

# RESIDENTIAL CHARACTER AND INTENSIFICATION GUIDANCE

FOR  
WAIMAKARIRI DISTRICT COUNCIL

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ARCHITECTS | INTERIOR DESIGNERS | LANDSCAPE ARCHITECTS | URBAN DESIGNERS

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## REVISION HISTORY

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-	13 MAY 2018	1st DRAFT
A	22 June 2018	Final DRAFT
B	30 July 2018	Minor Amendments
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# EXECUTIVE SUMMARY

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This document provides an independent urban design and residential character review of the Waimakariri Districts Residential Zones.

The review is part of Waimakariri Districts Council's District Plan review process which aims to identify improvements that maybe required to the district plan.

The key findings of the assessments within this document are:

- + Residential character across the districts residential zones contain some similarities with the majority of residential development in standalone single storey houses with a wide range of styles, ages and building designs.
- + However there are some subtle variations between zones with key differences relating to density, site size, separation of buildings, setbacks and gardens sizes.
- + Some large scale global consents particularly within the Residential 2 Zone have resulted in intrusive character and urban design outcomes, significant increases in density, site coverage and building bulk and location effects.
- + None of the focus areas assessed within this study exhibit special character and therefore they do not warrant provision in the District Plan in terms of character areas or other such mechanisms for their specific management.
- + The Operative Plan residential zones contain a number of rules and provisions that are considered good practise from an urban design perspective.
- + However it is recommended that there is scope for greater consistency of some rules across all zones.
- + A key recommendation of this review is that if

intensification and medium density development is encouraged in the district then a specific suite of rules should be developed to manage site, built form and public interface effects.

- + This document provides a number of recommendations for changes to specific residential rules based on the assessment and alignment with best practise urban design.
- + In terms of intensification the assessment in this document reaches conclusion that in general intensification is appropriate from an urban design perspective within an area that is 800m walking distance from the key commercial centres of Kaiapoi and Rangiora.
- + A number of urban design principles are established in this document that should be considered when determining the location of intensification in the Waimakariri District.

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# 1.0 INTRODUCTION

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The purpose of this study is to provide Waimakariri District Council (**WDC**) urban design advice and guidance to inform the district plan review process.

The study covers:

- + District wide residential character assessment.
- + Urban Design review of the operative plan provisions.
- + Recommendations for residential intensification in the district.

## 1.1 STUDY BACKGROUND

The WDC is reviewing its operative District Plan. This is part of the 10 yearly review required under the Resource Management Act 1991 (RMA).

As part of the District Plan review process residential zoning provisions and rules are being considered for their ability to steer appropriate urban design outcomes within the district.

Assessment of residential character and urban design outcomes resulting from the implementation of the Operative District Plan is important to understand what has worked and what needs improvement in the plan.

Therefore WDC are seeking advice on the urban design considerations that will affect the quality of residential environments and to inform the management of activities and their effects within the districts residential zones.

## 1.2 SCOPE OF THE STUDY

The focus of this study is the urban design aspects of the Residential Zones 1,2,3,6,6A and 7. The Residential Zones 4A and 4B are not covered in this document as these zones provide for rural residential living and are being covered separately in the District Plan review process.

In terms of advice in regard to intensification the brief of this study is to determine the urban design considerations in the district. However urban design considerations are only part of the rationale for residential intensification and other factors such as market demands and property analysis, natural hazards, and future public transport proposals are outside the scope of this study. A recommendation of this study is to integrate this wider pool of inputs when information is available.



*Original Californian Bungalow, Rangiora.*



## 2.0 RESIDENTIAL CHARACTER ASSESSMENT

### 2.1 INTRODUCTION

The following sections of this document provide the character assessment of the Waimakariri District's residential zones (excluding Residential 4A and 4B Zones). Firstly the overall nature of the character in each zone is identified and discussed and then secondly specific areas are assessed to determine if they contain special character that will require addressing in the district plan review process.

### 2.2 RESIDENTIAL CHARACTER

In the context of residential environments, character is what makes one neighbourhood distinctive from another. It is the way a place 'looks and feels'. The character of an area is generally derived from a grouping of physical elements that communities can easily identify with. Elements such as a groups of buildings with consistent form, scale and architectural detailing can contribute to the definition of an areas character. All streets, neighbourhoods and towns have character of one kind or another.

The character of an area can be sensitive to change including the redevelopment of buildings and sites and intensification through subdivision and infill development. The change can be both beneficial and detrimental depending on the nature of the existing character and whether it is positive or negative respectively.

### 2.3 WHAT ARE CHARACTER VALUES?

Areas of special character will often be characterised by the coherence and homogeneity of elements and contain both built form and landscape elements. These areas contain character values for communities that live within them or are familiar with them.

Character can be positive, negative or neutral in respect of

the way in which people evaluate and respond to it. It is in combination that the elements within a particular context generally gain their character value.

For the purposes of clarity heritage values although similar to character values incorporate physical elements, such as buildings, but also include less tangible values associated with the historical, social or cultural associations, such as an association between a person and a place. A building or place may contain strong heritage values but at the same time reside within an area that does not exhibit significant positive character.

### 2.4 WHAT ARE CHARACTER AREAS?

Although not currently present in the Waimakariri District character areas have been identified in other regions around the country including Christchurch. In simplistic terms character areas are geographic areas, blocks or even streets within residential neighbourhoods that are distinctive from their surroundings and are considered to have a special character worthy of retention. In the Christchurch District Plan these areas are identified and specific provisions are provided to maintain the integrity of their character.

### 2.5 CHARACTER ELEMENTS

Character in a residential context is a combination of the elements of the built and natural environment. This may include a mix of land uses, building types, styles and ages, public or private spaces, site layout, street patterns, topography and vegetation, each influencing the level of distinctiveness of an area.

Character elements may be broadly divided into two areas; landscape character elements and built character elements. In turn, these two areas may be comprised of dominant and secondary elements. The dominant elements can be described as key indicators of the

character, with the secondary elements being those that support and reinforce the character, rather than being an overt contributor to it. For example, a collection of houses of a vernacular style within an area may be the dominant character element, with the landscape response to the open spaces around the collection of houses being the secondary element. The character elements become highly interrelated in the resultant character. Broadly these character elements comprise of:

#### Landscape Character Elements

**Topography and aspect** – the defining topographical features of an area and presence of aspect or views.

**Open Space** – the sense of openness or containment in the area, the influence of parks, reserves and streets in an area.

**Green framework** – the prominent natural features of an area including rivers, waterways or coastal edges, and the type and scale of vegetation.

#### Built Form Character Elements

**Land use mix** – The consistency, types and mixes of land use in an area.

**Street and block patterns** – The street grid and block patterns of an area.

**Density and Scale** – The combination of building height and scale, site size and building coverage in an area.

**Layout**- Building setbacks, location of gardens and garages, height of fences and relationship with the street.

**Building age style and type** – The age and era of buildings such as cottages, bungalows, state housing, modern homes etc. and the consistency of architectural detailing such as window locations and locations of front doors in relation to the street and the pitch of roofs and the consistency of materials and colour.

## 2.6 RESIDENTIAL CHARACTER ASSESSMENT

The following sections of this document are a summary of the residential character assessment undertaken in this study. The assessment was carried out in April and May 2018 and included assessment of the operative district plan zones in general as well as a series of selected focus areas in Rangiora and Kaiapoi.

This two staged process was aimed to firstly provide an overview of the character in the district generally, identifying key differences between zones and then to test specific areas at a finer scale (neighbourhood and block) to determine if any notable character elements were present and to identify any areas of special character.

Ultimately the assessment was undertaken to determine if there is reason to recommend consideration to providing specific provisions in the district plan to maintain and support any areas of special character in the district.

### 2.7 ASSESSMENT METHODOLOGY STAGE 1 ZONE ASSESSMENT

The first stage of the residential character assessment was a desktop analysis of the residential zones across the Waimakariri District. The assessment included review of background documentation, gathering and mapping of spatial data, review of the character elements for each zone and a summary synopsis of the character of each zone.

#### 2.7.2 Background Documentation Review

A review was carried out of important background information such as the Operative District Plan residential sections, the 2013 draft Urban Design Report for Residential Zone 1 and 2, the District Plan Effectiveness Reviews (residential), and plan change documentation

including original master plans for Pegasus, Ravenswood and Silverstream.

