	**Photograph**
• Elevated view of Louttit Bay, ocean through gum trees, Lorne Beach and town		 No. 70: View Mean** = 1.47, SD = 1.55
• View of hillsides • Houses on hillside • Hillside development dominated by tree cover	• Large structures with relatively unarticulated surfaces without screening vegetation • Loss of tree canopy • Roofs dominate hillsides	 Photo 23: View Mean = 2.51, SD = 1.64
• Older development with successful new additions • Interesting design • House screened by native vegetation, specifically gum trees • Attractive colours • Appropriate setbacks • Surface articulation, balconies • Absence of fences		 Photo 61: House Mean = 2.52, SD =- 1.04
• Houses hidden by native vegetation • Houses screened from the road • Houses set in tree canopy of gums • Large setbacks • Diversity of materials including timber and stone • Pale colours • Substantial grade change from street level • Absence of fences		 Photo 38: Houses Mean = 2.52, SD = 1.04

* Positive and negative attributes identified from comments expressed in the projective mapping mail questionnaires.

** Mean and standard deviation values are based on a 7 point, bi-polar character compatibility rating scale used during the photo rating exercise (N=44) where 1 = highest degree of perceived compatibility with neighbourhood character and 7 = lowest compatibility with neighbourhood character, 4 = neutral.

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 1		
• Typical older style houses • Pale colours • Timber and fibro construction • Smaller footprints • Absence of fences • Balconies • Separation of footpath & road by grade change	• Lack of screening vegetation	 Photo 60: Houses Mean = 3.74, SD = 1.58
• Articulation of front elevation • Pale colour • Glass and balconies • Gum trees	• Large footprint • Repetition of buildings and forms • Lack of vegetative screening • Continuous roofline • Boxy side elevation on street	 Photo 11: Units Mean = 3.98, SD = 1.85
	• Bulky repetitive forms • Site denuded of vegetation • Loss of tree canopy • Lack of vegetation • Dominant concrete driveway • Development is not set into vegetation and stands out in contrast to the wooded hillsides	 Photo 47: Houses Mean = 4.26, SD = 1.85
	• Boxy form • Lack of landscaping and screening • Poorly maintained and "messy"	 Photo 22: House Mean = 4.29, SD = 1.78
	• Boxy form • Lack of screening vegetation • Existing trees removed for construction • Large scale • Dominates hillside • Lacks mass and surface articulation	 Photo 39: House Mean = 4.67, SD = 1.67

Mail questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 1		
	• Boxy form • Too close together • No vegetation between buildings • Tree canopy removed for construction	 Photo 24: Cabin Houses Mean = 4.67, SD = 1.81
	• Lack of vegetation in front of building for screening • Squareness of building – boxy • Formal, boxy foundation planting • Building dominates street • Large scale	 Photo 25: House Mean = 5.14, SD = 1.84
	• Poor upkeep • "Messy" looking • Degraded • Garage thought to be used as informal residence	 Photo 18: House Mean = 5.63, SD = 1.88
	• Industrial looking • Disrupts views • Dominates streetscape • Repetitive • Ugly	 Photo 37: Power lines Mean = 6.51, SD = 1.21

Mail questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 2		
Positive Attributes	**Negative Attributes**	**Photograph**
• River/water • Iconic natural environmental feature • Beautiful • Visual and experiential access to flora and fauna • Forms edge of neighbourhoods		 Photo 55: Erskine River Mean = 1.42, SD = 1.55
• Historical feature • Provides access to beach and coastline • River/water • Iconic feature		 Photo 58: Swing Bridge Mean = 1.50, SD = 1.37
• Unsealed road • Vegetation along raodsides including large Gum trees • No buildings visible • Continuous tree canopy • No paved walkway • Road colour blends with bush setting		 Photo 27: Staughton Ave. Mean = 1.55, SD = 1.40
• House set in bushland • Small scale • Vegetation dominates building • Native vegetation including large Gum trees • Uninterrupted tree canopy • Timber construction • Colours blend with vegetative setting		 Photo 57: House Mean = 1.95, SD = 1.67
• Large open space • Areas of retained bushland • Social/ Recreation • Hillside location • Views • Wildlife – eg. Kangaroos	• Private • Removal of bushland for construction • Large expanses of lawn	 Photo 36: Golf Course Mean = 2.26, SD = 1.73

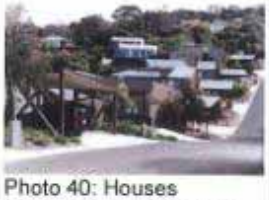
Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 2		
• Old "fisherman's" cottage • Part of a collection of similar housing stock on street • Large gum tress in adjoining nature strip • Pale colours • Neat and tidy • Visually permeable fence • Large block for footprint of house		 Photo 16: House Mean = 2.33, SD = 1.53
• Set into bushland • Variety of forms • Timber construction • Peaked roofs • References to Colonial architecture • Colours blend with bush surroundings • Small scale • Extensive landscaping		 Photo 9: Cottages Mean = 2.35, SD = 1.77
• Historic building • Stone and timber construction • Established garden • Well maintained • Large setback		 Photo 50: Waverly House Mean = 2.49, SD = 1.45
• Historic architectural style • Adds to variety of building forms from various periods in town's history • Large landmark tree • Large building lot in comparison to footprint • Timber and brick construction • Pale colours	• Not well maintained • Lacks landscaping and screening from the road	 Photo 20: House Mean = 2.56, SD = 1.59
• Beachy colours – blue and yellow • Timber construction • Houses set into bushland • Peak roofs • Screening vegetation and large Gum trees saved during construction	• Was cited in mail survey as detracting from neighbourhood character • Prominent concrete driveway on slope at rear of property (not visable in photo) • Houses located close together	 Photo 2: Houses Mean = 3.19, SD = 1.42

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 2		
• Convex roof design • Beachy colours • Some vegetative screening • Large glass surfaces	• Was cited in mail survey as detracting from neighbourhood character • No screening from rear of property • Lack of vegetation • Expanses of concrete drive • Bright white roofs dominate views from outside	 Photo 71: Units Mean = 3.21, SD = 1.37
• Unusual and distinctive design of landscape • Large front setback • Building dominated by vegetation • Elevated position	• Front fencing • Mish mash of design elements • Visually dominant	 Photo 19: House Mean = 3.63, SD = 1.98
• Representative of a group of houses that reflects neighbourhood character – old fisherman's cottages • Wide nature strip between building • Large tree	• Poorly maintained • Add Hoc additions • Lack of landscaping • Expanse of lawn	 Photo 56: House Mean = 3.74, SD = 1.96
• Retention of trees during construction • Surfaces articulated • Glass surfaces dominate • Variety of colours • Retention of some existing Gum trees	• Expanse of concrete driveway • Density of development • Building mass on hillside	 Photo 6: Houses Mean = 3.77, SD = 1.93
• Retention of large Gun trees in nature strip • Located adjacent to unsealed road	• Cited in the mail questionnaire as a feature that detracts from neighbourhood character • Prominent concrete driveways • Large footprints for site • Scale of development • Lack of landscaping • Fencing	 Photo79: Units Mean = 3.88, SD = 1.61

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 2		
• Rated as slightly in character possibly because of the vegetative screen and pale colours and maybe because many respondents were not familiar with this development	• Cited in the mail questionnaire as detracting from neighbourhood character • No screening from rear of property • Lack of vegetation • Expanses of concrete drives • Repetition of building forms	 Photo 66: Units Mean = 3.95, SD = 1.89
	• Visually dominant • Large expanse of concrete driveway • Visually dominant on hillside • Denuded of existing vegetation during construction • Bulky looking • Lack of screening	 Photo 45: House Mean = 4.40, SD = 1.84
	• Houses to close together • High density development on hillside • Diversity of architectural styles with little continuity of colours and styles • Lack of vegetation between buildings • Minimum setbacks	 Photo 17: Houses Mean = 4.78, SD = 1.64
	• Boxy • Little surface or mass articulation • Top heavy looking • Dark, imposing colour • No vegetation screening	 Photo 7: House Mean = 4.87, SD = 2.14
	• High density • Expanse of paving • "Sea of rooftops" • Repetition of driveway and building forms • Lack of screening and vegetation • Visually prominent from surrounding • Development dominates views and vegetation cover	 Photo 40: Houses Mean = 5.19, SD = 1.71

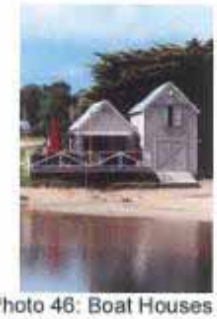
Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 2		
	• Boxy • Dominates hillside • Repetition of form • Large expanses of blank walls • Prominent driveway • Lack of screening and vegetation • Paving and building occupy most of lot • Minimum setbacks - very close to Great Ocean Road	 Photo 14: Units Mean = 5.44, SD = 1.69

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
Positive Attributes	**Negative Attributes**	**Photograph**
• Access to view of ocean and coastline through tree canopy of large gum trees • Smaller scale of road • Large gum trees • Continuous tree canopy • No buildings visible • Vegetation dominates road • Steep topography • No power lines visible • No footpath		 Photo 12: William Street Mean = 1.26, SD = 0.96
• Historic building • Grand old building • Landmark feature • Well maintained • Established garden • Articulated facades and roof • Fine detailing • Pale colour		 Photo 1: Old House Mean = 1.49, SD = 0.55
• Iconic feature of Lorne • Tourist and local destination • Recreational feature • Access to ocean and coastal environment and views • Public space • Safe environment		 Photo 75: Beach Mean = 1.60, SD = 1.76
• Historical feature • Landmark feature • Largeness of trees • Sculptural form of trees • Association with the beach • Shade • Passive recreation • Parking • Distinctive environment	• Exotic species	 Photo 43: Cypress Trees Mean = 1.71, SD = 1.40

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
• Timber construction • Pale colour • Peaked roofs • Reminiscent of historical boathouses • Visually prominent location • Social meeting place • Small in scale • River/water		 Photo 46: Boat Houses Mean = 1.77, SD = 1.53
• Public reserve • Natural bushland • Greenbelt • Access to nature – flora and fauna		 Photo 67: Queens Park Mean = 1.81, SD = 1.75
• Historical building • Continuity of older housing stock on Fern Street • Classic colonial style house • Small visually permeable fence • Established cottage style garden – in character with building • Backdrop of gum trees and bushland		 Photo 81: Old House Mean = 1.95, SD = 1.46
• Old buildings • Small scale • Reminiscent of historical village • Vegetation incorporated into building • Tourist attraction • Near river • Timber and corrugated iron materials		 Photo 44: Shops Mean = 2.05, SD = 1.54
• Representative of traditional older style beach houses • Only glimpses of buildings visible from the road • Houses surrounded by native vegetation and gum trees • Single storey smaller buildings • No fences • Hillside properties		 Photo 3: Houses Mean = 2.28, SD = 1.40

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
• Historic building • Landmark town feature – old hospital building (originally relocated from a country property) recently relocated • Well maintained • Addition to old housing stock on Fern Street	• Relocation of landmark feature • New site incompatible with building • Lack of landscaping	 Photo 64: Old House Mean = 2.30, SD = 1.59
• Older style building • Unique • Small scale • Large lot • Small scale building • Established garden with large trees • Wood construction		 Photo 28: House Mean = 2.31, SD = 1.79
• Older style smaller scale hillside development • Single storey house • Setback behind established garden • House set into bushland – large gum trees retained • House dominated by vegetation • Timber construction		 Photo 51: House Mean = 2.40, SD = 1.35
• Smaller scale development • House set into established garden • House screened by vegetation • Timber construction • Articulated façade • Balconies • House dominated by vegetation		 Photo 54: House Mean = 3.14, SD = 1.84
• Older style beach house • Articulated façade • Small scale of house • Single storey house • Trees and vegetation behind and on either side of house	• Repetitive form of surface • Darker colour • Flat surfaces with small windows • Lack of landscaping and screening in front of house • Small setback from road • Boxy form	 Photo 76: House Mean = 3.24, SD = 1.46

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
• Older style accommodation • Part of the diverse mixture of building stock from various periods • Established well maintained garden	• Large scale of building • Monotonous façade • Lack of surface articulation • Expanse of flat walls and small windows • Expanse of retaining wall along street front	 Photo 5: Guest House Mean = 3.37, SD = 1.96
• Smaller scale of shop buildings • Small town appearance • Street life	• Sidewalk congestion and traffic • Mishmash of architectural styles and colours	 Photo 13: Shops Mean = 3.70, SD = 1.99
• Mature trees and screening vegetation • Unique architecture • Timber construction	• Eclectic, eccentric architecture • Hodge podge of materials • Dark colours • Fences and walls	 Photo 33: House Mean = 3.88, SD = 2.11
• Necessity of facilities • Beachy colours • Modern facilities	• Boxy architecture • Large flat surfaces and small windows • Large scale of buildings • Expanses of concrete • Lack of vegetation and screening • Buildings dominate the street	 Photo 15: Fire and Police Stations Mean = 3.90, SD = 1.80
• Pale colours • Articulation of rooflines • Detailing • Verandas	• Site dominated by asphalt driveway • Lack of landscape around buildings • Lack of screening • Repetition of buildings	 Photo 32: Units Mean = 4.05, SD = 1.89

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
	• Boxy form • Lack of setback – dominates street • No screening • Blank walls and surfaces • Insufficient landscaping	 Photo 73: House Mean = 4.24, SD = 1.59
	• Boxy buildings • Expanses of concrete • Flat dull surfaces • Small windows • Repetition of garage doors • Lack of screening • Buildings dominate site • Lack of landscaping and trees	 Photo 35: Units Mean 4.31, SD = 1.88
• Cited as a character feature in the mail questionnaire • Historical feature • Unique building	• Blank, stark surfaces • Small windows • Lack of screening	 Photo 4: Doll's House Mean 4.44, SD = 1.86
	• Garish colours – too strong, too many • Dominated by driveways and concrete • No landscaping • No screening	 Photo 74: Houses Mean = 4.79, SD = 1.83
• Identified in the mail questionnaire as in character as well as detracting from character • Festive holiday colours • Boathouse theme in character	• Colours too strong and too many • Architecture looks boxy • Repetitive forms • Front fencing • Too much hard surface • Lack of landscaping • Buildings too dense	 Photo 63: Units Mean = 5.05, SD = 2.02

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
	• Density of development • Repetition of buildings • High opaque fencing • Boxy, bulky buildings • Dull flat surfaces with small windows • Lack of screening • Lack of vegetation	 Photo 69: Units Mean = 5.40, SD. = 1.73
	• Boxy form • Flat dull surfaces • Small windows • Lack of landscaping • Overpowering second storey • Corrugated iron	 Photo 10: House Mean = 5.51, SD = 1.83
	• Boxy architecture • Flat facades with small windows • Expanses of paved surfaces • Lack of screening • Lack of landscaping • No trees	 Photo 65: House Mean = 5.41, SD = 1.73
	• Large scale of buildings • High density of development • Three storey buildings • Repetition of buildings • Loss of public land • Foreshore location of development • Lack of screening • Extent of development	 Photo 77: Erskine House Mean = 5.67, SD = 1.85
	• Generic suburban style • Building dominates street • Concrete driveways and garages dominate site • Flat dull surfaces • Boxy building • Lack of screening • Garish colours	 Photo 52: Duplex Mean = 5.79, SD = 1.73

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct - 3		
	• High density development • Large scale • Boxy • Lack of variety and surface articulation • Repetition of forms • Lack of screening vegetation • Excessive height (four storey) in comparison with other buildings on street • Building dominates townscape • Building style reminiscent of other places not Lorne – i.e Noosa • Planting seen to incompatible with local character	 Photo 49: Cumberland Mean = 6.12, SD = 1.60