#### 2.7.3 Gathering and Mapping of Spatial Data

Mapping information was compiled from council and web based resources. Information included aerial photographs and historic photographs, GIS base maps identifying district plan zone boundaries, street layout, building footprints and heritage sites, and Google street view.

#### 2.7.4 Review of the Character Elements for Each Zone

Utilising the mapping information prepared and Google street view a review of each zone was undertaken that identified the character elements each zone. Using the table provided in section 2.5 of this report as a framework, an overview of the character for each zone was established.

#### 2.7.5 Zone Summary Synopsis

From the review of character elements a synopsis or summary of the character for each zone was established. This provided an overview of the differences between zones and if any particular zone contained significant character elements that set it apart from other zones. The key differentiators for each zone are established in this section.

Based on the outcomes of the assessment the sensitivity of the area to change in terms of intensification effects on built form was identified based on a scale from low to high:

- + Low : the area does not have special character and character elements support intensification and hence can absorb higher levels of change.
- + Moderate : the area does not have special character

but has some character elements that would be effected by intensification.

- + High : the area has special character that would be undermined from significant intensification and changes to built form.

A general recommendation for the zones ability to absorb changes (from a residential character perspective) such as intensification was then provided.

### 2.7.6 Comprehensive Residential Development

A number of developments<sup>1</sup> consented and built under the Comprehensive Residential Development (CRD) mechanism were assessed to determine if the character of these areas was significantly different or intrusive on the Zone as a whole. A general summary of the assessment outcomes for Residential Zone 1,2 and 6 is provided.

## 2.8 ASSESSMENT METHODOLOGY STAGE 2 FOCUS AREAS

The second stage of the residential character assessment was the assessment of specific areas. This included identification of the areas, desktop analysis similar to the zone assessment, site appraisals, assessment and the preparation of conclusions and recommendations.

### 2.8.1 Area Identification

The areas were chosen in collaboration with Waimakariri Council Staff as a sample of areas that:

- + Represented the Residential 1 and 2 Zones across the District; and

1 Refer to Appendix X for the list of CRD developments considered in this report.

- + Focused on older more established neighbourhoods; and
- + May be subject to change in the form of intensification in the future; or
- + Contained known character elements that warranted investigation.

### 2.8.1 Site Appraisals

Site visits were carried out in April and May 2018 to all areas identified. The site visits included a combination of walking each street, and a vehicle drive through of each neighbourhood and surrounding neighbourhoods. During the site visits photographs were taken of typical houses and an on-site 'character assessment working sheet' was filled out.

### 2.8.2 Assessment Framework

Once the site visits were undertaken assessment of each area was undertaken against the assessment framework established for this study.

The intention of the assessment framework is to ascertain the nature of the character of an area and determine if it is consistent throughout the area or not.

The framework is aimed at assessment of an area from a street or part of a street to a block or neighbourhood. The assessment framework consists of a series of questions that cover aspects of a site's landscape and built qualities that contribute to their character.

### 2.8.3 Preparation of Conclusions and Recommendations.

Once the assessment of each area was complete recommendations and conclusions were established which provide an overview of the character elements significant in each area and whether the area contains special character.

## ASSESSMENT FRAMEWORK

### Landscape Character Elements

Topography and aspect

*Does the area have any defining topographical features, is it elevated, are views to and from the area prominent?*

Open Space

*What is the sense of openness or containment in the area, are there defining reserves or other significant spaces between buildings?*

Green framework

*Does the area include rivers, waterways or coastal edges, is vegetation prominent and is it predominantly exotic or native?*

### Built Form Character Elements

Land use mix

*Is the area solely residential or does it have association with shops, a school or religious buildings?*

Street and block patterns

*Are the streets set out in a regular grid or is it curvilinear? What is the overall grain of the block and lot layout like?*

Density and Scale

*Are building footprints consistently large or small, single storey or double, are sites generous or not?*

Layout

*Are buildings consistently setback from the street, are garages to the side or behind houses, are front gardens generous or not?*

Building age style and type

*Are buildings of a consistent architectural type, eg bungalow, railway house, state housing etc. Are details consistent such as front door facing the street or the proportion of windows roof pitch and eave detailing? Are materials used consistent?*

## 2.9 RESIDENTIAL 1 ZONE

### 2.9.1 Description of the zone

The Residential 1 Zone is located in Rangiora and Kaiapoi surrounding the commercial centres. The zone therefore occupies some of the older parts of these towns. These areas have been subject to significant change through different phases of development since the towns were first established.

Housing consists of a mix of standalone houses, duplexes and blocks of flats with a diversity of age from early settlement housing through to recently built sites. The zone has a mixed density profile with some larger lots such as the example opposite of an original bungalow at 153 Church Street, Rangiora but the majority of houses are in smaller or subdivided lots as shown in the example (page 15) of a block of flats on Victoria Street, Rangiora. Overall the Residential 1 Zone has higher density than other general residential zones in the district.

A significant proportion of Residential 1 Zone houses and sites in Kaiapoi were damaged in the Canterbury Earthquakes and were subsequently Red Zoned. This has reduced the number of houses in the zone. Areas effected are shown in the map opposite.



Zone 1 extent \_ Kaiapoi



Zone 1 extent \_ Rangiora



Zone 1 example: recent development Murray Street Rangiora



Zone 1 example: Original Bungalow Church Street, Rangiora.

## 2.9.2 Character Elements

### *Built form elements:*

- + The streets and blocks are generally arranged in regular orthogonal grids consistent with early town surveying in both townships.
- + Neighbourhoods consist of a diversity of building form, ages and styles from early settlement houses through to 'sausage' flats and modern two storey houses.
- + Land use is generally residential and also includes schools parks and religious buildings however some 'intrusive character' associated with larger retail development which has occurred such as the Rangiora Countdown.
- + Lot sizes are generally smaller than the other general residential zones<sup>1</sup> due to infill and redevelopment.
- + Density is generally higher than other general zones with regular two storey houses and smaller lots. CRD and global consents have not had a significant impact on the density of the zone.
- + Houses and flats are either one or two storey with flat and pitched roofs.
- + Street setbacks can be consistent within neighbourhoods and low fencing is typical along the street interface.
- + In Kaiapoi a number of houses in this zone (especially to the east of the railway) have been affected by the Canterbury Earthquakes which has resulted in an erosion of the cohesiveness of these neighbourhoods.

<sup>1</sup> Residential 1,2 and 3 are referred to general residential zones in this report.

Changes that have effected the built form elements include: removal of housing all together as a result of the red zone, reconstruction of different housing typologies designed in response to natural hazards such elevated dwellings to counter flooding risks.

### *Landscape elements:*

- + Topography is generally flat within the zone with little resounding land form features.
- + Sporadic yet established planting in gardens and some notable planting on streets including Queen Street in Rangiora.
- + Public open space is not a feature of this zone with the exception of the Kaiapoi Aquatic Centre.

## 2.9.3 Synopsis

Generally the character of this zone can be considered as more intensive than other general zones. The zone includes varied and mixed built form, housing styles and ages. Significant infill (rear lot development) and redevelopment has occurred including multi-unit developments and has generally resulted in higher development density outcomes. Some mature planting is apparent but this is not consistent across the zone.

The zone as a whole does not contain many character elements that set it apart from other residential zones in the district. The key differentiators for the zone are provided opposite however it is important to recognise that the zone contains a varied character and in some streets or sites contain character similar to that of other zones.

The sensitivity to change in the Residential 1 Zone is considered low as the zones history of successive redevelopment and change in built form through infill development has resulted in a diversity of housing types

and styles. It is therefore considered from a character perspective that the area can absorb further well designed intensification.

## 2.9.4 Residential 1 Zone Comprehensive Residential Development

None of the CRD's assessed in this study were located in the Residential 1 Zone. However it is reasonable to assume when considering the CRD developments in the Residential 2 Zone the effect on the residential character within the Residential 1 Zone will be minimal as density allowances and associated controls are overall similar. However it is unclear whether the built outcomes of CRD would be significantly different from outcomes as a result of the operative plan provisions in the Residential 1 Zone.