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct – 4		
Positive Attributes	**Negative Attributes**	**Photograph**
• Iconic town feature • Access to ocean environment and views • Tourist attraction • Recreational feature • Active associated with fishing industry • Historical feature		 Photo 8: Pier Mean = 1.45, SD = 1.57
• Scotchman's Hill • Access to coastal recreation and views • Large stand of Tasmanian Blue Gums are an important character feature and of heritage significance – botanical • Low impact path – natural looking		 Photo 78: Coastal Track Mean = 1.47, SD = 1.55
• Street dominated by large gum trees and vegetation • Buildings are totally screened by vegetation and setbacks • Small scale of road • No gutters, curbs or side walks • Intact tree canopy is implied • Road colour blends with bush setting		 Photo 21: Smith Street Mean = 1.55, SD = 1.61
• Pedestrian access through bushland • Public open space • Green buffer between buildings and streets • Natural small track – gravel and timber		 Photo 62: Reserve Mean 1.60, SD = 1.76

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct – 4		
• Historical Victorian home • Part of the collection of grand homes from different periods on Mountjoy Parade • Surface articulation • Fine detailing • Building surrounded by gardens including mature trees • Large setbacks • Only a glimpse of building seen through vegetation		 Photo 41: Old House Mean = 1.72, SD = 1.26
• House set amidst vegetation • Space around building • Large setbacks • Only small parts of building seen through vegetation • Seminal modern architecture • Articulated façade and rooflines • Façade mostly glass • Pale colours • Small open fence • Established native garden • Large natures strip		 Photo 48: House Mean = 1.76, SD = 1.17
• Historical building • Iconic feature • Recent refurbishment • Grand scale • Surface and roof articulation • Fine detailing • Heritage colours	• Parking area in front of building • Lack of landscaping • Inappropriate additions	 Photo 31: Grand Pacific Mean = 1.98, SD = 1.82
• View of Louttit Bay, coastline and hills	• Power lines • Loss of tree canopy • Fences and driveway	 Photo 53: Armytage St. Mean = 2.55, SD = 1.81
• Historic building • Remnants of the original façade remain • Roofline and chimneys	• New additions to this historic building are considered to be inconsistent and out of character	 Photo 72: Lorne Hotel Mean = 2.59, SD = 1.58

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct – 5		
• Historic home • Large setback • Large nature strip with mature gum trees • One of a collection of large historic homes on Mountjoy Parade	• Large square shape • Repetitive surface articulation • Scale and flatness of roof surface • Large expanse of lawn	 Photo 29: House Mean = 2.71, SD = 1.98
• Older style beach house • Setback from the road and adjoining properties • Space around building	• Boxy shape • Expanse of lawn • Flat surfaces with small windows	 Photo 59: House Mean = 3.45, SD = 1.42
• Classic old beach house • Bush backdrop • Continuity of housing stock along this section of Great Ocean Road • Setback from road • Single storey building	• Lack of vegetation in front of the building • Poorly maintained garden • Flat regular front façade	 Photo 65: House Mean = 3.56, SD = 1.92
• The collection of small older style beach houses along this section of the Great Ocean Road were frequently mentioned as character features	• Lack of landscaping and trees • Side fences • Small space between buildings	 Photo 42: Houses Mean = 4.12, SD = 1.63
	• Large scale development • Repetition of buildings and form • Expanse of driveway • Flat repetitive wall surfaces on street • Lack of screening and landscape	 Photo 80: Units Mean = 4.83, SD = 1.82

Mail Questionnaire Comments and Photo Ratings by Neighbourhood (Continued)

Neighbourhood Precinct – 4		
	• Rooves of large development cover extensive area and produce a sea of flat roof tops • Lack of vegetation and screening • Lack of trees around buildings	 Photo 30: View of Roofs Mean = 5.50, SD = 1.85
	• Bulk of development • Lack of screening • Landscape of low shrubs • Four storey development • Repetitive form and insufficient surface articulation • Large footprint • Building dominates the road	 Photo 26: Units Mean = 5.61, SD = 1.83
	• Flat boxy shape • Generic urban style • Mock Georgian • Lack of screening vegetation • Dark brick • Flat surfaces with small windows • Expanse of lawn	 Photo 34: House Mean = 5.95, SD = 1.75

APPENDIX 3

APPENDIX C FROM LORNE STRATEGY PLAN REVIEW

MAUNSELL AUST P/L & ERM P/L, 2003

RESIDENT PERCEPTION STUDY

A Study of Resident Perceptions of Neighbourhood Character in Lorne was commissioned by Surf Coast Shire Council in May 2002 and undertaken by Dr Ray Green from the Faculty of Architecture Building and Planning, University of Melbourne.

Basis for the Precincts

The study defined four neighbourhood precincts which have been based upon responses to.

(i) Projective Mapping Questionnaire which was distributed to all owners of properties within Lorne and aimed at identifying shared neighbourhood precincts based on positive and negative attributes,
(ii) Community Workshops during which a photo rating exercise was undertaken to determine compatibility of development with the perceived Lorne character
(iii) Further site inspections and investigations.

The outcomes of the study identified four neighbourhood precincts, which are illustrated in the diagram opposite.

An important component of the resident perception study was a study of the factors, particularly built form elements, that residents rated as compatible or incompatible within each of the precincts.

Compatible Characteristics

Those characteristics that were rated as compatible were similar in all precincts and often related to vegetation retention and views.

In architectural terms residents believed that the traditional, older style beach houses were compatible with the qualities sought for Lorne.

Incompatible Characteristics

Characteristics that were rated as incompatible primarily related to the visibility scale and design compatibility of buildings. It is stated that incompatible building developments are not specific to any one neighbourhood and often the result of a lack of sufficient vegetative screening.

Other incompatible characteristics included bulkier newer houses that were large and contemporary in style.

Resident's also expressed a dislike for higher densities and particularly when it was perceived as being at the cost of tree canopy and vegetation which reduced the visual impact of development.

Figure C1: Study Area Map with Neighbourhood Precincts

Vegetation Implications

In the conclusion to this study Dr Ray Green (page 15) mentioned that:

> *Vegetation in general was found to be highly supportive of neighbourhood character and existing established vegetation, nature reserves and views of such vegetation, need to be protected if the valued character of Lorne is to be preserved for the future. In general, development that is screened from the road by vegetation rated higher than did buildings with minimal or no screening. This finding suggests that through the careful use of landscaping, and the siting of new development in such a way to minimise disturbance to existing vegetation, even development that might by itself be perceived as being out of character may be made to appear to be more compatible with neighbourhood character than it otherwise might be.*

The residents' perception study found that vegetation (both its retention and replacement or reestablishment) was the most important element that affected residents' perceptions of their neighbourhoods:

> *The scenes that were rated most highly in terms of neighbourhood character compatibility depict natural landscape features or views of natural features. What this finding suggests in terms of town planning is that natural features and views of natural features, specifically views of the beach, the river, the surrounding hills and vegetated areas, should be preserved where possible. Any development that results in disturbance to these features, or the blocking of views comprised of these features should be limited through appropriate planning mechanisms and controls. In this respect planning mechanisms should be implemented that will encourage view sharing and maintain the integrity of significant viewsheds.* (Green, 2002, p 15)

Architectural Implications

The Perception study also mentioned inappropriate development was '*too large in scale, boxy in appearance, lacking sufficient surface and massing articulation*'.

The design attributes exhibited by contemporary housing that was *smaller in scale, an emphasis on peaked and convex roofs* (rather than flat roofs), with better articulation was more compatible.

Streetscape Implications

Overhead power lines and poles were rated as strongly out of character with Lorne. The removal of overhead power lines and streetscape planting that will enhance the visual appearance and amenity of streetscapes is desirable.

LORNE VEGETATION ASSESSMENT

Introduction

The purpose of the vegetation assessment is to assist in providing information to the analysis of neighbourhood character in Lorne. The information that forms the basis of this assessment has been collected from several sources and includes an analysis of several databases and aerial photographs, vegetation maps and descriptions from preliminary field investigations.

The Victorian Flora Information System (DSE) was interrogated and from this was derived a list of plant species recorded for an area of approximately 1000 hectares centred on the township (Table C3).

The *Environment Protection and Biodiversity Conservation Act* 1999 online database was also interrogated to detail the potential distribution of nationally threatened species and communities in the vicinity of the study site.

Detail of the location and components of Sites of Biological Significance were described from additional Surf Coast Shire and DSE databases.

Ecological Vegetation Class Significance

Seven Ecological Vegetation Classes occur within the residential development, they are:

EVC 1 – Coastal Dune Mozaic – Depleted
EVC 22 – Grassy Dry Forest – Depleted
EVC 23 – Herb rich Foothill Forest – Depleted
EVC 45 – Shrubby Foothill Forest – Least Concern (see Table C1)
EVC 58 – Cleared – not applicable
EVC 161 – Coastal Headland Scrub – Depleted
EVC 201 – Shrubby wet forest – Least Concern

Descriptions of the character species for these Ecological Vegetation Classes can be found in the Draft Corangamite Native Vegetation Plan (Corangamite Catchment Management Authority 2001) and the conservation status of the Ecological Vegetation Class is described in Table C1.

Lorne Township occurs in the Otway Ranges Bioregion of Victoria. The conservation status of the Ecological Vegetation Classes within the bioregion is described above (Russell Costello, DSE pers comm. May 2003). The following table describes the status:

Table C1: Ecological Vegetation Class Bioregional Conservation Status – brief definitions

X	presumed extinct	probably no longer present in the bioregion (or, if present, below the resolution of available mapping)
E	endangered	< 10 of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
V	vulnerable	10 - 30% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
D	depleted	> 30% and up to 50% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
R	rare	rare (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as endangered, vulnerable or depleted
LC	least concern	> 50% or pre-European extent exists and subject to little to no degradation over a majority of this area
Th?	probably threatened	probably endangered, vulnerable or depleted, but not enough of the bioregion has been mapped to confidently determine which status
LC?	probably least concern	probably least concern, but not enough of the bioregion has been mapped to confidently confirm
na	not applicable	the map unit is not a distinct native vegetation type and therefore conservation status is not applicable
	* full definition in Victoria's Native Vegetation Management - Framework for Action	

Threatened Taxa of Flora

The *Environment Protection and Biodiversity Conservation Act* database and the DSE Flora Information database highlight the potential presence of the following threatened taxa of plants in the vicinity of the Lorne Township.

Table C2: Threatened Taxa of Flora

Species Name	Common Name	Victoria	Australia FFG
Acacia nano-dealbata	Dwarf Silver Wattle	r	
Arachnorchis flavovirens	Summer Spider-orchid	r	
Bossiaea cordigera	Wiry Bossiaea	r	
Echinodium hispidum	Madeira Moss	r	
Eucalyptus brookeriana	Brooker's Gum	r	
Eucalyptus globulus ssp. globulus	Southern Blue-gum	r	
Glycine latrobeana	Clover Glycine	v	V/L
Leiocarpa gatesii	Wrinkled Buttons	v	V
Olearia speciosa	Netted Daisy-bush	k	
Prasophyllum frenchii	Maroon Leek-orchid	e	E/L
Prasophyllum spicatum	Dense Leek-orchid	v	V
Pterostylis cucullata	Leafy Greenhood	v	V
Thuidium laeviusculum s.s.	Forest Weft-moss	v	

LEGEND
E = endangered (uppercase - Australia, lowercase – Victoria)
V = vulnerable (uppercase - Australia, lowercase – Victoria)
R = rare (uppercase - Australia, lowercase – Victoria)
K = poorly known (uppercase - Australia, lowercase – Victoria)
L = listed FFG Act Vic

Sites of Biological Significance

Several Sites of Biological Significance have been recorded from the vicinity of Lorne.

Four Sites of Biological Significance are recorded for the Lorne area by Ecology Australia (2000).

Site 45C is located on public land to the west of Lorne and south of the Erskine River. The site is of Regional significance. The vegetation quality is generally high with some invasion of environmental weeds in and around Lorne. It has excellent quality fauna habitat.

Site 45D is located on private land north west of Lorne township and flanking Little Stoney Creek river valley and the George River. The site is of Regional significance and is of similar quality to Site 45C.

Site 45E is located on public and private land south of Lorne Township and encompasses Mount Saint George. The site is of Regional significance and is of lower conservation value than others in the vicinity. Weed invasion from the town poses a serious threat to this site.

Site 46 is located on private land north of the Lorne Township adjoining the Great Ocean Rd in the vicinity of Reedy Creek. The site is of National significance and has high quality vegetation with some invasion of environmental weeds in and around coastal developments. It contains potential habitat of several threatened species of fauna including Swift Parrot, Powerful Owl and Rufous Bristlebird.

Additional Sites of Significance are recorded by DSE (Rani Hunt, Project Officer, DSE, Colac pers comm. April 2003) and include:

Erskine Falls Road: Remnant Native Vegetation, Important Biodiversity Links and high biodiversity, also rare of threatened species present (Wrinkled Buttons)
Toorak Terrace: Rare or threatened Species present including Wrinkled Buttons, Southern Blue-Gum Eucalyptus globulus ssp globulus and Brookers Gum Eucalyptus brookeriana
Erskine River: Threatened fish species, wildlife corridor, High Biodiversity
St George River: Threatened fish species, wildlife corridor, High Biodiversity
Lorne Golf Course: Wrinkled Buttons
Allenvale Camping Reserve west of Lorne has records of Summer Spider-orchid and Wrinkled Buttons.

Other Biodiversity Values

A linear network linking the large areas of retained hinterland indigenous vegetation with the coastal fringe appears to have been retained in most of the wet/damp gullies, probably by default as a result of the physical difficulty in developing the steep gullies. These areas now afford high conservation value to the area.

The retained canopy of indigenous trees in the urban area provides a leafy landscape that is valuable habitat for arboreal species of fauna. Many of the trees are mature and have developed nesting hollows. Most are prolific flowerers and provide a valuable source of nectar and invertebrates.

Impact of Development on Biodiversity

The general biodiversity values of the urban areas of Lorne and vicinity have been influenced by the urban development of the site. Vegetation is the primary determinant of the conservation value of a site. The vegetation has been modified in a number of ways thus lowering the contribution the urban area makes to the biodiversity of the site.

The vegetation structure has been modified by the removal of all native vegetation within the building footprint to provide for the safe construction of buildings and associated infrastructure. Other subordinate strata of the vegetation have also been variously further modified reducing the structural diversity of the site. In most of the developed areas isolated pockets of native vegetation remain but are usually structurally depauperate and lack natural regeneration. The absence of structural diversity compromises important ecological processes that are essential for the long-term survival of the indigenous vegetation.

Selective clearing, weed invasion and the general absence of natural regenerative processes such as fire also modify species diversity.

Environmental weeds are a considerable management issue within urban areas surrounded by extant native vegetation. Particularly aggressive garden escapes invade adjoining native vegetation frequently from dumps of garden refuse. Weeds out compete indigenous species of plants. A number of species of environmental weeds are recorded in the vicinity.

Domestic pets are predators of a large range of native fauna. The Red Fox inhabits the urban areas of most of mainland Australia. It too, is a well-adapted urban scavenger and predator of small native mammals and reptiles.

Significant Species

Several significant species of plants are found or potentially found in the vicinity of Lorne. Sites that contain these significant species should be reserved from development. Advice on the exact location of these plants should be sought from DSE as a component of the development plan evaluation. Those significant species that are horticulturally suitable should be considered in all amenity planting within the commercial and open space areas of the township

Particular attention should be paid to locating Wrinkled Buttons, *Leiocarpa gatesii*. This species is endemic to the Lorne-Anglesea area and is considered vulnerable. It is known to occur in the vicinity of Erskine Falls Road, Toorak Terrace, Allenvale Camping Reserve and the Golf Course. It would be prudent to insist on a thorough search for the species within 500 meters of at least these sites as part of the requirements for development approval.

The exact locations of Brookers Gum *Eucalyptus brookeriana* and Southern Blue-gum *E. globulus ssp globulus* should be described and sufficient surrounding area reserved from development. Where possible seed from these trees should be collected, stored and used for future local revegetation works.

Significant Vegetation Classes

The majority of the Ecological Vegetation Classes that occur within the vicinity of the township are considered depleted. Greater than 30% (and up to 50% of pre-European extent) of this Ecological Vegetation Class remains. In most instances in the developed area of Lorne, only the over-storey elements of these Ecological Vegetation Classes remain. There is little if any regeneration.

The removal of vegetation is adequately managed as part of the planning scheme. The identification of offsets attributed to each Ecological Vegetation Class is part of the evaluation process already in place. Additional emphasis on the management of significant vegetation classes is not considered warranted from a biodiversity conservation view.

Sites of Biological Significance

Known sites of biological significance generally occur around the hinterland of the township area.

The main threats to these sites are:

Invasion by weeds
Clearing – gross and incremental
Sediment deposition in drainage lines
Vegetation Fragmentation.

The management of weeds in the vicinity of these Sites of Biological Significance is considered the highest priority. Active enforcement for week control within at least 500 metres of the boundary of the Sites of Biological Significance and regular monitoring of weed invasion is necessary.

Other Biodiversity Values

The long-term retention of the biological values of the township is greatly influenced by the establishment and maintenance of a linear reserve network of retained and vibrant native vegetation. It is suggested that such a network be based on the already well-vegetated drainage lines. Management guidelines for such a network should be developed to minimise the impact of development in the vicinity.

References

Corangamite Catchment Management Authority (2001) *Draft Corangamite Native Vegetation Plan*. Corangamite Catchment Management Authority. Colac, Victoria

Ecology Australia (2000) *Rural Environmental Study: report on Environmental Resources. A report to the Surf Coast Shire*. Ecology Australia PL, Fairfield, Victoria.

List of Flora

Table C3: List of flora at Lorne and vicinity
Extract from Flora Information System, DSE January 2003, 2 minute block (lat/long) centred on Lorne

Family			Species Name	Common Name
Amblystegiaceae			*Acrocladium chlamydo-phyllum*	Spear Moss
Brachytheciaceae			*Rhynchostegium tenui-folium*	Feather Moss
Bryaceae			*Bryum pachytheca*	Acorn-fruited Thread-moss
			Bryum sullivanii	Thread Moss
			Rosulabryum billardierei	Common Thread-moss
Ditrichaceae			*Ceratodon purpureus*	Redshank Moss
Echinodiaceae	r		*Echinodium hispidum*	Madeira Moss
Fissidentaceae			*Fissidens curvatus*	Portuguese Pocket-moss
			Fissidens megalotis	Curly Pocket-moss
Funariaceae			*Entosthodon apophysatus*	Cord Moss
			Funaria hygrometrica	Common Cord-moss
Hookeriaceae			*Achrophyllum dentatum*	Toothed Mitre-moss
Hypnaceae			*Hypnum cupressiforme*	Common Plait-moss
Hypnodendraceae			*Hypnodendron vitiense ssp. australe*	Umbrella Moss
Hypopterygiaceae			*Hypopterygium muelleri*	Umbrella Moss
Orthotrichaceae			*Amphidium cyathicarpum*	Yoke Moss
			Zygodon intermedius	Common Zygodon
			Zygodon menziesii	Zygodon
Polytrichaceae			*Polytrichum juniperinum*	Juniper Haircap

Ptychomniaceae			*Glyphothecium sciuroides*	Arc Moss
			Ptychomnion aciculare	Paper Moss
Rhizogoniaceae			*Rhizogonium distichum*	Thyme Moss
Sematophyllaceae			*Wijkia extenuata*	Spear Moss
Thuidiaceae	v		*Thuidium laeviusculum s.s.*	Forest Weft-moss
Adiantaceae			*Adiantum aethiopicum*	Common Maidenhair
Blechnaceae			*Blechnum chambersii*	Lance Water-fern
			Blechnum nudum	Fishbone Water-fern
			Doodia australis	Common Rasp-fern
Dennstaedtiaceae			*Pteridium esculentum*	Austral Bracken
Dryopteridaceae			*Polystichum proliferum*	Mother Shield-fern
Lindsaeaceae			*Lindsaea linearis*	Screw Fern
Asparagaceae		*	*Asparagus scandens*	Asparagus Fern
Centrolepidaceae			*Centrolepis strigosa ssp. strigosa*	Hairy Centrolepis
Colchicaceae			*Burchardia umbellata*	Milkmaids
Cyperaceae			*Carex inversa*	Knob Sedge
			Carex spp.	Sedge
		*	*Cyperus eragrostis*	Drain Flat-sedge
			Ficinia nodosa	Knobby Club-sedge
			Gahnia radula	Thatch Saw-sedge
			Lepidosperma laterale	Variable Sword-sedge
			Lepidosperma laterale var. laterale	Variable Sword-sedge
			Lepidosperma laterale var. majus	Variable Sword-sedge
			Lepidosperma spp.	Sword Sedge
			Schoenus apogon	Common Bog-sedge
			Schoenus spp.	Bog Sedge
Iridaceae		*	*Crocosmia X crocosmiiflora*	Montbretia
		*	*Romulea rosea*	Onion Grass
Juncaceae			*Juncus kraussii ssp. australiensis*	Sea Rush
			Juncus spp.	Rush
			Luzula meridionalis var. flaccida	Common Woodrush
			Luzula spp.	Woodrush
Juncaginaceae			*Triglochin striatum*	Streaked Arrowgrass
Orchidaceae	r		*Arachnorchis flavovirens*	Summer Spider-orchid
			Pterostylis longifolia s.l.	Tall Greenhood
			Pterostylis spp.	Greenhood
			Thelymitra pauciflora s.l.	Slender Sun-orchid
			Dianella revoluta s.s.	Black-anther Flax-lily
Poaceae		*	*Aira elegantissima*	Delicate Hair-grass
		*	*Anthoxanthum odoratum*	Sweet Vernal-grass

			Austrodanthonia eriantha	Hill Wallaby-grass
			Austrodanthonia geniculata	Kneed Wallaby-grass
			Austrodanthonia induta	Shiny Wallaby-grass
			Austrodanthonia penicillata	Slender Wallaby-grass
			Austrodanthonia pilosa	Velvet Wallaby-grass
			Austrodanthonia racemosa var. racemosa	Stiped Wallaby-grass
			Austrodanthonia setacea	Bristly Wallaby-grass
			Austrostipa rudis	Veined Spear-grass
			Austrostipa spp.	Spear Grass
		*	*Briza maxima*	Large Quaking-grass
		*	*Briza minor*	Lesser Quaking-grass
		*	*Bromus hordeaceus ssp. hordeaceus*	Soft Brome
		*	*Catapodium rigidum*	Fern Grass
			Danthonia s.l. spp.	Wallaby Grass
			Deyeuxia quadriseta	Reed Bent-grass
			Dichelachne sciurea spp. agg.	Short-hair Plume-grass
			Dichelachne sieberiana	Rough Plume-grass
			Distichlis distichophylla	Australian Salt-grass
		*	*Ehrharta erecta var. erecta*	Panic Veldt-grass
			Elymus scaber var. scaber	Common Wheat-grass
			Joycea lepidopoda	Scaly-foot Wallaby-grass
			Joycea pallida	Silvertop Wallaby-grass
			Lachnagrostis aemula s.l.	Leafy Blown-grass
			Lachnagrostis filiformis	Common Blown-grass
		*	*Lagurus ovatus*	Hare's-tail Grass
		*	*Lolium temulentum var. temulentum*	Darnel
			Microlaena stipoides var. stipoides	Weeping Grass
			Notodanthonia semiannularis	Wetland Wallaby-grass
			Phragmites australis	Common Reed
		*	*Poa annua*	Annual Meadow-grass
			Poa labillardierei	Common Tussock-grass
			Poa morrisii	Soft Tussock-grass
			Poa poiformis	Coast Tussock-grass
			Poa rodwayi	Velvet Tussock-grass
			Poa sieberiana	Grey Tussock-grass
			Poa tenera	Slender Tussock-grass
			Tetrarrhena juncea	Forest Wire-grass
			Themeda triandra	Kangaroo Grass
		*	*Vulpia bromoides*	Squirrel-tail Fescue

Xanthorrhoeaceae			*Lomandra filiformis*	Wattle Mat-rush
			Lomandra longifolia	Spiny-headed Mat-rush
			Lomandra multiflora ssp. multiflora	Many-flowered Mat-rush
Apiaceae			*Apium prostratum ssp. prostratum*	Sea Celery
			Hydrocotyle hirta	Hairy Pennywort
			Hydrocotyle spp.	Pennywort
Araliaceae		*	*Hedera helix*	English Ivy
Asteraceae			*Brachyscome graminea*	Grass Daisy
			Brachyscome multifida	Cut-leaf Daisy
		*	*Chrysanthemoides monilifera*	Boneseed
			Chrysocephalum semipapposum	Clustered Everlasting
		*	*Cirsium vulgare*	Spear Thistle
			Cymbonotus preissianus	Austral Bear's-ear
		*	*Delairea odorata*	Cape Ivy
		*	*Erigeron karvinskianus*	Seaside Daisy
			Euchiton collinus s.l.	Clustered/Creeping Cudweed
			Euchiton involucratus s.l.	Common Cudweed
			Euchiton spp.	Cudweed
			Helichrysum scorpioides	Button Everlasting
		*	*Hypochoeris radicata*	Cat's Ear
			Lagenophora stipitata	Common Bottle-daisy
	v		*Leiocarpa gatesii*	Wrinkled Buttons
V		*	*Leontodon taraxacoides ssp. taraxacoides*	Hairy Hawkbit
			Olearia argophylla	Musk Daisy-bush
			Olearia erubescens	Moth Daisy-bush
			Olearia lirata	Snowy Daisy-bush
			Olearia ramulosa	Twiggy Daisy-bush
	k		*Olearia speciosa*	Netted Daisy-bush
			Ozothamnus ferrugineus	Tree Everlasting
			Senecio glomeratus	Annual Fireweed
			Senecio hispidulus	Rough Fireweed
		*	*Senecio jacobaea*	Ragwort
			Senecio linearifolius	Fireweed Groundsel
			Senecio minimus	Shrubby Fireweed
			Senecio odoratus var. odoratus	Scented Groundsel
			Senecio quadridentatus	Cotton Fireweed
		*	*Sonchus oleraceus*	Common Sow-thistle

Boraginaceae			*Cynoglossum australe*	Australian Hound's-tongue
			Myosotis exarrhena	Sweet Forget-me-not
Brassicaceae		*	*Cakile maritima ssp. maritima*	Sea Rocket
Brunoniaceae			*Brunonia australis*	Blue Pincushion
Campanulaceae			*Wahlenbergia gracilenta s.l.*	Annual Bluebell
			Wahlenbergia gracilis s.l.	Sprawling Bluebell
Caryophyllaceae		*	*Cerastium glomeratum s.l.*	Common Mouse-ear Chickweed
		*	*Silene gallica*	French Catchfly
			Stellaria flaccida	Forest Starwort
			Stellaria pungens	Prickly Starwort
Chenopodiaceae		*	*Atriplex prostrata*	Hastate Orache
			Sarcocornia quinqueflora	Beaded Glasswort
Clusiaceae			*Hypericum gramineum*	Small St John's Wort
Convolvulaceae			*Dichondra repens*	Kidney-weed
Crassulaceae			*Crassula sieberiana*	Sieber Crassula
Droseraceae			*Drosera peltata ssp. auriculata*	Tall Sundew
Epacridaceae			*Acrotriche serrulata*	Honey-pots
			Astroloma humifusum	Cranberry Heath
			Epacris impressa	Common Heath
			Leucopogon parviflorus	Coast Beard-heath
			Leucopogon virgatus	Common Beard-heath
Ericaceae		*	*Erica lusitanica*	Spanish Heath
Euphorbiaceae			*Amperea xiphoclada var. xiphoclada*	Broom Spurge
			Poranthera microphylla	Small Poranthera
Fabaceae	r		*Bossiaea cordigera*	Wiry Bossiaea
			Bossiaea prostrata	Creeping Bossiaea
		*	*Cytisus scoparius*	English Broom
			Daviesia ulicifolia	Gorse Bitter-pea
			Desmodium gunnii	Southern Tick-trefoil
			Glycine microphylla	Small-leaf Glycine
			Indigofera australis	Austral Indigo
			Kennedia prostrata	Running Postman
		*	*Medicago arabica*	Spotted Medic
			Pultenaea daphnoides	Large-leaf Bush-pea
		*	*Trifolium angustifolium var. angustifolium*	Narrow-leaf Clover
		*	*Trifolium repens var. repens*	White Clover
		*	*Trifolium spp.*	Clover
Gentianaceae		*	*Centaurium erythraea*	Common Centaury
		*	*Centaurium spp.*	Centaury
		*	*Centaurium tenuiflorum*	Slender Centaury

Geraniaceae			*Geranium potentilloides*	Cinquefoil Cranesbill
			Geranium solanderi s.l.	Austral Cranesbill
			Pelargonium australe	Austral Stork's-bill
Goodeniaceae			*Goodenia geniculata*	Bent Goodenia
			Goodenia lanata	Trailing Goodenia
			Goodenia ovata	Hop Goodenia
			Selliera radicans	Shiny Swamp-mat
Haloragaceae			*Gonocarpus tetragynus*	Common Raspwort
Lamiaceae		*	*Prunella vulgaris*	Self-heal
Lauraceae			*Cassytha melantha*	Coarse Dodder-laurel
			Cassytha pubescens s.s.	Downy Dodder-laurel
Linaceae		*	*Linum trigynum*	French Flax
Loranthaceae			*Amyema pendula*	Drooping Mistletoe
Malvaceae		*	*Modiola caroliniana*	Red-flower Mallow
Mimosaceae			*Acacia mearnsii*	Black Wattle
			Acacia melanoxylon	Blackwood
			Acacia mucronata ssp. longi-folia	Narrow-leaf Wattle
	r		*Acacia nano-dealbata*	Dwarf Silver Wattle
			Acacia stricta	Hop Wattle
			Acacia verticillata	Prickly Moses
Myoporaceae		#	*Myoporum insulare*	Common Boobialla
Myrtaceae			*Eucalyptus aff. Willisii (South-western Victoria)*	West Coast Peppermint
			Eucalyptus aromaphloia	Scentbark
	r		*Eucalyptus brookeriana*	Brooker's Gum
			Eucalyptus cypellocarpa	Mountain Grey-gum
		#	*Eucalyptus globulus*	Southern Blue-gum
	r	#	*Eucalyptus globulus ssp. globulus*	Southern Blue-gum
			Eucalyptus obliqua	Messmate Stringybark
			Eucalyptus ovata var. ovata	Swamp Gum
			Eucalyptus viminalis	Manna Gum
			Eucalyptus viminalis ssp. cygnetensis	Rough-barked Manna-gum
			Leptospermum continentale	Prickly Tea-tree
Oleaceae			*Notelaea ligustrina*	Privet Mock-olive
Onagraceae			*Epilobium billardierianum*	Variable Willow-herb
Oxalidaceae			*Oxalis corniculata s.l.*	Yellow Wood-sorrel
			Oxalis perennans	Grassland Wood-sorrel
Passifloraceae			*Passiflora spp.*	Passion Flower
Pittosporaceae			*Billardiera scandens*	Common Apple-berry
			Bursaria spinosa ssp. spinosa	Sweet Bursaria