### **Residential 1 Zone Key differentiators:**

- + The zone generally consists of higher densities than the Residential 2 and 3 Zones.
- + The zone consists of a wide range of building types styles and ages, built form can be considered as not homogeneous.
- + Low front fencing is common in the area (approximately 1-1.5m or lower) with a mix of styles and materiality.
- + Significant infill subdivision development has occurred including both rear lot development and redevelopment of sites.



*Zone 1 example: Infill housing on Murray Street Rangiora*



*Zone 1 example: block of flats on Victoria Street, Rangiora*

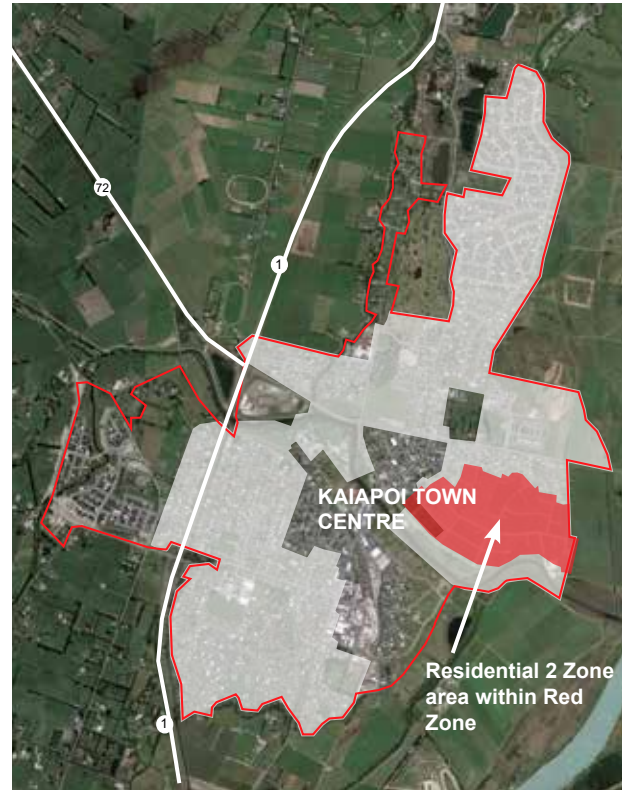
## 2.10 RESIDENTIAL 2 ZONE

### 2.10.1 Description of the zone

The Residential 2 Zone is the main residential zone in the larger towns of the district. It is generally located from the Rural Zone interface through to surrounding the more intensive Residential 1 Zone and the commercial centres. The zone covers the majority of residential neighbourhoods in Rangiora, Kaiapoi, Oxford, and Woodend.

Generally the zone consists of wide range of standalone houses from original settler's cottages through to state houses, master planned neighbourhoods and large houses. Lots are generally larger than Residential 1 Zone and generally consists of standalone houses on larger sites. The zone is a mixture of older and newer neighbourhoods.

The Residential 2 Zone has seen a number of developments consented and constructed under the Comprehensive Residential Development mechanism and global consents which have enabled in general higher density built form outcomes in the zone.



Zone 2 extent \_ Kaiapoi



Zone 2 extent \_ Rangiora





Zone 2 extent \_ Oxford



Zone 2 example Murray Street Kaiapoi



Zone 2 extent \_ Woodend



Zone 2 example Rangiora

## 2.10.2 Character Elements

### *Built form elements:*

- + The street and block layout is mixed with regular orthogonal grids consistent with early town surveying in older neighbourhoods and curvilinear layouts in some newer subdivisions, In Kaiapoi geographic features such as the river and the SH1 motorway tends to inform or reinforce the street layout.
- + Neighbourhoods consist of a diversity of buildings, ages and styles including early settlement housing, Californian bungalow, state housing, 70s and 80s 'new lifestyle' houses, 'sausage' flats 90's and 2000's multi house subdivision and modern homes including large houses.
- + Land use is generally residential with the addition of many of the district's schools, parks and other open spaces. A number of small business are located in the zone in either small scale purpose built developments or in re-purposed houses. In general business uses in the zone do not have significant effect on the overall character although they may cause localised traffic and noise issues.
- + Sites are generally 500m<sup>2</sup> to 1000m<sup>2</sup> with the notable exception being some comprehensive developments that contain smaller lots.
- + Some of the comprehensive developments particularly those delivered under global consents such as some retirement villages have resulted in much greater densities, smaller site sizes and building coverages.
- + However as these developments are not the majority in the zone and are located in small pockets the character effects are localised to surrounding neighbourhoods.

- + Buildings are generally one storey with a few two storey larger houses such as 6 Belgrave Drive, Rangiora.
- + Density is generally low compared to other general residential zones with larger lots and single storey houses, however in some areas larger building footprints or areas with smaller lots sizes have led to pockets of higher density.
- + Street setbacks can be consistent within individual neighbourhoods and streets but they are not consistent across the zone.

### *Landscape elements:*

- + Topography is generally flat within the zone with no resounding features. The Kaiapoi River is a notable topographical and land form feature in the township.
- + Vegetation cover is sporadic and inconsistent across the zone, some established planting is present in gardens and the street verge of older neighbourhoods but there is a distinct lack of mature vegetation in newer neighbourhoods.
- + Due to the low density and larger lot sizes sites often have generous gardens (front and rear) with lawns shrubs and tree plantings.
- + Public open space is a feature of this zone with numerous parks, sports grounds, reserves and schools providing relief to the built up residential streets.

## 2.10.3 Synopsis

Generally the character of this zone can be considered suburban and lower density than other zones in the district. Lots are generally on the larger side however building styles and ages are diverse although tend to cluster relating to the period of development. Due to the low

density, gardens with lawns, shrub and tree plantings are a feature of this zone. Schools and sport facilities as well as other open space amenities are also a noticeable features of this zone and provide relief to the built up suburban neighbourhoods.

The zone as a whole does not contain many character elements that set it apart from other residential zones in the district. The key differentiators for the zone are provided below.

Some higher density developments have occurred through dispensations granted for global consents. Developments such as Papawai Drive or the Charles Upham Retirement Village / 67 Brick Kiln Road developments in Rangiora have resulted in intrusive negative character outcomes including greater site coverage, smaller site sizes or less space between building for gardens and landscaping for example.

From a character perspective the sensitivity to change in the Residential 2 Zone is considered moderate as a reduction in lot size to less than 400m<sup>2</sup> for example will reduce opportunities for generous spaces between buildings, gardens and street amenity.

Therefore it is considered that the zone can absorb some well designed intensification especially on larger sites that does not compromise the overall character of the area. It is important to note that the rural fringe where has a higher sensitivity to change within the zone.

## 2.10.4 Residential 2 Zone Comprehensive Residential Development

In general the Comprehensive Residential Developments considered in this assessment have resulted in an overall more intensive outcome when compared to surrounding neighbourhoods. However the significance of the variation in character elements such as site size, building coverage



Zone 2 example: large house Belgrave Drive, Rangiora.



Zone 2 example: state houses Rata Street, Rangiora.

and amenity landscaping is not significant to the extent that they undermine the character of the Zone. Equally these developments although provide more consistency in built form outcomes when compared with surrounding neighbourhoods the positive character benefits of these developments are not significant.

It is important to note that these developments are in isolated pockets within the zone and are a minority. Therefore the effects of comprehensive developments can be considered localised within individual neighbourhoods rather than zone wide.

### Residential 2 Zone Key differentiators:

- + The zone generally consists of lower density residential neighbourhoods when compared to other zones in the district (with the exception of the Residential 3 Zone).
- + Houses are primarily standalone, single storey and located on generous sites.
- + As a consequence of the lower densities space

between buildings is more generous than other zones and in general more space is occupied by gardens including lawns, tree and shrub plantings.

- + A feature of the zone is the presence of additional land uses such as schools, parks and some businesses.

## 2.11 RESIDENTIAL 3 ZONE

### 2.11.1 Description of the zone

The Residential 3 Zone is scattered in small pockets across the district catering for the smaller rural towns and beach settlements such as Waikuku Beach, Tuahiwi and Sefton. The residential areas within the zone generally have a strong rural interface, they are small areas and somewhat isolated from larger settlements. These smaller settlements often have historical connections and have not seen large scale growth or redevelopment for some time.

Beach settlements at Kairaki and Pines Beach have been effected by the Canterbury Earthquakes with a number of houses demolished and some rebuilt. This has had significant effect on the cohesiveness of the character of these areas.