		#	*Pittosporum undulatum*	Sweet Pittosporum
Plantaginaceae		*	*Plantago coronopus*	Buck's-horn Plantain
		*	*Plantago lanceolata*	Ribwort
			Plantago varia	Variable Plantain
Polygalaceae			*Comesperma volubile*	Love Creeper
Polygonaceae		*	*Acetosella vulgaris*	Sheep Sorrel
			Muehlenbeckia adpressa	Climbing Lignum
			Rumex brownii	Slender Dock
Primulaceae		*	*Anagallis arvensis*	Pimpernel
			Samolus repens	Creeping Brookweed
Proteaceae			*Persoonia juniperina*	Prickly Geebung
Ranunculaceae			*Clematis aristata*	Mountain Clematis
			Ranunculus sessiliflorus	Annual Buttercup
			Ranunculus spp.	Buttercup
Rhamnaceae			*Pomaderris elachophylla*	Small-leaf Pomaderris
			Pomaderris paniculosa ssp. paralia	Coast Pomaderris
			Spyridium parvifolium	Dusty Miller
Rosaceae			*Acaena echinata*	Sheep's Burr
			Acaena novae-zelandiae	Bidgee-widgee
			Acaena ovina	Australian Sheep's Burr
		*	*Rubus fruticosus spp. agg.*	Blackberry
			Rubus parvifolius	Small-leaf Bramble
		*	*Rubus polyanthemus*	Blackberry
		*	*Rubus sp. aff. Armeniacus*	Blackberry
		*	*Rubus vestitus*	Blackberry
Rubiaceae			*Asperula conferta*	Common Woodruff
			Coprosma hirtella	Rough Coprosma
			Coprosma quadrifida	Prickly Currant-bush
Santalaceae			*Exocarpos cupressiformis*	Cherry Ballart
Scrophulariaceae			*Veronica calycina*	Hairy Speedwell
			Veronica gracilis	Slender Speedwell
			Veronica spp.	Speedwell
Stylidiaceae			*Stylidium graminifolium s.l.*	Grass Trigger-plant
Thymelaeaceae			*Pimelea axiflora*	Bootlace Bush
			Pimelea humilis	Common Rice-flower
Violaceae			*Viola hederacea sensu Willis (1972)*	Ivy-leaf Violet

Figure C2: Ecological Vegetation Classes (2003)

Table C4: Species Distribution List

The following table lists the dominant species within Lorne and their distribution across the various structural vegetation types

Species Name	Common Name	Coastal Dune	Herb-rich Foothill Forest	Grassy Dry Forest	Shrubby Foothill Forest	Coastal Headland Scrub	Shrubby wet forest
Acacia melanoxylon	Blackwood		Infrequent occurrence				Present in lower tree layer
Acacia mucronata.	Narrow-leaf Wattle		Diverse shrub layer		Common		
Acacia nano-dealbata	Dwarf Silver Wattle						Present
Acacia stricta	Hop Wattle			Dense Shrub Layer			
Acacia verniciflua	Varnish Wattle						Present
Acacia verticillata	Prickly Moses		Diverse shrub layer		Common	Dominant	Present
Acaena novae-zelandiae	Bidgee-widgee		Frequent occurrence				Common
Acrotriche affinis	Ridged Ground-berry					Occasional	
Acrotriche serrulata	Honey Pots					Occasional	
Astroloma humifusum	Cranberry Heath					Occasional	
Austrodanthonia spp.	Wallaby Grass			Common in ground layer			
Banksia marginata	Silver Banksia					Dominant	
Baumea juncea	Bare Twig sedge					Occasional	
Brunonia australis	Blue Pincushion			Common in the ground layer			
Burchardia umbellata	Milkmaids			Common in the ground layer			
Carex breviculmis	Short-stem Sedge					Occasional	
Clematis aristata	Mountain Clematis						Present
Coprosma quadrifida	Prickly Currant-bush		Diverse shrub layer		Common		common
Correa reflexa	Common Correa					Occasional	
Cyathea australis	Rough Tree fern						Common
Dianella brevicaulis/ revoluta	Black-anther Flax-lily	Frequent in ground layer					

Dichelachne spp	Plume-grasses			Common in ground layer			
Dicksonia antarctica	Soft Treefern						Rarely
Epacris impressa	Common Heath					Occasional	
Eucalyptus aromaphloia	Scentbark		Infrequent occurrence	Dominates overstorey	Occasional		
Eucalyptus baxteri	Brown Stringybark				Occasional		
Eucalyptus brookeriana	Brookers Gum				Occasional		
Eucalyptus cypellocarpa	Mountain Grey Gum		Co-dominant in overstorey	Dominates overstorey	Dominates Overstorey		Dominant
Eucalyptus globulus	Blue Gum		Infrequent occurrence	Dominates overstorey	Occasional		
Eucalyptus obliqua	Messmate	Occasionally	Dominates overstorey		Dominates Overstorey	Occasional	Dominant
Eucalyptus ovata	Swamp Gum	Occasionally	Infrequent occurrence		Occasional		
Eucalyptus radiata	Narrow-leaf Peppermint		Infrequent occurrence		Occasional		
Eucalyptus regnans	Mountain Ash				Occasional		
Eucalyptus viminalis	Manna Gum						Dominant
Gahnia trifida	Coast Saw-sedge					Occasional	
Gallium sp							Present
Geranium potentilloides	Cinquefoil Cranesbill						Present
Geranium solanderi	Austral Cranesbill		Frequent occurrence				
Gonocarpus tetragynus	Common Raspwort		Frequent occurrence			Occasional	
Goodenia ovata	Hop Goodenia		Diverse shrub layer	Dense Shrub Layer	Common		Present
Hedycarya angustifolia	Austral Mulberry						Common
Hibbertia aspersa	Rough Guinea-flower					Occasional	
Hypericum gramineum	Small St. John's Wort			Common in the ground layer			

Isolepis nodosa	Knobby Club-sedge	Dominant of ground layer					
Joycea pallida	Silvertop Wallaby-grass			Common in ground layer			
Laginifera spp				Common in the ground layer			
Lepidosperma elatius	Tall Sword-sedge						Occasional
Lepidosperma gladiatum	Coast Sword-sedge	Frequent in ground layer					
Leptorhynchos gatesii	Wrinkled Buttons		Frequent occurrence				
Leptospermum continentale	Prickly Tea-tree				Common	Dominant	
Leptospermum scoparium	Manuka					Dominant	
Leucopogon parviflorus	Coast Beard-heath	Character species				Occasional	
Microlaena stipoides var stipoides	Weeping Grass		Frequent occurrence				
Notelea ligustrina	Privet Mock-olive				Common		
Olearia argophylla	Musk Daisy-bush						Common
Olearia axillaris	Coast Daisy-bush	Frequent occurrence					
Olearia lirata	Snow Daisy-bush		Diverse shrub layer		Common		Common
Opercularia varia	Variable Stick-weed			Common in the ground layer			
Oxalis corniculata spp. agg	Yellow Wood-sorrel		Frequent occurrence				Present
Ozothamnus ferrugineus	Tree Everlasting		Diverse shrub layer		Common		Common
Poa sieberiana	Grey tussock-grass			Common in ground layer		Present	
Poa labillardieri	Common Tussock-grass		Frequent occurrence				
Poa morrisii	Soft tussock-grass			Common in ground layer			
Poa poliformis	Blue tussock-grass	Dominant of ground layer				Present	
Poa tenera	Slender Tussock-grass		Frequent occurrence				

Polystichum proliferum	Mother Shield-fern						Present
Pomaderris aspersa	Hazel Pomaderris				Common		Present in lower tree layer
Pratia pedunculata	Matted Pratia		Frequent occurrence				
Pteridium esculentum	Austral Bracken		Always below shrubs		Present in ground layer		Common
Pultenea daphnoides	Large-leaf Bush-pea				Common		
Rhagodia candolleana	Seaberry Saltbush	Frequent occurrence					
Schoenus apogon	Common Bog-sedge					Occasional	
Spinifex sericeus	Hairy Spinifex	Dominates fore-dune. Often replaced by Marram grass					
Spyridium parvifolium	Dusty Miller					Common	
Stellaria flaccida	Forest Starwort						Present
Stellaria pungens	Prickly Starwort		Frequent occurrence				
Tetragonia implexa	Bower Spinach	Frequent occurrence					
Tetrarrhena juncea	Wire Grass		Common		Present in ground layer		Common
Viola hederacea	Ivy-leaf Violet		Frequent occurrence			Occasional	Present

Vegetation Canopy Cover

Utilising GIS software, an analysis of vegetation canopy cover has been undertaken to ascertain to what extent vegetation canopy clearing has occurred. Figure C3 illustrates the level of canopy cover within Lorne.

No Cover
Areas that have been predominantly cleared of native vegetation tend to be located along the coastline and within the central township area. Two areas that have been largely cleared and are located away from coastline area include:

The Lorne Country Club located north west of Holiday Road
The Transmission Line easement to the north of the township.

Minor Cover
Areas of minor cover generally occur in linear bands adjacent and inland from the areas of no vegetation cover. The largest pockets are located adjacent to the commercial centre of Lorne.

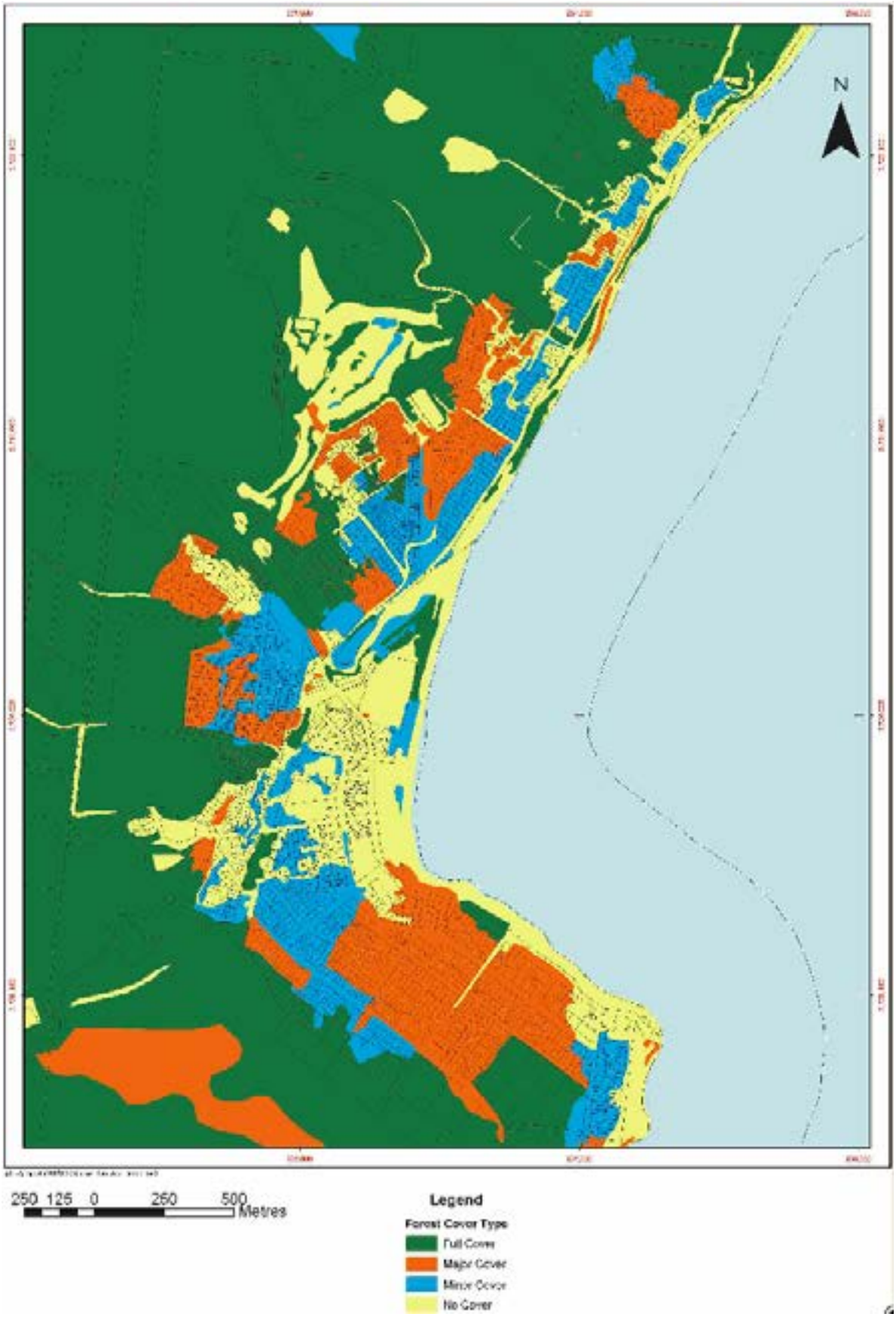
Major Cover
The main area with major vegetation cover is located to the south of the township and is roughly bounded by Road-Knight Street to the north, the Great Ocean Road and Armytage Street / Raymond Street to the south.

Other smaller pockets are located around Hopetoun and Toorak Terraces and Grove Road to the west of Lorne.

A third area is located to the north of Lorne around Howard Street Deans Marsh Road and Smithers Street.

Full Cover
Some areas of full vegetation coverage are located within the urban fabric. These are located at the corner of Erskine Street and Fernleigh Terrace, and in two areas along Belvedere and Normanby Terraces. Full cover vegetation enters the urban areas along the Erskine River easement and this cover connects to vegetation around the Lorne Country Club. Dense areas of vegetation are also located along the coastline and are associated with coastal shrubs.

Figure C3: Canopy Cover



PHYSICAL ATTRIBUTES

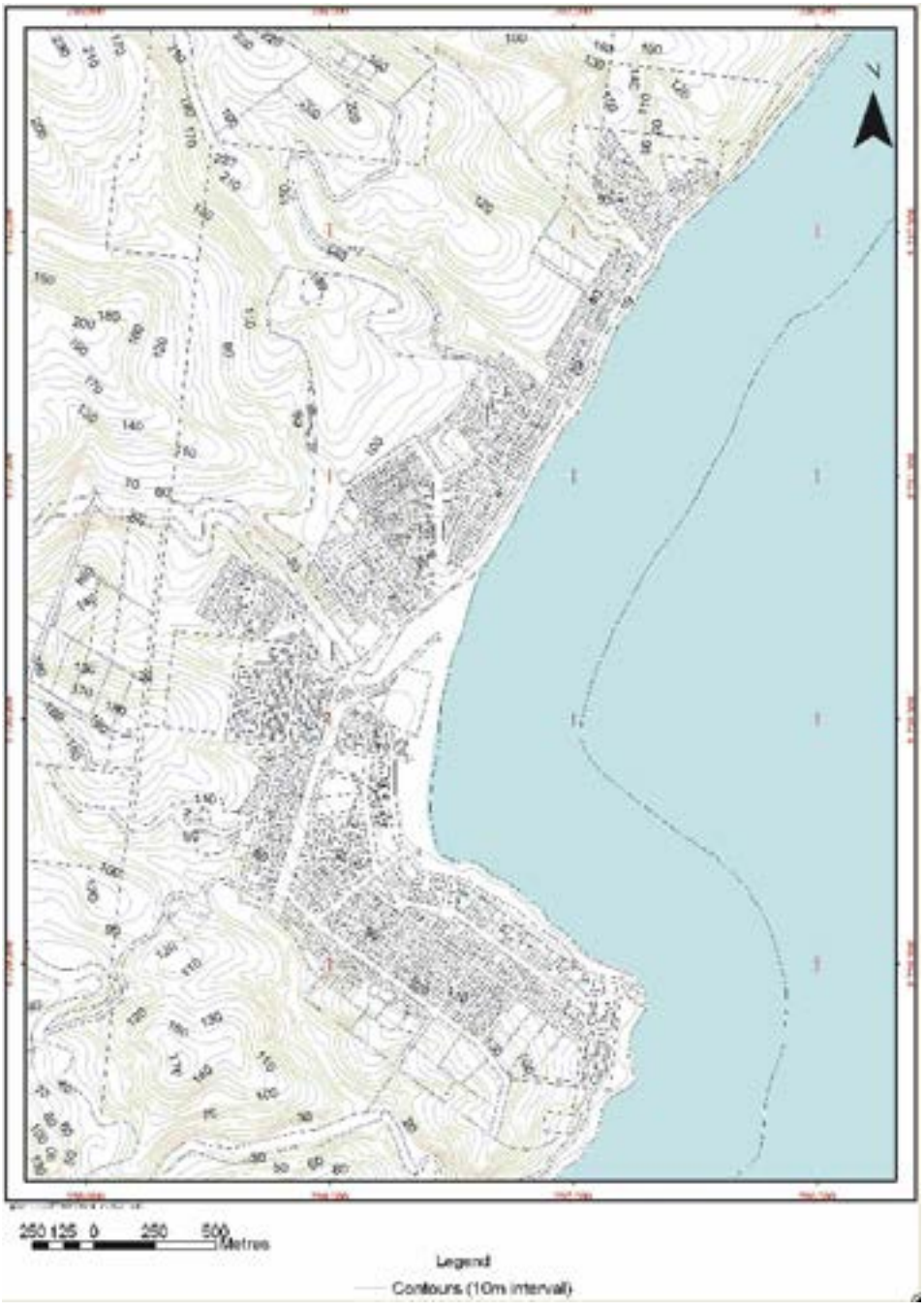
Topography

The topography of Lorne is defined by a series of ridgelines, many of which run parallel the coastline creating a natural amphitheatre surrounding Loutitt Bay and running to Point Grey to the south. Refer Figure C4.