Residential 3 Zone extent: holiday cottages, Reserve Rd, Waikuku Beach.



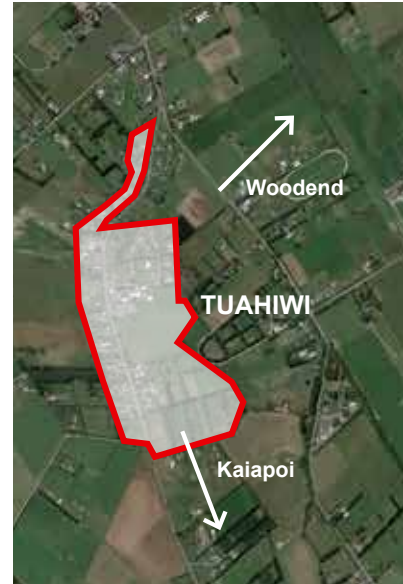
Residential 3 Zone district locations



Residential 3 Zone extent \_ Ashley



Residential 3 Zone extent\_ Pines Beach / Kairaki



Residential 3 Zone extent\_ Tuahiwi



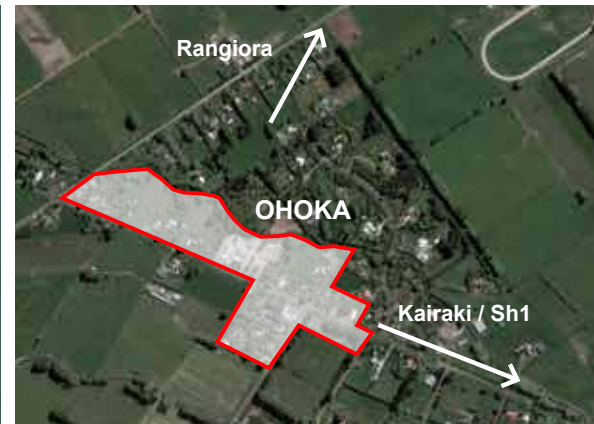
Residential 3 Zone extent\_ Cust



Residential 3 Zone extent\_ Sefton



Residential 3 Zone extent \_ Woodend Beach



Residential 3 Zone extent\_ Ohoka



Residential 3 Zone extent\_ Waikuku Beach

### 2.11.2 Character Elements

*Built form elements:*

- + The streets and blocks are generally arranged in regular orthogonal grids consistent with early settlement patterns or adjacent to main roads.
- + Neighbourhoods consist of a diversity of building form, age and styles but generally do not contain many new houses. Buildings consist of early settlement housing, state housing, 70s and 80s 'new lifestyle' houses, and within the beach settlements a number of 'holiday homes' or conversions thereof exist
- + Land use is generally residential with some rural schools and the odd corner pub or convenience store.
- + Sites are generally greater than 600m<sup>2</sup> with a significant proportion greater than 1000m<sup>2</sup> smaller sites are often attributed to holiday homes in the coastal settlements but these rarely go below 400m<sup>2</sup>.
- + Density is generally lowest of the residential zones with larger sites with modest building footprints. It is noted that the holiday homes in the beach settlements contain and overall greater density than other development in this zone and is similar to the Residential 2 Zone.
- + Houses are generally single storey across the zone.
- + Street setbacks can be consistent within each settlement but are not consistent within the zone.

*Landscape elements:*

- + Topography is generally flat within the zone with little resounding land form features.
- + Some established planting is found in gardens and street verges especially along the older streets

however planting is not consistent.

- + Due to the large lots front gardens can be significant in this zone. These front gardens when along with generous setbacks to houses often result in filtered or fully screened views of houses from the street.
- + Public open space can be a feature of the zone and includes schools, reserves and special features such as the Tuahiwi Marae and Waikuku Beach Camp Ground.
- + The rural interface is a key element of this zone and a significant proportion of houses are located overlooking the rural landscape.

### 2.11.3 Synopsis

The residential character of this zone is similar to that of Residential 2 Zone although generally lower density, a distinct lack of modern homes and in general the areas are more consistent within each settlement than the Residential 2 Zone. The settlements often have historical connections and notable open spaces and overlook the rural landscape. The zone in general can be considered as a collection of settlements with a wide range of character elements that are not consistent across the zone.

The beach settlements have a number of holiday homes that are a feature distinctly different from other residential zones with smaller building footprints and eclectic mix of housing styles, materials and site layouts that contribute to the character of these areas. The sensitivity to change in the Residential 3 Zone is considered moderate as the historical connections and interface with the rural landscape can be vulnerable to built form effects of intensification. However the areas are not expected to experience significant intensification in the short to medium term.

### Residential 3 Zone Key differentiators:

Ashley, Cust and Sefton

- + Small towns with strong physical and visual connection to rural landscape.
- + Historic connections and community facilities such as community halls, schools, pubs and corner stores etc as well as open spaces such as and domains and reserves.
- + Low density development with large gardens and spaces between buildings.
- + Orientated adjacent to main roads.

Pines Beach / Kairaki Beach Settlements

- + Eclectic mix of 'holiday house' styles, materials and site layouts
- + Smaller sites than others in the zone typically between 300m<sup>2</sup> to 500m<sup>2</sup>
- + A number of empty sites as a result of the Canterbury Earthquakes

Woodend Beach & Waikuku Beach Settlements

- + Eclectic mix of 'holiday house' styles, materials and site layouts
- + Smaller sites than others in the zone typically between 300m<sup>2</sup> to 500m<sup>2</sup>

Ohoka

- + Significantly lower density and larger sites than other areas in the zone.
- + Strong connection with surrounding rural landscape and lifestyle properties.

Tuahiwi

- + Historic and cultural connection with Tuahiwi Marae, Tuahiwi School and cemetery.
- + Strong connection with surrounding rural landscape.
- + Orientated adjacent to Tuahiwi Road.



*Residential 3 Zone example: house on Tuahiwi Rd, Tuahiwi.*



*Residential 3 Zone example: modified early cottage, Pembertons Rd, Sefton.*



*Residential 3 Zone example: houses on Canterbury St, Ashley.*



*Residential 3 Zone example: holiday cottages, Kain St, Pines Beach.*



*Residential 3 Zone example: house on Cust Rd, Cust.*

## 2.12 RESIDENTIAL 6 & 6A ZONES

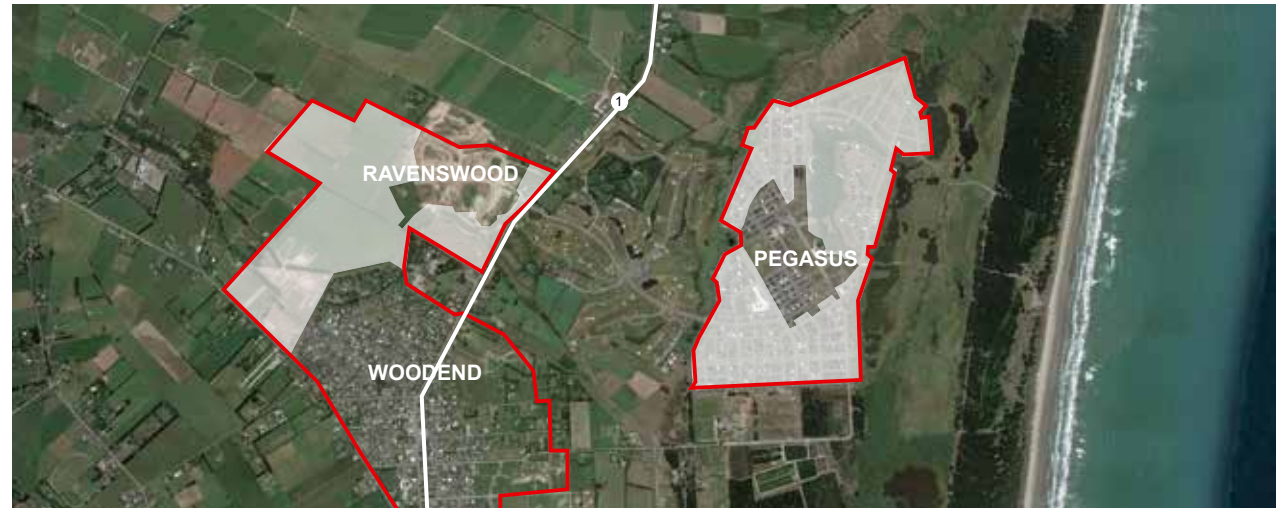
### 2.12.1 Description of the zone

The Residential 6 and 6A Zones are 'location based' zones which were introduced in the Pegasus Plan Change process and now adopted for the Ravenswood Plan Change on the opposite side of SH1.

The Residential 6 zone occupies the majority of housing in both locations forming the lower density suburban neighbourhoods whereas the Residential 6A provides greater density opportunities surrounding small commercial and retail centres.

Together the zones provide a range of lots sizes and have been developed in a comprehensive phased development and have been subjected to a number of global consent applications. Built form is relatively consistent due to the 'single period' of development and the effect of title covenants (design approval processes).

*Note: no development has occurred in Ravenswood and hence this assessment should be considered relevant to Pegasus. It is more than likely that the character of development in Ravenswood although in the same zone will present both similar and different elements to Pegasus.*



Residential 6 Zone extent \_ Pegasus and Ravenswood



Residential 6A Zone extent \_ Pegasus and Ravenswood





*Residential 6 Zone example:: recently built houses Awaroa Road, Pegasus.*



*Residential 6A Zone example:: terraced houses Lakeside Drive, Pegasus.*

## 2.12.2 Character Elements

### *Built form elements:*

- + The street and block layout is consistent with the original master plan and provides a hybrid orthogonal and curvilinear grid form with a diversity of boulevards, streets and lanes.
- + Buildings are of a singular age (since the late 2000's) but consist of a range of styles from fairly typical houses with hip, mono-pitch or flat roof single storey houses in the Residential 6 Zone through to two storey terraced houses in the Residential 6A Zone.
- + Land use in both zones is residential with the addition of the Pegasus Bay School on Solander Road.
- + Sites are generally in the order of 400m<sup>2</sup> - 1000m<sup>2</sup> in the Residential 6 Zone and 140 m<sup>2</sup> - 400m<sup>2</sup> in the Residential 6A Zone.
- + Density is generally higher than the general residential zones in the district (particularly Residential 6A Zone) due to smaller ratio of site size and building footprint.
- + Generally houses in Residential 6 Zone are single storey and in the Residential 6A Zone are either one and two storey houses
- + Street setbacks are consistent along streets and relative to the typology of street.

### *Landscape elements:*

- + The topography of the zone is generally flat although both artificial and natural water bodies provide some variation in the land form.
- + Significant planting has been undertaken in both the street and in some gardens however it will be at least another decade before a mature structure of planting is formed.

- + Front gardens with low or no fencing is a feature of the zone.
- + Public open space in the form of parks reserves and boulevards are a feature of Pegasus.
- + Generous and consistent sized front gardens in the Residential 6 Zone. But minimal in the Residential 6A Zone.

### 2.12.3 Synopsis

Overall the character of the zone can be considered emerging and not fully established.

The built form and landscape elements of development to date can be considered as having high levels of consistency as a consequence the comprehensive approach, global consents and design oversight carried out by the developer.

However Pegasus is a relatively recent development with the first homes constructed in the late 2000's and future character elements both planned and unplanned are likely to emerge over the coming decades.

### 2.12.3 Residential 6 Zone Comprehensive Residential Development

None of the CRD's assessed in this study were located in the Residential 6 Zone. However it is reasonable to assume due to the nature of the emerging character of Pegasus and its overall master planned nature that the effects of CRD will be absorbed within the area with minimal character effects.

### Residential 6 Zone Key differentiators:

- + Overall there is a maturing character that as a whole is currently not consistent or cohesive due to ongoing development (empty sites) and planting not fully established.
- + High levels of consistency and cohesiveness in built form and site layout between sites that have been built on due to the comprehensive development approach, single age of development, global consents and design controls.
- + Consistent setbacks along streets and blocks.
- + Consistently low or no front fencing along street edges
- + Generous and consistent sized front gardens in the Residential 6 Zone. But minimal in the Residential 6A Zone.
- + Diversity of public open spaces from large reserves such as the lake through to neighbourhood pocket parks and boulevards.
- + Limited scope for intensification in short to medium term.



*Residential 6 Zone example: recently built houses 4 Puriri Street, Pegasus.*



*Residential 6A Zone example: recently built houses Mary Ellen Street, Pegasus.*

## 2.13 RESIDENTIAL 7 ZONE

### 2.13.1 Description of the zone

The Residential 7 Zone is 'location based' which was introduced in the Kaiapoi West (Silverstream) Plan Change process. The zone provides for a range of housing within three separate areas A-C and are currently being developed in a comprehensive phased development. Built form is relatively consistent due to the 'single period' of development and the effect of title covenants (design approval processes) and the consistency as a result of global consents issued within the area.



Residential 7 Zone extent \_ Silverstream



*Residential 7 Zone example: new houses on Rahme Crescent, Silverstream.*



*Residential 7 Zone example: new terraced houses overlooking the Kaiapoi River, Silverstream., Silverstream.*

### 2.13.2 Character Elements

*Built form elements:*

- + The street and block layout is consistent with the original master plan and provides a hybrid orthogonal and curvilinear grid form
- + Buildings are of a singular age built within the last 5 years but consist of a range of styles from fairly typical houses with hip roof single storey houses through to three storey terraced houses.
- + However the layout of density with pockets of terraced housing located particularly along the river but within lower density residential neighbourhoods tends to provide abrupt changes in character and overall inconsistency and patchy character outcome.
- + Land use is predominantly residential within the zone although the master plan includes a retail centre.
- + Sites are generally in the order of 150m<sup>2</sup> - 500m<sup>2</sup>.
- + Density is generally higher than the general residential zones in the district due to smaller ratio of site size and building footprint and terraced building types developed.
- + Houses in Residential 7 Zone are generally single storey with the exception of two storey terraced houses fronting onto the Kaiapoi River.
- + Street setbacks are consistent along streets but are varied and fractured across the zone.

*Landscape elements:*

- + The topography of the zone is generally flat or slightly undulating although a natural stream runs through the area which provides some variation in the land form.
- + Significant planting has been undertaken in both the street and in some gardens however it will be at least another

decade before a mature structure of planting is formed.

- + Front gardens with low or no fencing is a feature of the zone.
- + Public open space in the form of parks reserves and boulevards are a feature of Silverstream, significant space has been set aside for storm water management and flood mitigation.

### 2.13.3 Synopsis

Overall the character of the zone can be considered emerging and not fully established.

The built form and landscape elements of development to date can be considered as having high levels of consistency particularly the terraced housing as a consequence the comprehensive approach, global consents and design oversight carried out by the developer.

However Silverstream is a recent development with the first homes constructed in the last 5 years and future character elements both planned and unplanned are likely to emerge over the coming decades.

### Residential 7 Zone Key differentiators:

- + Overall there is a maturing character that as a whole is currently not consistent or cohesive due to ongoing development (empty sites) and planting not fully established.
- + Abrupt changes in character within the zone between higher density terraced houses and lower density standalone houses.
- + Consistent setbacks along streets and blocks.
- + Consistently low or no front fencing along street edges
- + The Kaiapoi River and reserves land along the river banks are a feature of the area.
- + Limited scope for intensification in short to medium term.



*Residential 7 Zone example: new terraced houses on Keating Street, Silverstream.*



*Residential 7 Zone example: new houses on Creland Crescent, Silverstream.*

## 2.14 FOCUS AREA 1 ASSESSMENT : RANGIORA NORTHEAST.

### 2.14.1 Area Overview

Focus Area 1 is located within the operative plan Residential 2 Zone to the northeast of Rangiora Town Centre (Business 2 Zone). The area of study broadly consists of Good Street, Jennings Place, Ashley Street, Prince Street, Duke Street and Edward Street.

This area is one of the oldest in Rangiora and was originally established in relation to the Railway station and yards. The 1940's aerial photograph shows the area was quite well built out during this time.

The area today contains many of the original houses which have under gone minor modifications. Some rear lot infill development has occurred however this is minimal in comparison with other neighbourhoods in the Residential 1 and 2 Zones.

### 2.14.2 Landscape Elements

#### *Topography and Aspect*

The area has no topographically defining features. The area is generally flat with no natural features such as streams or rivers present.