The hills which form the backdrop to the Lorne township, rise to between 170-220 metres and are densely vegetated.

The backdrop of vegetated hills and prevalent views to the sea, particularly the north facing views from the ridgeline of south Lorne are some of the characteristics that make Lorne a memorable location along the spectacular coastline traversed by the Great Ocean Road.

Figure C4: Topography



Slope

An assessment of slope using GIS software indicates that the majority of the township is constructed on terrain with a slope angle less 1:3 (33%). Slopes greater than 1:3 are designated with the dark orange colour in Figure C5.

A noticeable exception to this is the development occurring on the northern most point of the township. In this area a recent subdivision has been located on land steeper than 33%. This subdivision is visibly apparent as a result of extensive vegetation removal on steep slopes to accommodate what appear to be houses with high site coverage.

Flatter areas (grades less than 1:10 and coloured light beige in the Figure opposite) are generally associated with the mouth of the Erskine River and river flats that extend around the foreshore in a north and south direction.

The crests of various ridgelines are also apparent as they flatten and crown before falling away to the valley on the other side.

Figure C5: Slope

Ocean And Coastline

Lorne township is located on Loutitt Bay, approximately 142km from Melbourne. Loutitt Bay is characterised by wide sandy beaches, which provide for swimming and other recreational activities.

To the north of the Erskine River, the coastline consists of rocky outcrops with intermittent sandy beaches.

Point Grey defines the southern limit of the Lorne in the vicinity of Scotchman's Hill. The pier is located just north of this point. Refer Figure C6.

The coastline is generally flat and rocky with some large rock pools. Further along the coast these rocky areas are interspersed with some sandy beaches as the coastline wraps around the point in a westerly direction.

Figure C6: View of Loutitt Bay looking south toward the pier and Point Grey

DEVELOPMENT ATTRIBUTES

Lot Frontages

Utilising GIS software an analysis of lot frontages has been undertaken to determine if concentrations of particular lot frontages impact the main character elements of hills, vegetation, ocean and views.

A mixture of lot frontages occurs within the Lorne township. They range in size from between <10 metres to >20 metres.

Lots <10 metres frontage
The majority of Lots <10 metres are concentrated in an area immediately north and south of the Erskine River. These lots are accessed from Normanby Terrace, Belvedere Terrace, Fernleigh Terrace and Lorne Terrace between Howard Street and Minapre Street.

The Figure opposite shows part of this area and it is apparent from this aerial and from a site inspection that many houses span two allotments, thereby lessening the visual connection between the narrow frontages on the titles and the built form.

Other isolated narrow lots occur throughout Lorne and are randomly spread over the remaining urban area with no major concentrations.

Lots 10 – 15 metres frontage
A concentration of lots with frontages between 10 – 15 metres occurs between Grove Road and Clissold Street accessed from Hopetoun Terrace and Polwarth Road. Intermixed with these are some smaller lot frontages, which reinforce this as an isolated area of small lot frontages.

Lots 15 – 20 metres
Lots with frontages between 15 – 20 metres appear to be most concentrated in the southern portion of Lorne between William Street and Francis Street. In this area the majority of remaining lots have frontages >20 metres, with very few lots frontages less than 15 metres.

Lots > 20 metres
The greatest concentration of lots with frontages >20 metres are concentrated in a small pocket between Waverly Avenue and Minapre Street. Intermixed in this area are other lots with frontages between 15-20 metres and relatively few lots with frontages <15 metres. Otherwise these lots are relatively evenly spread across the remainder of the township. Other isolated lots occur randomly throughout Lorne.

Figure C7: Part aerial showing many houses spanning two allotments

Figure C8: Lot Frontages

While the majority of allotments are approximately 15 metres wide (the red allotments in Figure C8 above, allotments with different frontages are relatively evenly distributed across the Lorne urban areas. Areas of smaller allotments or particularly allotments with narrower frontages have often one house spanning two allotments.

Lot Depths

Utilising the GIS software an analysis of parcel depths was made to determine if concentrations of particular lot depths impact the main character elements of hills, vegetation, ocean and views.

Figure C9: Lot Depths

Lot Depth < 20 metres
Very few lots with a depth of less than 20 metres occur in Lorne. Two small areas of this sized lot occurs near the corner of Howard St and Fernleigh Crescent. Another occurs near the intersection of Minapre Street and Alpha Terrace.

Lot Depth 20 metres – 50 metres
Majority of the lots in Lorne are 20 to 50 metres in depth. A dense pocket of this depth lot occurs in the northern part of Lorne bounded by Howard Street Holiday Road and Minapre Street. Another dense pocket occurs in the area around Dorman, Muir, Hall and Duncan Streets and the Great Ocean Road. The remainder of this depth lot is relatively evenly interspersed with lots greater than 50 metres.

Lot Depth > 50 metres
A pocket of lots with a depth greater than 50 metres occurs along the southwest side of Waverly Avenue and between the north east side of Lascelles Terrace and the end of Normanby Terrace. Another pocket occurs along Clissold Street, Grand Parade and Polwarth Road. The remainder of lots with a depth greater than 50 metres are interspersed relatively evenly with lots 20-50 metres throughout Lorne.

The majority of lots within the Lorne township have lot depths between 20-50 metres with no apparent concentrations forming a pattern to development. Occasional smaller lot depths and lots with lengths greater than 50 metres are randomly distributed throughout the township.

Lot Areas

Utilising the GIS software an analysis of parcel areas was made to determine if concentrations of particular lot depths impact the main character elements of hills, vegetation, ocean and views.

Lot Area < 500 metres
A concentration of lots with an area of less than 500 metres occurs in the area bounded by Howard Street up to Holiday Road, Mianpre Road, and Deans Marsh Road. Another pocket occurs in the area bounded by Polwarth Road, Clissold Street, Otway Street and Grove Road.

Lot Area 500 metres –1000 metres
This lot area is probably the most common in Lorne occurring in small dense pockets. One of these is to the north of Lorne in the vicinity of Adderley Avenue Hall Street and the Great Ocean Road. Another is in he vicinity of Gardiner Avenue, Austin Court and Richardson Boulevard. A third occurs to the south of Lorne between the south end Armitage Street and the Great Ocean Road.

Lot Area > 1000 metres
Lots with an area greater than 1000 metres are concentrated on both sides of the Erskine River to the south at the point the river intersects with the Great Ocean Road. Two caravan parks are located on these sites. Another pocket of lots of this area occurs along Staughton Avenue.

A third concentration of lots with an area greater than 1000 metres is bounded by Smith Street, William Street and Otway Street. This is the site of Lorne Primary School and Stribling Reserve. Approximately 70 percent of the beachfront lots along the Great Ocean Road to the south of William Street are greater than 1000 metres in area.

Figure C10: Lot Areas

The distribution of Lots with similar areas reflects the variation to Lot frontages previously discussed. Two pockets of development with smaller lot areas are discernible north and south of the Erskine Rive. However on site verification has shown that many houses span two allotments (refer lot frontage figure), therefore the visual difference is not sufficient to generate a different precinct or neighbourhood based on allotment size.

Buildings

Height
Buildings within residential areas are generally limited to 7.5 metres above natural surface level in accordance with the Surf Coast Planning Scheme.

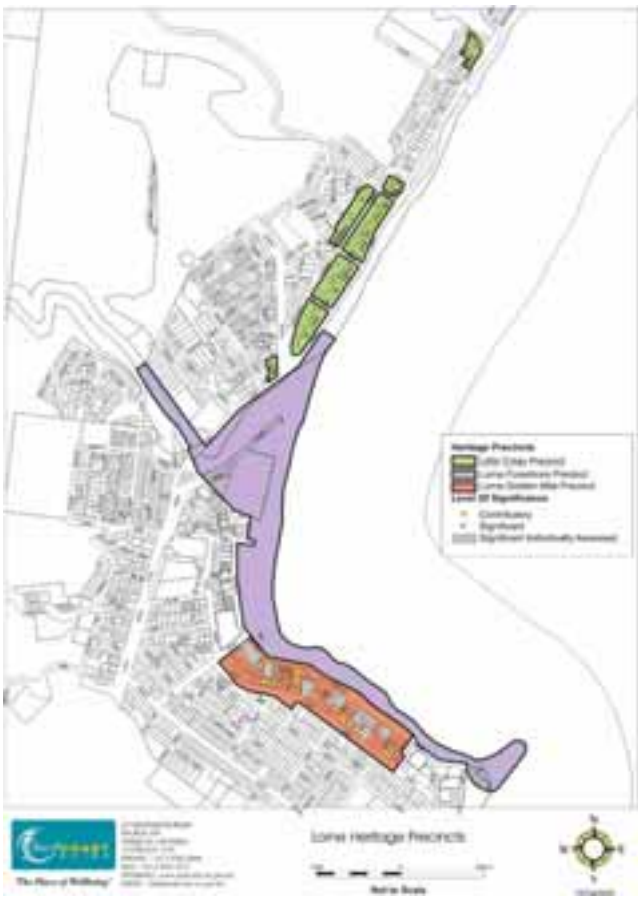
Generally height alone has not been the primary reason for a building to be considered inappropriate. In the work by Dr Ray Green inappropriate buildings were more often the result of bulky building mass (as a result of poor articulation) and inappropriate styles (the overtly modernistic cube, or the Georgian townhouse).

Style
A wide range of Architectural styles occur within Lorne reflecting its transition from early settlement to current day. Recent concern has arisen regarding the replacement of traditional fibro and weatherboard holiday houses with contemporary dwellings.

Heritage Precinct
A number of older buildings, many with historical significance occur within Lorne and are identified within the Surf Coast Heritage Study (Context et al, 2000). This study incorporates many of the identified historical buildings within three heritage areas that are defined as:

Little Colac Precinct
Lorne Foreshore Precinct
Lorne Golden Mile Precinct.

Figure C11: Heritage Precincts



Setbacks and Site Coverage

A review of setbacks and site coverage was undertaken utilising aerial photography. The variation in range was great with many allotments having substantial setbacks (often greater than 15 metres) while other houses were only set back three or four metres from the frontage.

No area exhibited discernible differences with regard to setbacks and site coverage, with the apparent loss of vegetation generally resulting from traditional clearing practises within the more historic areas of Lorne.

Streetscape Image

A variety of construction techniques have been applied to street construction within the Lorne area. These include gravel and asphalt roads, with kerb and channel or roll over kerb. Road verges vary relative to the road surface construction. In general the more informal construction of roads is complemented by informal verge treatments which generally occur in the upper ridgeline areas. The informal road easements allow for increased retention of large canopy trees within the easement further complementing the informal character of these areas.

Figure C12: Informal Road and Verge Treatment

Figure C13: Informal Road and Verge Treatment

There are also various pedestrian path treatments that range from an unmade track on the grassed nature strip, to more formal concrete footpaths paralleling the kerb. In many areas pedestrians are required to walk on the roads, with the verges acting as a refuge for pedestrians if vehicles approach.

The informal treatment of roads with either rollover kerbing or swale drains is more visually compatible with the ‘natural’ characteristics of the area.

It is apparent in the Figures C12 to C15 that the road types also correspond to the degree of vegetation retention. The informal roads are typically within areas that have a greater proportion of retained vegetation, therefore precincts based on canopy retention will also reflect the streetscape settings.

Figure C14: Semi Formal Road and Verge Treatment

Figure C15: Formal Road and Verge Treatment

APPENDIX 4

INDIGENOUS PLANTING GUIDE—PRECINCT 3: LORNE

SURF COAST SHIRE, 2003

3 2

Precinct 3 : Lorne

precinct 3
lorne

The township of Lorne is surrounded by Shrubby Foothill Forest, Grassy Dry Forest and Shrubby Wet Forest. The deep soils allow higher growth of canopy trees than that seen in the other precincts. As a result the overstorey is dominated by tall Messmate, with Mountain Grey Gum also common. Scentbark, Brown Stringybark, Blue Gum, Swamp Gum, Narrow-leaf Peppermint, Mountain Ash, and Manna Gum are occasional. Shrubs include Hop Goodenia, Prickly Moses, Snow Daisy Bush, Prickly Currant-bush, Narrow-leaf Wattle, Prickly Tea-tree, Hazel Pomaderris and Large-leaf Bush-pea. The ground stratum often lacks diversity and is dominated by Austral Bracken and Forest Wire-grass.

Grassy Dry Forest occurs in an area west of Lorne where soils are shallow and rocky and have a higher iron content than soils of the Shrubby Foothill Forest. Grassy Dry Forest is confined to northern and western aspects on gentle to moderately steep slopes and ridges.

The overstorey is a low forest dominated by Scentbark, Blue Gum and Mountain Grey Gum. The shrub layer is low in diversity and sparse, except in areas affected by the 1983 wildfires, which are dominated by dense stands of Hop Wattle and Hop Goodenia.

Shrubby Wet Forest occupies western and northern aspects and ridgelines. This vegetation community has rough and soft tree ferns and a good diversity of herbs due to increased light reaching the forest floor. The overstorey is a tall forest dominated by Messmate, Mountain Grey Gum and Manna Gum. Blackwood and Hazel Pomaderris form a lower tree layer. The tall shrub layer is dominated by Prickly Currant-bush, Musk Daisy-bush, Snow Daisy-bush, Tree Everlasting and Austral Mulberry. Prickly Moses and Hop Goodenia form a mid shrub layer. Varnish Wattle, Balm Mint-bush and Dusty Miller also commonly occur. The ground layer includes Ivy-leaf Violet, Mountain Clematis and Tall Sword-sedge.

Hairy Cone-bush

precinct 3
lorne

Tall Trees

BOTANICAL NAME Eucalyptus aromaphloia
COMMON NAME Scentbark
ENVIRONMENTAL CONDITIONS Moist loams, tolerating wet periods but not inundation.
HEIGHT/SPREAD 12-20m/7-15m
COMMENTS Large shade tree. Bark aromatic when crushed.

BOTANICAL NAME Eucalyptus baxteri
COMMON NAME Brown Stringybark
ENVIRONMENTAL CONDITIONS Well drained damp soil.
HEIGHT/SPREAD 15-40m/4-20m
COMMENTS Good shade and shelter tree.

BOTANICAL NAME Eucalyptus cypellocarpa
COMMON NAME Mountain Grey Gum
ENVIRONMENTAL CONDITIONS Adaptable to most conditions.
HEIGHT/SPREAD 10-40m/10-15m
COMMENTS Upright tree with dense canopy - growth is stunted in drier soils.

BOTANICAL NAME Eucalyptus globulus ssp globulus
COMMON NAME Southern Blue Gum
ENVIRONMENTAL CONDITIONS Prefers deeper, well drained soil.
HEIGHT/SPREAD 25-40m/10-15m
COMMENTS Fast growing tall tree with large crown. Long, dark green leaves with eucalyptus aroma.

BOTANICAL NAME Eucalyptus obliqua
COMMON NAME Messmate Stringybark
ENVIRONMENTAL CONDITIONS Moist well drained soil, tolerating short dry periods.
HEIGHT/SPREAD 5-30m/6-20m
COMMENTS Excellent shade and shelter tree for larger areas.