#### *Open Spaces*

The area does not contain any significant open spaces, parks or reserves. Streets are generally open and buildings are setback and do not provide containment of the streetscape. Fencing along the street edge is mixed with some low level picket style fencing allowing views between houses and streets and some larger fencing over 1.8m tall which restrict views.



Aerial Photograph

#### *Green Framework*

Vegetation in this area is sparsely planted, inconsistent and not particularly mature especially when considering the age of the area. There is an absence of street trees that frame or provide structure to the street. Vegetation in gardens is mixed, inconsistent and not maintained in many instances.



Historic Aerial circa 1940's

### 2.14.3 Built Form Elements

#### *Land uses*

The area is predominantly residential. Business and light industrial uses such as storage yards occupy the eastern edge of Edward Street providing an imbalance and inconsistent land use mix.





Street and Block Layout

**Street Block Pattern**

Streets are arranged in a north south orientation with Ashley Street being the primary movement route and Edward and Good as secondary local routes. Lots are set out broadly in an east west orientation aligning with the wider Rangiora town centre street grid. The overall urban structure is legible and coherent.



House on Edward Street



House on Edward Street



Edward Street streetscape

**Density Scale**

The area is generally low density with single house on original lots (minimal rear lot subdivision) houses are consistently single storey and site coverage is low. Buildings front the street and setbacks are relatively consistent.

**Building age style and type**

Buildings are consistent with the original development and include some modification such as re-cladding in 'stucco' or minor extensions. However in general the built form is relatively consistent and representative of the early era of development. The area contains a number of cottages and Californian style bungalows built pre 1940s.

However in general the building stock is somewhat tired and not maintained. Some building maintenance is required on some houses which undermines the amenity of the area.

**2.14.4 Conclusion**

The area contains high consistency in built form and the neighbourhood layout is coherent and legible. Buildings are consistent with early development in Rangiora with a number of original houses remaining intact with minimal rear lot subdivision. However the condition of many buildings is of low quality and maintenance is required in some cases. Landscape features do not contribute to significant character in the area and the lack of mature trees and planting in the streetscape and private gardens is apparent.

The area has potential for important character in the district if buildings were maintained however the lack of strong landscape features including mature planting and the poor condition of many buildings undermines the consistency of the built form.

In conclusion this area does not contain sufficient elements to suggest the area has special character.

## 2.15 FOCUS AREA 2 ASSESSMENT : RANGIORA WEST.

### 2.15.1 Area Overview

Focus area 2 is located within the operative plan Residential 1 Zone to the west of Rangiora town centre (Business 2 Zone). The area of study broadly consists of King Street, Ayers Street, White Street, Seddon Street, Blackett Street and High Street.

This area consists of some of the older neighbourhoods in Rangiora and was originally established as the town centre High Street developed. The 1940's aerial photograph shows the area was quite well built out along High Street but also formed town's western urban edge during this time.

The area today contains some of the original houses but also contains various rear lot developments and site intensification redevelopments.

### 2.15.2 Landscape Elements

#### *Topography and Aspect*

The area has no topographically defining features. The area is generally flat with no natural features such as streams or rivers present.

#### *Open Spaces*

The area does not contain any major open spaces, parks or reserves. The Rangiora Tennis Club located mid-block at the northern end of Church Street. Streets are generally open (with the exception of Ayers Street where trees enclose the street as discussed below) and buildings are setback and do not provide containment of the streetscape. Fencing along the street edge is mixed with some low level picket style



*Aerial Photograph*

fencing, concrete or brick walls or no fencing at all allowing views between houses and streets and some larger fencing and hedging over 1.8m tall which restrict views.

#### *Green Framework*

Vegetation in this area is inconsistent however street tree planting on Ayers Street frame the street and provide enclosure and is a notable feature of the area. However



*Historic Aerial circa 1940's*

this feature is not apparent in other streets. Planting in this area is relatively mature both within the streets and gardens. Vegetation in gardens is mixed and inconsistent with predominantly exotic species.



Street and Block Layout

### 2.15.3 Built Form Elements

#### Land uses

The area is predominantly residential but interfaces with retail businesses in the town centre.

#### Street Block Pattern

Streets are arranged in a north south orientation with King



House on Ayer Street



Units on White Street



Ayer Street streetscape

Street being the primary movement route and Ayers Street and White Street as secondary local routes. Lots are set out broadly in an east west orientation aligning with the wider Rangiora town centre street grid. The overall urban structure is legible and coherent.

#### Density Scale

The area is generally low density with a mixture of single standalone houses some rear lot infill development and some multi-unit redevelopment has occurred over time. Houses are generally single storey with the exception of a few two storey houses. Site coverage is generally low with the exception of some in fill and multi-unit development where site coverage is significantly greater. Buildings front the street and setbacks are relatively consistent.

#### Building age style and type

Buildings age style and type are inconsistent across the area. The area contains a number of cottages and Californian style bungalows built pre 1940s. But more generally provides a range of house types and ages including state houses, duplexes, sausage flats and units.

### 2.15.4 Conclusion

The area contains low consistency in built form with a wide range of housing types styles and ages. The neighbourhood layout is coherent and legible with a clear street hierarchy. The street tree planting on Ayers Street is a notable feature of the area however this feature is not continued into other streets.

The area is too fractured in terms of the built form and landscape to be considered as having potential important consistent character in the district.

In conclusion this area does not contain sufficient elements to suggest the area has special character.

## 2.16 FOCUS AREA 3 ASSESSMENT: RANGIORA SOUTH.

### 2.16.1 Area Overview

Focus area 3 is located within the operative plan Residential 1 Zone to the south of Rangiora town centre (Business 2 Zone). The area of study broadly consists of King Street, Percival Street, Queen Street, Murray Street, Scott Street, Victoria Street and Buckham Street.

This area consists of some of the older neighbourhoods in Rangiora and was originally established as the town grew to the south. The 1940's aerial photograph shows the area was quite well built out particularly along Queen Street but development occurred at later further south.

The area today contains some of the original houses but also contains various rear lot developments and site intensification redevelopments.

### 2.16.2 Landscape Elements

#### *Topography and Aspect*

The area has no topographically defining features. The area is generally flat with no natural features such as streams or rivers present.

#### *Open Spaces*

The area borders Victoria Park Rangiora's premier centrally located public park which offers significant mature tree planting of historical importance, gardens and a playground. Also of note in the area is the open space including sports fields associated with St Joseph's School and Rangiora Catholic Church. Streets are generally open (with the exception of Queen Street where trees enclose



*Aerial Photograph*

the street as discussed below) and buildings are setback and do not provide containment of the streetscape. Fencing along the street edge is mixed with some low level picket style fencing, concrete or brick walls or no fencing at all allowing views between houses and streets and some larger fencing and hedging over 1.8m tall which restrict views. In some instances garages have been retrospectively located between the house and street obstructing views.



*Historic Aerial circa 1940's*

#### *Green Framework*

Vegetation in this area is inconsistent however street tree planting on Queen Street frame the street and provide enclosure and is a notable feature of the area. However this feature is not apparent in other streets. Planting in this area is relatively mature both within the streets and gardens. Vegetation in gardens is mixed and inconsistent with predominantly exotic species.



Street and Block Layout

### 2.16.3 Built Form Elements

#### Land uses

The area is predominantly residential but includes St Joseph's School and Rangiora Catholic Church.

#### Street Block Pattern

Streets are arranged in a north south orientation with King Street, Percival Street and Victoria Street being the primary



Units on Percival Street



House on King Street



Queen Street streetscape

movement routes and Ayers Street and Queen Street and Murray Street as secondary local routes. Lots are set out broadly in an east west orientation aligning with the wider Rangiora town centre street grid. The overall urban structure is legible and coherent.

#### Density Scale

The area is generally low to medium density although it does contain some of the highest density developments surrounding the Rangiora Town Centre. The area contains a mixture of single standalone houses some rear lot infill development and some multi-unit redevelopment which has occurred over time. Houses are a mixture of single and two storey buildings. Site coverage is mixed with low coverage on original standalone houses and much higher with infill and multi-unit development. Buildings front the street and setbacks are relatively consistent along streets.

#### Building age style and type

Buildings age, style and type are inconsistent across the area. The area contains a number of Californian style bungalows built pre 1940s, state houses, duplexes, sausage flats, units and more modern medium density houses.