BOTANICAL NAME Eucalyptus ovata
COMMON NAME Swamp Gum
ENVIRONMENTAL CONDITIONS Prefers moist soil, tolerates inundation during winter and dryness in summer.
HEIGHT/SPREAD 6-20m/6-10m
COMMENTS Fast growing densely crowned tree. Good for providing shade.

BOTANICAL NAME Eucalyptus radiata
COMMON NAME Narrow-leaf Peppermint
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 6-40m/6-20m
COMMENTS Fine textured bark and narrow leaves.

BOTANICAL NAME Eucalyptus viminalis
COMMON NAME Manna Gum
ENVIRONMENTAL CONDITIONS Adaptable to a wide range of soils, but will grow better on deeper soil.
HEIGHT/SPREAD 10-40m/8-15m
COMMENTS Fast growing tree used as a food source by koalas.

BOTANICAL NAME Eucalyptus willisii
COMMON NAME Shining Peppermint
ENVIRONMENTAL CONDITIONS Prefers drier conditions.
HEIGHT/SPREAD 2-10m/4m
COMMENTS Small tree with fibrous bark on lower trunk. Masses of small cream flowers in spring.

Trees

BOTANICAL NAME Acacia dealbata
COMMON NAME Silver Wattle
ENVIRONMENTAL CONDITIONS Prefers deep, moist soil. Full to shaded sun.
HEIGHT/SPREAD 2-30m/5-10m
COMMENTS Fast growing open tree with bluish green feathery-like leaves, flowering in profuse yellow balls July-Oct.

BOTANICAL NAME Acacia mearnsii
COMMON NAME Black Wattle
ENVIRONMENTAL CONDITIONS Prefers well drained soil. Will grow under harsh conditions.
HEIGHT/SPREAD 5-15m/6-10m
COMMENTS Fast growing, short lived (15yrs) wattle with dark green feathery-like (bipinnate) foliage and strongly scented pale yellow flowers Sept-Dec.

BOTANICAL NAME Acacia melanoxylon
COMMON NAME Blackwood
ENVIRONMENTAL CONDITIONS Tolerates a wide range of soils, but prefers deep, moist soil.
HEIGHT/SPREAD 6-30m/4-15m
COMMENTS Long lived wattle suited to screening and wind breaks. Dense green foliage and pale creamy flowers July-Oct.

precinct 3
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BOTANICAL NAME Acacia pycnantha
COMMON NAME Golden Wattle
ENVIRONMENTAL CONDITIONS Grows well on heavy and light soils, prefers well drained soils.
HEIGHT/SPREAD 3-8m/2-5m
COMMENTS Hardy, quick growing, large, leathery dark green leaves (phyllodes). Good for screening, windbreaks and erosion control. Large golden yellow flowers Jul-Oct

BOTANICAL NAME Allocasuarina verticillata
COMMON NAME Drooping Sheoak
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 4-10m/3-6m
COMMENTS Hardy tree with drooping greyish-green branchlets. Good for wind break.

BOTANICAL NAME Bedfordia arborescens
COMMON NAME Blanket Leaf
ENVIRONMENTAL CONDITIONS Deep well drained moist soil.
HEIGHT/SPREAD 3-7m/2-4m
COMMENTS Tall shrub or small spreading open tree. Has fire resistant properties.

BOTANICAL NAME Hedycarya angustifolia
COMMON NAME Austral Mulberry
ENVIRONMENTAL CONDITIONS Rich, moist, well drained soil.
HEIGHT/SPREAD 3-6m/4m
COMMENTS Slender large shrub or small tree with fire resistant properties.

BOTANICAL NAME Pomaderris aspera
COMMON NAME Hazel Pomaderris
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 3-8m/2-4m
COMMENTS Slender leafy shrub or small tree. Creamy green flowers in summer.

Tall Shrubs
2.5 - 6 metres

BOTANICAL NAME Acacia mucronata
COMMON NAME Narrow-leaf Wattle
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 2-6m/2-5m
COMMENTS Good screen plant requiring pruning. Drought resistant.

BOTANICAL NAME Acacia stricta
COMMON NAME Hop Wattle
ENVIRONMENTAL CONDITIONS Reliable in most soils.
HEIGHT/SPREAD 2-5m/2-4m
COMMENTS Quick growing medium plant. Drought hardy. Yellow flowers.

BOTANICAL NAME Acacia vernicflua
COMMON NAME Varnish Wattle
ENVIRONMENTAL CONDITIONS
Tolerates wet and dry soil.
HEIGHT/SPREAD 2-4m/3-5m
COMMENTS Quick growing light screening plant with profuse golden balls in spring.

BOTANICAL NAME Acacia verticillata
COMMON NAME Prickly Moses
ENVIRONMENTAL CONDITIONS
Tolerates most conditions and withstands periods of waterlogging.
HEIGHT/SPREAD 2-5m/3-5m
COMMENTS Low shrub to open tree with prickly leaves. Excellent bird habitat. Bright yellow flowers June-Dec.

BOTANICAL NAME Banksia marginata
COMMON NAME Silver Banksia
ENVIRONMENTAL CONDITIONS
Common on a wide variety of sites and soils, but prefers good drainage. Tolerates soils wet in winter and dry in summer.
HEIGHT/SPREAD 2.5-6m/1-5m
COMMENTS Low shrub in heathlands to small tree in open forests. Excellent screening plant. Stiff dark green leaves. Honey coloured flowers Oct-June. Attractive to birds.

BOTANICAL NAME Bursaria spinosa
COMMON NAME Sweet Bursaria
ENVIRONMENTAL CONDITIONS Prefers well drained soil.
HEIGHT/SPREAD 2-6m/2-3m
COMMENTS Prickly shrub with creamy fragrant flowers Dec-March. Important nectar source for birds and insects. Bundles of brown seed pods in autumn.

BOTANICAL NAME Cassinia aculeata
COMMON NAME Common Cassinia
ENVIRONMENTAL CONDITIONS Easily grown in an range of well drained soils and positions.
HEIGHT/SPREAD 2-4m/1-2m
COMMENTS Bushy shrub with a spreading habit. Small white flower heads borne in large, dense clusters at the end of branchlets Nov-March.

precinct 3 lorne

BOTANICAL NAME Coprosma quadrifida
COMMON NAME Prickly Currant-bush
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 2-4m/1-1.5m
COMMENTS Open, upright spiny shrub. Small green leaves and reddish-orange berries.

BOTANICAL NAME Gynatrix pulchella
COMMON NAME Hemp Bush
ENVIRONMENTAL CONDITIONS Well drained moist soil.
HEIGHT/SPREAD 2-4m/1.5-3m
COMMENTS Soft leaved small shrub with hairy heart shaped leaves. Panicles of fragrant small greenish-white flowers Aug-Oct.

BOTANICAL NAME Leptospermum continentale
COMMON NAME Prickly Tea-tree
ENVIRONMENTAL CONDITIONS Adaptable, tolerates moisture.
HEIGHT/SPREAD 2.5-4m/1-2m
COMMENTS Hardy plant which is great for screening. Masses of white flowers Oct-March.

BOTANICAL NAME Leptospermum scoparium
COMMON NAME Manuka
ENVIRONMENTAL CONDITIONS Dry sites.
HEIGHT/SPREAD To 5m tall
COMMENTS Variable plant with dense dark green prickly foliage and white flowers.

BOTANICAL NAME Leucopogon parviflorus
COMMON NAME Coast Beard Heath
ENVIRONMENTAL CONDITIONS Well drained sandy soil.
HEIGHT/SPREAD 2.5-4m/2-3m
COMMENTS Shrub to small tree with masses of densely bearded white flowers July-Nov. Berries attract birds. Slow growing.

BOTANICAL NAME Myoporum insulare
COMMON NAME Common Boobialla
ENVIRONMENTAL CONDITIONS Highly adaptable plant, although prefers sun and well drained soil.
HEIGHT/SPREAD 2.5-6m/3m
COMMENTS Fire retardant. Large rounded shrub, dense foliage, smooth, thick dark green leaves, white flowers with purple spots in spring. Good screening and hedging plant, salt tolerant.

BOTANICAL NAME Ozothamnus ferrugineus
COMMON NAME Tree Everlasting
ENVIRONMENTAL CONDITIONS Prefers moist, well drained soil.
HEIGHT/SPREAD 2-6m/1-3m
COMMENTS Shrub to small tree. Narrow dark green leaves and white flower clusters Nov-Feb.

BOTANICAL NAME Prosanthera lasianthos
COMMON NAME Christmas Bush
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 2-6m/2-4m
COMMENTS Spectacular tree in flower. Useful as a screen plant if protected from strong winds.

BOTANICAL NAME Solanum laciniatum
COMMON NAME Kangaroo Apple
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 2-3m/1-3m
COMMENTS Bluish to purple flowers Sept-March. Orange-yellow fruit when ripe. Fruit may be poisonous if eaten when green.

Medium Shrubs 1 - 3 metres

BOTANICAL NAME Acacia myrtifolia
COMMON NAME Myrtle Wattle
ENVIRONMENTAL CONDITIONS Suits most soils.
HEIGHT/SPREAD 1-3m/1-2m
COMMENTS Fast growing ornamental bush with reddish stems, good for low screening. Profuse flowering in spring.

BOTANICAL NAME Alyxia buxifolia
COMMON NAME Sea Box
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 1-2m/1-3m
COMMENTS Dark green hard leaved low shrub. Produces white flowers and red fruit.

BOTANICAL NAME Correa alba
COMMON NAME White Correa
ENVIRONMENTAL CONDITIONS Well drained soils, tolerating moisture or extended dry periods.
HEIGHT/SPREAD 0.5-2m/1-3m
COMMENTS A useful plant for soil binding or as a low screen. Waxy star shaped flowers most of the year.

BOTANICAL NAME Correa reflexa
COMMON NAME Common Correa
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 0.3-2m/1-2m
COMMENTS Medium sized shrub with light green or green/red bells March-Sept. Excellent plant for dry shady positions.

precinct 3
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BOTANICAL NAME Goodenia ovata
COMMON NAME Hop Goodenia
ENVIRONMENTAL CONDITIONS Grows in any situation. Tolerates waterlogging.
HEIGHT/SPREAD 1-2.5m/1-3m
COMMENTS Green leaves, bright yellow flowers spring to summer.

BOTANICAL NAME Indigofera australis
COMMON NAME Austral Indigo
ENVIRONMENTAL CONDITIONS Grows rapidly in a moist, sheltered position.
HEIGHT/SPREAD 0.5-2m
COMMENTS Open shrub with long slender branches with soft bluish green feather-like leaves. Attractive pink to mauve pea flowers in racemes Sept-Dec.

BOTANICAL NAME Myoporum sp
COMMON NAME Sticky Boobialla
ENVIRONMENTAL CONDITIONS Well drained dry soils.
HEIGHT/SPREAD 0.5-2m/1.5-2m
COMMENTS Coastal or dry areas, tolerating exposed or salty conditions.

BOTANICAL NAME Olearia axillaris
COMMON NAME Coast Daisy-Bush
ENVIRONMENTAL CONDITIONS Well drained dry sandy soil. Full sun.
HEIGHT/SPREAD 1-2m/1-2m
COMMENTS Attractive flowering plant with aromatic leaves and yellow daisy flowers Feb-April.

BOTANICAL NAME Olearia lirata
COMMON NAME Snow Daisy-bush
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 2-5m/2-3m
COMMENTS Soft open shrub.

BOTANICAL NAME Olearia phlogopappa
COMMON NAME Dusty Daisy-bush
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 1-3m/1-2m
COMMENTS Shrub with an open to dense habit, masses of white daisy flower heads in large clusters.

BOTANICAL NAME Pimelea ligustrina
COMMON NAME Tall Rice-flower
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 0.5-2.5m/1-1.5m
COMMENTS Slender or bushy upright shrub. Showy shrub for moist sheltered position.

BOTANICAL NAME Prosanthera melissifolia
COMMON NAME Balm Mint-bush
ENVIRONMENTAL CONDITIONS Moist well drained soils, sheltered position.
HEIGHT/SPREAD 1-3m/2-3m
COMMENTS Fast growing shrub with aromatic dark green leaves. Attractive mauve flowers Oct-Dec.

BOTANICAL NAME Pultenaea daphnoides
COMMON NAME Large leaf Bush pea
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 1-3m/0.5-2m
COMMENTS Attractive shrub with large yellow and red pea flowers.

BOTANICAL NAME Spyridium parvifolium
COMMON NAME Dusty Miller
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 1-3m/1-2m
COMMENTS Shrub good for providing screen in dry, shady areas. Small white flowers are surrounded by dusty-white floral leaves July-Nov.

Common Correa

Low plants to 1 metre high

BOTANICAL NAME Epacris impressa
COMMON NAME Common Heath
ENVIRONMENTAL CONDITIONS Moist well drained soil, tolerating limited wet or dry periods once established.
HEIGHT/SPREAD 0.5-1m/0.2-0.6m
COMMENTS Floral emblem of Victoria. Open, wiry shrub with attractive pink or white flowers March-Nov. Good rockery plant, particularly when planted in groups.

BOTANICAL NAME Gonocarpus tetragynus
COMMON NAME Common Raspwort
ENVIRONMENTAL CONDITIONS Moist to dry well drained soils.
HEIGHT/SPREAD 0.1-0.3m/0.2-0.4m
COMMENTS Low bushy herb producing tiny pink flowers Dec-Feb.

BOTANICAL NAME Helichrysum scorpioides
COMMON NAME Button Everlasting
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 0.3m/0.2-0.3m
COMMENTS Large yellow buttons spring-autumn. Attractive rockery plant which dies back after flowering.

precinct 3
lorne

BOTANICAL NAME Isopogon ceratophyllus
COMMON NAME Horny Cone-bush
ENVIRONMENTAL CONDITIONS Requires excellent drainage.
HEIGHT/SPREAD 0.2-0.6m/0.5-1.2m
COMMENTS Small shrub to 50cm tall with woody rootstock and a compact mound of stiff, rigid, prickly light green leaves. Small bright yellow flowers Sept-Nov.

BOTANICAL NAME Leucophyta brownii
COMMON NAME Cushion Bush
ENVIRONMENTAL CONDITIONS Well drained dry conditions. Full sun.
HEIGHT/SPREAD 0.2-1m/0.5-2m
COMMENTS Attractive grey low, rounded shrub which withstands coastal spray and salt. Foliage reflects available light at night time, making it an ideal plant for defining pathways.

BOTANICAL NAME Olearia ramulosa
COMMON NAME Twiggy Daisy Bush
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 0.5-1m/1m
COMMENTS Attractive garden plant with white or mauve flower heads Sept-May. Fast growing.

BOTANICAL NAME Pelargonium australe
COMMON NAME Austral Stork's-bill
ENVIRONMENTAL CONDITIONS Well drained soils tolerating dryness once established.
HEIGHT/SPREAD 0.3-0.6m/0.3-1m
COMMENTS Good plant for rockeries which binds soil or sand. May dieback to rootstock during Summer.

BOTANICAL NAME Pimelea humilis
COMMON NAME Common Rice-flower
ENVIRONMENTAL CONDITIONS Moist well drained soil.
HEIGHT/SPREAD 0.1-0.5m/0.3-1m
COMMENTS Small perennial plant with a suckering habit. Heads of white flowers spring/summer.

BOTANICAL NAME Pimelea linifolia
COMMON NAME Slender Rice-flower
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 0.2-0.5m
COMMENTS Erect or clump forming prostrate plant with terminal clusters of hairy white flowers in spring.

BOTANICAL NAME Rhagodia candolleana
COMMON NAME Seaberry Saltbush
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 1m/1m
COMMENTS Semi-succulent scrambling shrub.