### 2.16.4 Conclusion

The area contains low consistency in built form with a wide range of housing types styles and ages. The neighbourhood layout is coherent and legible with a clear street hierarchy. The street tree planting on Queen Street and Victoria Park are notable features of the area.

The area is too fractured in terms of the built form and landscape to be considered as having potential important character in the district.

In conclusion this area does not contain sufficient elements to suggest the area has consistent special character.

## 2.17 FOCUS AREA 4 ASSESSMENT: KAIAPOI WEST.

### 2.17.1 Area Overview

Focus area 4 is located within the operative plan Residential 1&2 Zone to the west of Kaiapoi town centre (Business 2 Zone). The area of study broadly consists of Otaki Street, Broom Street, Akaroa Street, Ohoka Road, Hugh Street and Peraki Street.

This area consists of some older neighbourhoods in Kaiapoi which were originally established as the town grew to the west. The 1940's aerial photograph shows the area had been approximately 50% developed.

The area today contains many of the original houses which have under gone minor modifications. Some rear lot infill development has occurred however this is minimal in comparison with other neighbourhoods in the Residential 1 and 2 Zones.

### 2.17.2 Landscape Elements

#### *Topography and Aspect*

The area has no topographically defining features. The area is generally flat with no natural features such as streams or rivers present.

#### *Open Spaces*

The area does not contain any major open spaces, parks or reserves. Of note is the large lot and open spaces associated with the Kaiapoi Distillery located mid-block on Akaroa Street. Streets are generally open and buildings are setback and do not provide containment of the



*Aerial Photograph*

streetscape. Fencing along the street edge is mixed with some low level picket style fencing, concrete or brick walls or no fencing at all allowing views between houses and streets and some larger fencing and hedging over 1.8m tall which restrict views.



*Historic Aerial circa 1940's*

#### *Green Framework*

Vegetation in this area is sparsely planted, inconsistent and not particularly mature especially when considering the age of the area. There is an absence of street trees that frame or provide structure to the street. Vegetation in gardens is mixed, inconsistent and not maintained in many instances.



Street and Block Layout

### 2.17.3 Built Form Elements

#### Land uses

The area is predominantly residential.

#### Street Block Pattern

Streets are arranged in a southwest northeast orientation with Ohoka Road, Otaki Street, Akaroa Street and Peraki



House on Broom Street



House on Broom Street



Broom Street streetscape

Street being the primary movement routes and Broom Street and Hugh Street are secondary local routes. Lots are set out broadly in an east west orientation aligning with the wider Kaiapoi town centre street grid. The overall urban structure is legible and coherent.

#### Density Scale

The area is generally low density with single house on original lots (minimal rear lot subdivision) houses are consistently single storey and site coverage is low. Buildings front the street and setbacks are relatively consistent.

#### Building age style and type

Buildings age style and type are inconsistent across the area. The area contains a number of cottages and Californian style bungalows built pre 1940s. But more generally provides a range of house types and ages including state houses, duplexes, flats and units.

In general the building stock is somewhat dated and inconsistently maintained. Some building maintenance is required on some houses which undermines the amenity of the area.

### 2.17.4 Conclusion

Although containing a number of original cottages the area contains low consistency in built form with a wide range of housing types styles and ages. The neighbourhood layout is coherent and legible with a clear street hierarchy.

The area is too fractured in terms of the built form and landscape to be considered as having potential important character in the district.

In conclusion this area does not contain sufficient elements to suggest the area has consistent special character.

## 2.18 FOCUS AREA 5 ASSESSMENT: KAIAPOI SOUTH.

### 2.18.1 Area Overview

Focus area 5 is located within the operative plan Residential 2 Zone to the south of Kaiapoi town centre (Business 2 Zone). The area of study broadly consists of Williams Street, Vickery Street and Willock Street.

This area consists of some older neighbourhoods in Kaiapoi which were originally established as the town grew to the south. The 1940's aerial photograph shows the northern half of the area had been developed.

The area today contains a mixture of original houses which have under gone minor modifications, some rear lot infill development and some redevelopment.

### 2.18.2 Landscape Elements

#### *Topography and Aspect*

The area has no topographically defining features. The area is generally flat with no natural features such as streams or rivers present.

#### *Open Spaces*

The area does not contain any major open spaces, parks or reserves. Streets are generally open and buildings are setback and do not provide containment of the streetscape. Fencing along the street edge is mixed but generally high fencing of 1.8m greater is common which restrict views to and from houses.



*Aerial Photograph*



*Historic Aerial circa 1940's*

#### *Green Framework*

Vegetation in this area is sparsely planted, inconsistent and not particularly mature especially when considering the age of the area. There is an absence of street trees that frame or provide structure to the street. Vegetation in gardens is mixed, inconsistent and not maintained in many instances.





Street and Block Layout

### 2.18.3 Built Form Elements

#### Land uses

The area is predominantly residential with some commercial uses on the north-western end of the area.



House on Williams Street



House on Williams Street



House on Williams Street

#### Street Block Pattern

Streets are arranged in a north south orientation with Williams Street being the primary movement route into Kaiapoi town centre and Vickery Street which breaks the north south grid with a diagonal alignment and Willock Street are secondary local routes. Lots are set out broadly in an east west orientation aligning with the wider Kaiapoi town centre street grid. The overall urban structure is legible and coherent.

#### Density Scale

The area is generally low density with single house on original lots and some rear lot subdivision. Houses are either one or two storey and site coverage is low. Buildings front the street and setbacks are relatively consistent.

#### Building age style and type

Buildings age style and type are inconsistent across the area. The area contains some Californian style bungalows built pre 1940s but more generally provides a range of house types and ages including state houses, duplexes, flats and units.

### 2.18.4 Conclusion

Although containing a number of original houses the area contains low consistency in built form with a wide range of housing types styles and ages. The neighbourhood layout is coherent and legible with a clear street hierarchy. Planting in gardens and within the streetscape is inconsistent, not mature and varied across the area.

The area is too fractured in terms of the built form and landscape to be considered as having potential important and consistent character in the district.

## 2.19 FOCUS AREA 6 ASSESSMENT: KAIAPOI NORTH1

### 2.9.1 Area Overview

Focus area 6 is located within the operative plan Residential 2 Zone to the North of Kaiapoi town centre (Business 2 Zone). The area of study broadly consists of Magnolia Boulevard, Chester Street, Fergus Street, Yellowlees Drive, and Allison Crescent.

This area contains a relatively new subdivision north of Kaiapoi town centre comprehensively developed in the early 2000's. Built form and landscape outcomes are very consistent throughout the area which is expected from a recently completed comprehensive development. However the area is yet to 'mature' and the character can be considered as emerging. This is most evident in the immature street tree planting which will in time (if they are well looked after and not removed) contribute positively to the area.

### 2.19.2 Landscape Elements

#### *Topography and Aspect*

The area has no topographically defining features. The area is generally flat with no natural features such as streams or rivers present.

#### *Open Spaces*

The area does not contain any major open spaces, parks or reserves. Streets are generally open with a lack of mature street trees and buildings are setback and do not provide containment of the streetscape. Fencing or planting along the street edge is generally low or non-existent (it is assumed this is an outcome sought in



*Aerial Photograph*

the subdivision or sale and purchase/ title covenants) which results in an engaging environment allowing views between houses and streets.

#### *Green Framework*

Vegetation within the streets in this area has been comprehensively planned and will provide structure at maturity. Planting within gardens is relatively consistent



*Historic Aerial circa early 2000's.*

and complementary between sites. Front gardens are especially consistent with most sites containing both lawns and plantings which are kept low and are well managed.

### 2.19.3 Built Form Elements

#### *Land uses*

The area is exclusively residential.



Street and Block Layout

**Street Block Pattern**

Streets are arranged in an irregular grid in a north south orientation. Subtle bends and curves in the street layout have been introduced but which do not detract from the areas coherent and legible layout. Magnolia Boulevard, Yellowlees Drive and Fergus Street are the primary movement streets with Chester Street and Alison Street



House on Chester Street



House on Chester Street



Magnolia Blvd streetscape

providing local routes.

**Density Scale**

The area is generally low density with consistent standalone buildings. Houses are single storey with the odd two storey however site coverage is relatively large for both single and two storey houses. Buildings front the street and setbacks are relatively consistent.