BOTANICAL NAME Stylidium graminifolium
COMMON NAME Grass Trigger Plant
ENVIRONMENTAL CONDITIONS Moist well drained soils, tolerating wet and dry periods once established.
HEIGHT/SPREAD 0.2-0.6m/0.2-0.3m
COMMENTS Perennial herb with long narrow grass like leaves and a slender stem bearing a narrow spike of pink flowers.

BOTANICAL NAME Tetratheca ciliata
COMMON NAME Common Pink Bells
ENVIRONMENTAL CONDITIONS Well drained soil, responding to extra moisture in summer.
HEIGHT/SPREAD 0.3-0.5m/0.3-0.6m
COMMENTS Profuse fragrant pink or mauve flowers July-Dec.

Slender Rice Flower

Groundcovers

BOTANICAL NAME Acrotriche serrulata
COMMON NAME Honey pots
ENVIRONMENTAL CONDITIONS Moist well drained soils tolerating dry periods.
HEIGHT/SPREAD 0.1-0.3m/0.5-1m
COMMENTS Slow growing, dense ground covering plant. Translucent tubular flowers May-Oct with a honey fragrance.

BOTANICAL NAME Astroloma humifusum
COMMON NAME Cranberry Heath
ENVIRONMENTAL CONDITIONS Well drained soils tolerating dry periods once established.
HEIGHT/SPREAD 0.1-0.5m/1-1.5m
COMMENTS Dense spreading mat like plant with attractive small bright red tubular flowers most of the year. Excellent for rockeries, embankments, under shrubs or in hanging baskets.

BOTANICAL NAME Bossiaea prostrata
COMMON NAME Creeping Bossiaea
ENVIRONMENTAL CONDITIONS Well drained soil. Suitable in sun or shade.
HEIGHT/SPREAD Prostrate/0.5-1.5m
COMMENTS Prostrate, lightly spreading, showy yellow pea flowers in Spring.

precinct 3 lorne

BOTANICAL NAME Brachyscome multifida
COMMON NAME Cut-leaf Daisy
ENVIRONMENTAL CONDITIONS Moist clay soils.
HEIGHT/SPREAD 0.1-0.4m/0.2-1m
COMMENTS Fast growing low spreading perennial. Profuse lilac-blue or mauve flowers. Useful soil binder.

BOTANICAL NAME Carpobrotus rossii
COMMON NAME Karkalla
ENVIRONMENTAL CONDITIONS Sandy soil. Full sun required for flowers.
HEIGHT/SPREAD Prostrate/2-3m
COMMENTS Prostrate succulent perennial herb with thick fleshy leaves and pale purple to pink flowers on short stalks. Good soil binding plant.

BOTANICAL NAME Dichondra repens
COMMON NAME Kidney Weed
ENVIRONMENTAL CONDITIONS Moist well drained soils. Shade.
HEIGHT/SPREAD Prostrate, creeping.
COMMENTS Matting, prostrate herb. Lawn substitute. Kidney shaped leaves with tiny cream flowers.

BOTANICAL NAME Geranium solanderi
COMMON NAME Austral Crane's-bill
ENVIRONMENTAL CONDITIONS Well drained soils, tolerating moisture.
HEIGHT/SPREAD Prostrate 0.5m/0.6-1.5m
COMMENTS Hairy creeping perennial herb.

BOTANICAL NAME Goodenia geniculata
COMMON NAME Bent Goodenia
ENVIRONMENTAL CONDITIONS Moist soils.
HEIGHT/SPREAD 0.1-0.5m/0.1-0.5m
COMMENTS Perennial suckering matting herb. Long flowering. Yellow flowers. Excellent rockery plant.

BOTANICAL NAME Goodenia lanata
COMMON NAME Trailing Goodenia
ENVIRONMENTAL CONDITIONS Tolerates extended dry periods once established.
HEIGHT/SPREAD Prostrate/0.5-1.5m
COMMENTS Attractive solitary flowers on long stalks Oct-Dec. Trailing stems.

BOTANICAL NAME Kennedia prostrata
COMMON NAME Running Postman
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD Prostrate/1-2.5m
COMMENTS Fast growing prostrate with very showy red pea flowers.

BOTANICAL NAME Platylobium obtusangulum
COMMON NAME Common Flat- pea
ENVIRONMENTAL CONDITIONS Prefers well drained soil.
HEIGHT/SPREAD 0.3-0.5m/1m
COMMENTS Triangular leaves and small attractive yellow and red pea flowers in spring.

BOTANICAL NAME Threlkeldia diffusa
COMMON NAME Coast Bonefruit
ENVIRONMENTAL CONDITIONS Moist saline soils.
HEIGHT/SPREAD Prostrate-0.3m/1m
COMMENTS Spreading succulent perennial herb. Matting plant for coastal conditions.

BOTANICAL NAME Viola hederacea
COMMON NAME Ivy-leaf Violet
ENVIRONMENTAL CONDITIONS Moist to wet soils.
HEIGHT/SPREAD Prostrate
COMMENTS Fast growing herb which creates a dense mat with small white flowers most of the year.

Conbeny Heath

Grasses, Sedges, Lilies, Irises & Grasstrees

BOTANICAL NAME Arthropodium strictum
COMMON NAME Chocolate Lily
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD 0.2-1m/0.2-0.8m
COMMENTS Attractive and adaptable perennial shrub Chocolate scented violet coloured flowers.

BOTANICAL NAME Carex appressa
COMMON NAME Tall sedge
ENVIRONMENTAL CONDITIONS Requires ample moisture, tolerating periods of inundation.
HEIGHT/SPREAD 0.5-1.2m/0.5-1m
COMMENTS Suitable for wet areas, stabilising soil, or as an aquatic or bog garden plant.

BOTANICAL NAME Dianella revoluta
COMMON NAME Black Anther Flax - lily
ENVIRONMENTAL CONDITIONS Well drained soils. Tolerates dry soils in shade.
HEIGHT/SPREAD 0.3-1.0m/0.5-2.5m
COMMENTS Perennial plant with dark green linear leaves to 70cm and blue flowers on branched stems. Common in tea-tree heath.

precinct 3 lorne

BOTANICAL NAME Gahnia sieberiana
COMMON NAME Red-fruited Saw – sedge
ENVIRONMENTAL CONDITIONS Tolerates moist soils for most of the year.
HEIGHT/SPREAD 1.5-3m/2-3m
COMMENTS Perennial sedge forming tussocks. Attractive strap like leaves and flower head. Important butterfly food source and habitat for small birds.

BOTANICAL NAME Isolepis nodosa
COMMON NAME Knobby Club-rush
ENVIRONMENTAL CONDITIONS Moist soils, tolerates dry and wet conditions when established.
HEIGHT/SPREAD 0.5-1.5m/0.6-2m
COMMENTS Hardy plant providing interesting contrast in landscapes. Ideal for wet areas.

BOTANICAL NAME Juncus kraussii
COMMON NAME Sea Rush
ENVIRONMENTAL CONDITIONS Brackish to saline areas.
HEIGHT/SPREAD 0.6-2m/0.5-1.5m
COMMENTS Perennial rush with round stems.

BOTANICAL NAME Juncus procerus
COMMON NAME Tall Rush
ENVIRONMENTAL CONDITIONS Damp well drained soils.
HEIGHT/SPREAD 1-2m/0.6-1.5m
COMMENTS Soft, thick rounded hollow like stems.

BOTANICAL NAME Lepidosperma laterale
COMMON NAME Variable Sword-sedge
ENVIRONMENTAL CONDITIONS Grows well in moist sites, heavy soil, in full or part sun.
HEIGHT/SPREAD 1-1.5m high
COMMENTS Attractive strappy plant ideal for accent planting.

BOTANICAL NAME Lomandra filiformis
COMMON NAME Wattle Mat-rush
ENVIRONMENTAL CONDITIONS Moist, well drained clays or sands tolerating dry shady conditions once established.
HEIGHT/SPREAD 0.15-0.3m/0.15-0.2m
COMMENTS Hardy perennial forming rush-like tufts.

BOTANICAL NAME Lomandra longifolia
COMMON NAME Spiny-headed Mat-rush
ENVIRONMENTAL CONDITIONS Well drained soil tolerating dry shade.
HEIGHT/SPREAD 0.5-1m/0.5-1m
COMMENTS Hardy perennial, smooth bright green strappy leaves, scented yellowish flowers Sept-Dec.

Spiny-headed Mat-rush

BOTANICAL NAME Poa labilliardierei
COMMON NAME Common Tussock Grass
ENVIRONMENTAL CONDITIONS Well drained soil.
HEIGHT/SPREAD 0.2-0.9m/0.7-1m
COMMENTS Densely forming perennial tussock grasses with soft graceful form suiting many landscape styles.

BOTANICAL NAME Themeda triandra
COMMON NAME Kangaroo Grass
ENVIRONMENTAL CONDITIONS Adaptable to most soils which do not remain wet.
HEIGHT/SPREAD 0.4-0.9m/0.7m
COMMENTS Perennial tussock with attractive green/purple foliage and drooping "paw" like flower heads.

BOTANICAL NAME Xanthorrhoea australis
COMMON NAME Austral Grass-tree
ENVIRONMENTAL CONDITIONS Well drained soils, tolerating dry conditions once established.
HEIGHT/SPREAD To 3m high
COMMENTS Attractive slow growing perennial plant with thick woody trunk surrounded by grassy tuft of leaves.

Climbers & Scramblers

BOTANICAL NAME Billardiera scanders
COMMON NAME Climbing/Common Appleberry
ENVIRONMENTAL CONDITIONS Well drained dry to moist soils.
HEIGHT/SPREAD Climber
COMMENTS Soft climber with greenish-yellow tubular flowers throughout the year.

BOTANICAL NAME Clematis aristata
COMMON NAME Austral Clematis
ENVIRONMENTAL CONDITIONS Moist soils with shade.
HEIGHT/SPREAD Climber
COMMENTS Vigorous climber, masses of creamy white starry flowers Aug-March.

BOTANICAL NAME Clematis microphylla
COMMON NAME Small-leaved Clematis
ENVIRONMENTAL CONDITIONS Well drained soils.
HEIGHT/SPREAD Climber
COMMENTS Climber with dull green leaves and masses of creamy starry flowers July-Nov.

BOTANICAL NAME Glycine clandestina
COMMON NAME Twining Glycine
ENVIRONMENTAL CONDITIONS Moist well drained soils, tolerating dry conditions once established.
HEIGHT/SPREAD Twining 0.3-2m tall
COMMENTS Slender open twiner with bluish-mauve pea flowers Oct-Jan.

precinct 3
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BOTANICAL NAME Muehlenbeckia adpressa
COMMON NAME Climbing Lignum
ENVIRONMENTAL CONDITIONS Well drained sandy soils.
HEIGHT/SPREAD Climber
COMMENTS Perennial with small greenish-yellow flowers Sept-Dec. Good for fences and retaining walls, tolerates salt exposure and dryness.

BOTANICAL NAME Tetragonia implexicoma
COMMON NAME Bower Spinach
ENVIRONMENTAL CONDITIONS Well drained sandy soils. Tolerates dry soils with shade.
HEIGHT/SPREAD 0.3/2m
COMMENTS Succulent plant suitable for sandy soils/dunes.

BOTANICAL NAME Zygophyllum billardieri
COMMON NAME Coast Twin-leaf
ENVIRONMENTAL CONDITIONS Sandy well drained soil tolerating dry periods.
HEIGHT/SPREAD 0.3-0.6/1m
COMMENTS Fire retardant. Suitable for exposed coastal conditions.

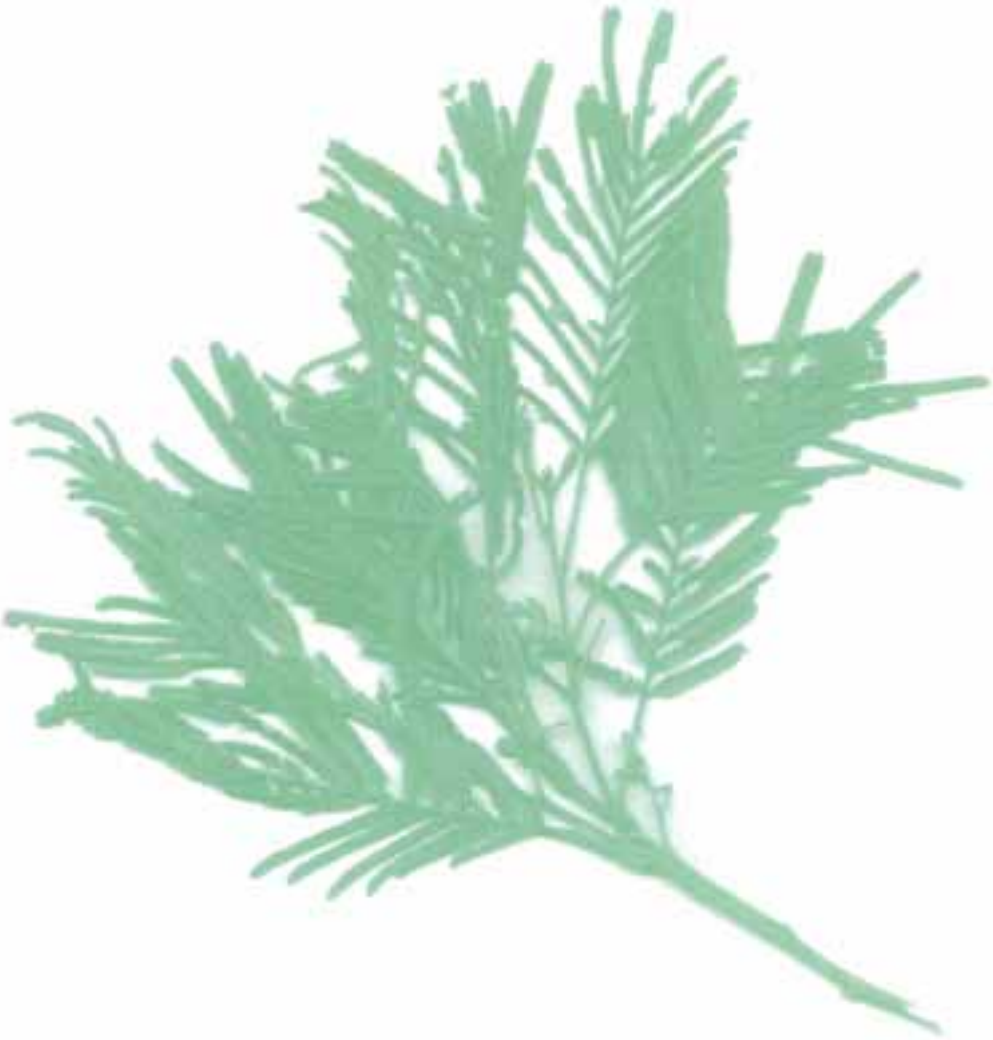
lorne summary

Botanical Name	Common Name
Acacia dealbata	Silver Wattle
Acacia mearnsii	Black Wattle
Acacia melanoxylon	Blackwood
Acacia mucronata	Narrow-leaf Wattle
Acacia myrtifolia	Myrtle Wattle
Acacia pycnantha	Golden Wattle
Acacia stricta	Hop Wattle
Acacia verniciflua	Varnish Wattle
Acacia verticillata	Prickly Moses
Acrotriche serrulata	Honey pots
Allocasuarina verticillata	Drooping Sheoak
Alyxia buxifolia	Sea Box
Arthropodium strictum	Chocolate Lily
Astroloma humifusum	Cranberry Heath
Banksia marginata	Silver Banksia
Bedfordia arborescens	Blanket Leaf
Billardiera scandens	Climbing/Common Appleberry
Bossiaea prostrata	Creeping Bossiaea
Brachyscome multifida	Cut-leaf Daisy
Bursaria spinosa	Sweet Bursaria
Carex appressa	Tall sedge
Carpobrotus rossii	Karkalla
Cassinia aculeata	Common Cassinia
Clematis aristata	Austral Clematis
Clematis microphylla	Small-leaved Clematis
Coprosma quadrifida	Prickly Currant-bush
Correa alba	White Correa
Correa reflexa	Common Correa
Dianella revoluta	Black Anther Flax -lily
Dichondra repens	Kidney Weed
Epacris impressa	Common Heath
Eucalyptus aromaphloia	Scentbark
Eucalyptus baxteri	Brown Stringybark
Eucalyptus cypellocarpa	Mountain Grey Gum
Eucalyptus globulus ssp globulus	Southern Blue Gum
Eucalyptus obliqua	Messmate Stringybark
Eucalyptus ovata	Swamp Gum
Eucalyptus radiata	Narrow-leaf Peppermint
Eucalyptus viminalis	Manna Gum
Eucalyptus willisii	Shining Peppermint
Gahnia sieberiana	Red-fruited Saw -sedge
Geranium solanderi	Austral Crane's-bill
Glycine clandestina	Twining Glycine
Gonocarpus tetragynus	Common Raspwort

Botanical Name	Common Name
Goodenia geniculata	Bent Goodenia
Goodenia lanata	Trailing Goodenia
Goodenia ovata	Hop Goodenia
Gynatrix pulchella	Hemp Bush
Hedycarya augustifolia	Austral Mulberry
Helichrysum scorpioides	Button Everlasting
Indigofera australis	Austral Indigo
Isolepis nodosa	Knobby Club-rush
Isopogon ceratophyllus	Horny Cone-bush
Juncus kraussii	Sea Rush
Juncus procerus	Tall Rush
Kennedia prostrata	Running Postman
Lepidosperma laterale	Variable Sword-sedge
Leptospermum continentale	Prickly Tea-tree
Leptospermum scoparium	Manuka
Leucophyta brownii	Cushion Bush
Leucopogon parviflorus	Coast Beard Heath
Lomandra filiformis	Wattle Mat-rush
Lomandra longifolia	Spiny-headed Mat-rush
Muehlenbeckia adpressa	Climbing Lignum
Myoporum insulare	Common Boobialla
Myoporum sp	Sticky Boobialla
Olearia axillaris	Coast Daisy Bush
Olearia lirata	Snow Daisy-bush
Olearia phlogopappa	Dusty Daisy-bush
Olearia ramulosa	Twiggy Daisy Bush
Ozothamnus ferrugineus	Tree Everlasting
Pelargonium australe	Austral Stork's-bill
Pimelea humilis	Common Rice-flower
Pimelea ligustrina	Tall Rice-flower
Pimelea linifolia	Slender Rice-flower
Platylobium obtusangulum	Common Flat- pea
Poa labilliardierei	Common Tussock Grass
Poa poiformis	Blue Tussock Grass
Pomaderris aspera	Hazel Pomaderris
Prosanthera lasianthos	Christmas Bush
Prosanthera melissifolia	Balm Mint-bush
Pultenaea daphnoides	Large leaf Bush pea
Rhagodia candolleana	Seaberry Saltbush
Solanum laciniatum	Kangaroo Apple
Spyridium parvifolium	Dusty Miller
Stylidium graminifolium	Grass Trigger Plant
Tetragonia implexicoma	Bower Spinach
Tetratheca ciliata	Common Pink Bells

lorne summary

Botanical Name	Common Name
Themeda triandra	Kangaroo Grass
Threlkeldia diffusa	Coast Bonefruit
Viola hederacea	Ivy-leaf Violet
Xanthorrhoea australis	Austral Grass-tree
Zygophyllum billardieri	Coast Twin-leaf



APPENDIX 5

CASE STUDIES OF EXISTING DEVELOPMENT

Case Study Developments

The case study developments have been selected from photographs rated as compatible and incompatible with preferred character in the study of community perceptions by Dr Ray Green. Sites have also been selected by officers which it is believed exhibit similar characteristics. Each development has been assessed in detail below.

The Neighbourhood Character Compatibility Scale (NCCS) is based on the following scoring:

- 1 to 4 is perceived to be compatible (from strongly 1 to slightly 3.9)
- 4 to 7 is perceived to be incompatible (from slightly 4.1 to strongly 7)

Incompatible Developments

Single Dwellings

Case 1

Type:	Two storey
NCCS:	5.95
Permit No.:	97/6969
Land Area:	1024m^2
Height:	7.4m
Bld Site %:	23% (232m^2)
Bld & H/S %:	40% (409m^2)
Plot Ratio:	0.36 (370m^2)
Minimum Setbacks:	Street —11.5m
	Sides — 0m & 3.3m
Comment:	This building was rated negatively because of: Flat boxy shape; Generic urban style; Mock Georgian; Lack of screening vegetation; Dark brick; Flat surfaces with small windows; and Expanse of lawn

Case 2

Type:	Two storey
NCCS:	5.14
Permit No.:	95/6034
Land Area:	677m^2
Height:	8.2m
Bld Site %:	33% (223m^2)
Bld & H/S %:	47% (291m^2)
Plot Ratio:	0.44 (298m^2)
Minimum Setbacks:	Street — 4.5m
	Sides — 2.0m & 3.0m
Comment:	This building was rated negatively because of: Squareness of building—boxy; Formal, boxy foundation planting; Building dominates street; and Large scale.

Case 3

Type:	Two storey
NCCS:	4.87
Permit No.:	98/0135
Land Area:	370m^2
Height:	8.5m
Bld Site %:	48% (179m^2)
Bld & H/S %:	54% (201m^2)
Plot Ratio:	Unknown but est. to exceed 0.5
Minimum Setbacks:	Street — 2.5m
	Sides — 1.2m
Comment:	This building was rated negatively because of: Boxy; Little surface or mass articulation; Top heavy looking; Dark imposing colour; and No vegetation screening.

Case 4

Type:	Two storey
NCCS:	-
Permit No.:	98/7372
Land Area:	860m^2
Height:	7.5m
Bld Site %:	30% (258m^2)
Bld & H/S %:	36% (309m^2)
Plot Ratio:	0.42 (390m^2)
Minimum Setbacks:	Street — 4.5m
	Sides — 0m & 1.0m
Comment:	The small street setback and large area of concrete driveway has limited the development of landscaping that might soften the appearance of the building. The building form has limited surface articulation and the street elevation has minimal fenestration.

Case 5

Type:	Three storey
NCCS:	-
Permit No.:	00/0047
Land Area:	810m^2
Height:	8.4m
Bld Site %:	36% (297m^2)
Bld & H/S %:	49% (401m^2)
Plot Ratio:	0.64 (518m^2)
Minimum Setbacks:	Street — 10.5m
	Sides — 1.2m & 1.8m
Comment:	The height and small side setbacks create the appearance of the building dominating the site and there will be limited opportunity to establish landscaping to soften the edges of the development. Large concrete driveway. Development still proceeding so landscaping not completed. The building is well articulated and utilises a mix of materials in muted tones, reducing the visual bulk. The large street setback should allow landscaping that will soften the appearance.

Case 6

Type:	Two storey
NCCS:	-
Permit No.:	02/0264
Land Area:	809m^2
Height:	7.5m
Bld Site %:	35% (283m^2)
Bld & H/S %:	40% (324m^2)
Plot Ratio:	0.43 (348m^2)
Minimum Setbacks:	Street — 6.5m
	Sides — 1.8m & 2.0m
Comment:	Set close to the street the garage dominates the street presence. Parapet walls add to the boxiness of the building. Small landscape areas and low vegetation do not soften the built form.

Case 7

Type:	Two storey
NCCS:	-
Permit No.:	02/0316
Land Area:	802m^2
Height:	7m
Bld Site %:	29% (230m^2)
Bld & H/S %:	45% (362m^2)
Plot Ratio:	0.5 (400m^2)
Minimum Setbacks:	Street — 4.4m
	Sides — 0m & 1.4m
Comment:	Blank walls fronting the street and parapet walls create a bulky presentation and lack of address. Wide concrete driveway. The footprint of the building is highly articulated but this creates small landscape spaces unable to accommodate larger vegetation

Case 8

Type:	Two storey
NCCS:	-
Permit No.:	03/0624
Land Area:	670m^2
Height:	8.6m
Bld Site %:	43% (291m^2)
Bld & H/S %:	48% (320m^2)
Plot Ratio:	0.53 (356m^2)
Minimum Setbacks:	Street — 3.5m
	Sides — 0m & 1.2m
Comment:	Building dominates the site because of small setbacks from the front and side boundaries, high site coverage and height. No landscaping to soften the appearance of the building. Articulation, projecting roof eaves and use of subdued colour scheme reduce the visual bulk.

Multi-dwelling

Case 9

Type:	Three, two storey
NCCS:	5.79
Permit No.:	99/8237
Land Area:	626m^2
Density:	1:208m^2
Height:	7.3m
Bld Site %:	50% (313m^2)
Bld & H/S %:	65% (407m^2)
Plot Ratio:	0.6 (376m^2)
Minimum Setbacks:	Street — 4.0m
	Sides — 1.14m & 1.2m
Comment:	This building was rated negatively because of: Density of development; Repetition of buildings; High opaque fencing; Boxy, bulky buildings; Dull flat surfaces with small windows; Lack of screening; and Lack of vegetation.

Case 10

Type:	Two, Two storey
NCCS:	5.62
Permit No.:	98/7566
Land Area:	890m^2
Density:	1:445m^2
Height:	7.5m
Bld Site %:	33% (294m^2)
Bld & H/S %:	54% (483m^2)
Plot Ratio:	0.46 (414m^2)
Minimum Setbacks:	Street — 5.0m
	Sides — 1.8m & 4.6m
Comment:	This building was rated negatively because of: Boxy architecture; Flat facades with small windows; Expanses of paved surfaces; Lack of screening; Lack of landscaping; and No trees.

Case 11

Type:	Two, Two storey
NCCS:	5.51
Permit No.:	99/8019
Land Area:	854m^2
Density:	1:427m^2
Height:	7.8m
Bld Site %:	30% (260m^2)
Bld & H/S %:	43% (370m^2)
Plot Ratio:	0.54 (462m^2)
Minimum Setbacks:	Street — 4.0m
	Sides — 0m & 2.0m
Comment:	This building was rated negatively because of: Boxy form; Flat dull surfaces; Small windows; Lack of landscaping; Overpowering second storey; and Corrugated iron.

Case 12

Type:	Two, two storey
NCCS:	4.79
Permit No.:	99/8037
Land Area:	852m^2
Density:	1:426m^2
Height:	6.55m
Bld Site %:	37% (313m^2)
Bld & H/S %:	51% (430m^2)
Plot Ratio:	0.43 (368m^2)
Minimum Setbacks:	Street — 6.5m
	Sides — 1.37m & 6.4m
Comment:	This building was rated negatively because of: Garish colours— too strong, too many; Dominated by driveways and concrete; No landscaping; and No screening.

Case 13

Type:	Four, two storey
NCCS:	-
Permit No.:	01/0291
Land Area:	1992m^2
Density:	1:498m^2
Height:	7.5m
Bld Site %:	26% (520m^2)
Bld & H/S %:	43% (865m^2)
Plot Ratio:	0.27 (538m^2)
Minimum Setbacks:	Street —4.0m
	Sides — 4.5m & 4.6m
Comment:	Repetition of building style and close proximity of buildings create a sense of building mass. Large areas of concrete driveway and small setbacks limit landscaping. Large trees have been retained on site, but mostly at the rear and therefore have a limited role in softening the built form of this development. Buildings are well articulated and variety of colour have been used.

Case 14

Type:	Three, Two storey
NCCS:	-
Permit No.:	02/0241
Land Area:	1561m^2
Density:	1:520m^2
Height:	5.5m to 6.5m
Bld Site %:	36.7% (572m^2)
Bld & H/S %:	51.8% (808m^2)
Plot Ratio:	0.48 (749m^2)
Minimum Setbacks:	Street — 8.8m Sides — 1.6m & 4.4m
Comment:	The development has a large coverage of hard surfaces, mostly concrete driveway. The repetition of building form accentuates the scale of the development. Limited separation between dwellings reduces the opportunity to provide landscaping amongst the development.

Case 15

Type:	Two, Two storey
NCCS:	-
Permit No.:	02/0493
Land Area:	1114m^2
Density:	1:557m^2
Height:	7.5m
Bld Site %:	37.3% (415m^2)
Bld & H/S %:	52.6% (586m^2)
Plot Ratio:	0.51 (568m^2)
Minimum Setbacks:	John Street — 5.39m Smith Street — 6.45m Sides — 1.2m & 3.0m
Comment:	The similarity of style, materials and colours and limited separation between the two buildings contributes to the sense of building mass. Highly articulated building form and natural materials. Extensive landscaping recently completed. Wide road reserve gives appearance of larger setback.

Compatible Developments

Single Dwellings

Case 16

Type:	Two storey
NCCS:	3.14
Permit No.:	95/5970
Land Area:	454m^2
Height:	7.5m
Bld Site %:	24% (108m^2)
Bld & H/S %:	27% (123m^2)
Plot Ratio:	0.29 (130m^2)
Minimum Setbacks:	Charles Street — 10.7m Francis Street — 1.2m Francis Lane — 5.0m Sides — 1.37m & 6.4m
Comment:	This building was rated positively because of: Smaller scale of development; House set into established garden; Timber construction; Articulated façade; Balconies; and House dominated by vegetation.

Case 17

Type:	Two storey
NCCS:	3.63
Permit No.:	99/8175
Land Area:	488m^2
Height:	7.5m
Bld Site %:	35% (171m^2)
Bld & H/S %:	35% (171m^2)
Plot Ratio:	0.5 (245m^2)
Minimum Setbacks:	Deans Marsh Road — 18.0m Gwynnne Avenue — 0m Sides — 1.2m & 1.85m
Comment:	This building was rated positively because of: Unusual and distinctive design of landscape; Large front setback; Building dominated by vegetation ; and Elevated position. This building was rated negatively because of: Front fencing; Mish mash of design elements; and Visually dominant.

Multi-dwelling

Case 18

Type:	Five, Two storey
NCCS:	3.19
Permit No.:	99/8455
Land Area:	3456m^2
Density:	1:691m^2
Height:	9.0m
Bld Site %:	16% (568m^2)
Bld & H/S %:	29% (~1000m^2)
Plot Ratio:	0.22 (791m^2)
Minimum Setbacks:	Street — 17m
	Sides — 4.7m & 5.1m
Comment:	These buildings were rated positively because of: Beachy colours—blue and yellow; Timber construction; Houses set into bushland; Peak roofs; and Screening vegetation and large gum trees saved during construction.
	These buildings were rated negatively because of: Was cited in mail survey as detracting from neighbourhood character; Prominent concrete driveway on slope at rear of property; and Houses located close together.

Case 19

Type:	Thre, Two storey
NCCS:	3.77
Permit No.:	99/8612
Land Area:	1344m^2
Density:	1:448m^2
Height:	8.8m
Bld Site %:	33% (444m^2)
Bld & H/S %:	51% (688m^2)
Plot Ratio:	0.39 (524m^2)
Minimum Setbacks:	Street — 6.45m
	Sides — 1.2m & 3.0m
Comment:	These buildings were rated positively because of: Retention of trees during construction; Surfaces articulated; Glass surfaces dominate; and Variety of colours.
	These buildings were rated negatively because of: Expanse of concrete driveway; Density of development; and Building mass on hillside.

Case 20

Type:	Four, Two storey
NCCS:	3.95
Permit No.:	97/7104
Land Area:	1991m^2
Density:	1:498m^2
Height:	7.7m
Bld Site %:	34% (672m^2)
Bld & H/S %:	48% (955m^2)
Plot Ratio:	0.43 (847m^2)
Minimum Setbacks:	Street — 4.5m
	Sides — 0m & 3.1m
Comment:	This building was rated positively because of: Rated as slightly in character possibly because of the vegetation screen and pale colours and maybe because many respondents were not familiar with this development.
	These buildings were rated as negatively because of: Cited in the mail questionnaire as detracting from neighbourhood character; No screening from rear of property; Lack of vegetation; Expanses of concrete drives; and Repetition of building forms.