**Building age style and type**

Building age and style are very consistent as you would expect with a comprehensively developed subdivision. Materials used vary in colour and texture and built elements such as entry doors and windows provide enough visual interest.

**2.19.4 Conclusion**

The area contains very high levels of built form consistency and coherence however the landscape elements especially planting (although consistently planned) have not reached maturity.

In conclusion this area is a relatively new development and does not currently contain special character.

However it is reasonable to assume it could be considered in the future to containing character of high value in the district particularly when planting matures in both gardens and streets or when buildings age such that redevelopment or significant alterations to buildings are evident (that could effect the built form character of the area).

## REVIEW

### 2.20 GENERAL DISCUSSION ON CHARACTER IN WAIMAKARIRI

The following is an overview of the conclusions reached in both the zone based and focused site based residential character assessments.

#### *Zone residential character assessment conclusions:*

- + In general there are some similarities in residential character across the Residential Zones in the Waimakariri District.
- + The district consists in most part of standalone one and two storey houses on varying site sizes, ages and styles of buildings for example. In the Residential 1,6A and 7 Zones more compact forms are present such as flats, units and terraces however these are not currently dominant forms.
- + Each zone does have a number of character elements which are considered as key differentiators and contribute to subtle variations in character across the district.
- + From a residential character perspective the key difference between zones are the built form outcomes relating to density, site size, separation of buildings, setbacks and gardens sizes.
- + CRD in the Residential 2 Zone has created more intensive built form outcomes however these are not significant and do not undermine the character of the zone.
- + Some global consents in the Residential 2 Zone in Rangiora have resulted in intrusive negative character outcomes including greater site coverage, smaller site sizes or less space between building for gardens and

landscaping for example.

- + The Residential 3 Zone has the greatest diversity of character and building types in the district. The character of the inland rural towns of Sefton, Cust and Ashley are different from the coastal settlements or Waikuku Beach, Woodend Beach, Pines Beach and Kairaki with their holiday homes, smaller sites and eclectic built form. However it is not recommended that this variance in character be the basis to split the zone as these settlements do not contain cohesive special character that is particularly sensitive to change.
- + The key differentiators as described in the synopsis sections for each zone in this document should be taken in to account in the district plan review process if it considered important to maintain the difference in character between the residential zones. However it is important that residential character should be considered in combination with other complementary urban design and amenity recommendations as discussed in sections 3 and 4 of this document.

#### *Focus area residential character assessment conclusions:*

- + None of the areas assessed exhibited special character and therefore they do not warrant specific provision in the District Plan.
- + Areas 2 and 3 surrounding Rangiora commercial centre have seen numerous phases of intensification including infill, rear lot subdivision and redevelopment leading to diverse and in coherent built form.
- + Areas 4 and 5 within older neighbourhoods of Kaiapoi have some character potential. However some infill development has occurred disrupting the coherence

of the built form and in general buildings are in need of maintenance and vegetation is inconsistent and not coherent. These factors when combined erode the character of these areas.

- + Areas 1 and 6 have the potential for important character in the district. Area 1 northeast of Rangiora has a high consistency in built form however the lack of mature and consistent vegetation and the need for building maintenance undermines the consistency of the built form. Area 6 north of Kaiapoi Town Centre contains high levels of built form consistency and coherence however the landscape elements especially planting have not reached maturity.
- + It is therefore recommended that the assessment of these areas (as well as other recently built areas in the district including those in the Residential 6,6A and 7 Zones.) be revisited in the next district plan review when the built form and especially the landscape elements of these areas have matured.

## 2.21 CHARACTER AREA RECOMMENDATIONS

- + This study has found that the focus areas studied do not contain areas that exhibit special character that is memorable or which warrants specific consideration in the district plan.
- + Some areas such as north Kaiapoi could be considering subsequent district plan reviews when vegetation has matured and has the potential to complement the consistency of the site and built form character elements.
- + It is therefore recommended that no specific residential character areas are currently required in the Waimakariri District.



*Mid 2000's house, north Kaiapoi.*

## 3.0 OPERATIVE PLAN REVIEW

### 3.1 INTRODUCTION

The following sections of this document are a review of the residential rules within the Operative District Plan focusing on urban design outcomes. This review covers the Residential Zones: 1,2,3,6,6A and 7 with the purpose to provide an independent examination of the rules against best practise urban design.

The review is focused on built outcomes within the district and is focused on urban design issues and principles. The review does not provide planning advice or advice on how to implement any recommendations as this is out of scope of the report.

It is understood that Waimakariri District Council is seeking to investigate the implications of allowing more intensive development within existing town centres in the district. Therefore to support the review of residential zones in the operative plan a comparison is provided in this report with the Christchurch District Plan Residential Medium Density (RMD) Zone. The RMD Zone was recently developed in Christchurch to encourage more intensive high quality built form outcomes surrounding key activity centres and reduce the risk of poor outcomes associated with more intensive development in lower density suburbs.

### 3.2 FRAMEWORK FOR REVIEW

The approach to this review is based on an examination of the existing suite of rules and relevant built outcomes in relation to best practise.

This review identifies where existing rules are appropriate and lead to good outcomes and where improvement is needed.

In addition the review provides recommendations for consideration of additional rules in relation to more intensive built environments.

It is important to recognise that the suite of built form rules work as a complete package, it is the combined sum of outcomes of the rules that lead to appropriate outcomes rather than standalone specific rules.

However for clarity and convenience this review breaks down the operative plan suite of rules into three categories based on their close relationships. These categorise are:

- + Site rules: that relate to the size and set-out of the site and the balance between different spatial requirements on site and effects relating to density.
- + Bulk and location rules: that relate to building locations, size and scale and the effects of built form on neighbours and the street.
- + Street interface rules: that focus on the relationship between the house and site design and amenity and social effects on the street.

Discussion and recommendations are written in this document based on the assumption that other rules that are integral to good outcomes are also considered.

### 3.3 SITE RULES

#### 3.3.1 Minimum Site Size

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	300M <sup>2</sup>	600M <sup>2</sup>	600M <sup>2</sup>	400M <sup>2</sup>	137.5M <sup>2</sup> (MAX 412.5M <sup>2</sup> )	AREA A 150M <sup>2</sup> AREA B 300M <sup>2</sup> AREA C 500M <sup>2</sup>	200M <sup>2</sup>
Comment	At 300m <sup>2</sup> the site sizes relate to a medium / low density suburban scale,  There is no maximum site size which would in this location ensure more intensive outcomes.	At 600m <sup>2</sup> the site sizes relate to a low density suburban scale.	At 600m <sup>2</sup> the site sizes relate to a low density suburban scale.	At 400m <sup>2</sup> the site sizes relate to a low density suburban scale.	The site size range in this zone relate to medium / high density urban scale.  Sites at 137.5m <sup>2</sup> can lead to higher densities than anticipated, however as the area is being developed comprehensively the risk of poor outcomes can be minimised. (there are not enough units at this scale developed yet to review outcomes)	The site size range in this zone relates to a mix of low 500m <sup>2</sup> medium 200-350m <sup>2</sup> and higher 150m <sup>2</sup> density scales.  Sites at 137.5m <sup>2</sup> can lead to higher densities than anticipated, however as the area is being developed comprehensively the risk of poor outcomes can be minimised. (there are not enough units at this scale developed yet to review outcomes)	This is in accordance with medium density range of 200-350m <sup>2</sup> (refer to section 4.3.3 of this report for further discussion)

Table : site size



### 3.3.2 Discussion and Recommendations

The operative plan provides a range of site sizes and densities across the district. The distribution amongst the general zones 1, 2 and 3 make sense in board terms with the smaller site sizes and potential greater densities located in the Residential 1 zone adjacent to Rangiora and Kaiapoi town centres.

However the geographic distribution of current Residential 1 Zone is limited to relatively small areas and therefore it can be concluded that the potential for subdivision of lots to sizes that will enable 'small site' intensification is limited within this zone. Furthermore the minimum lot size of 300m<sup>2</sup> in the Residential 1 Zone does not enable higher density development such as that allowed in the Christchurch RMD zone which has a minimum site size of 200m<sup>2</sup> (see discussion on medium density development in section 4.3.3).

It is recommended that consideration should be given to providing more intensive smaller site size allowance within the district plan especially within the Residential 1 Zone and close proximity to town centres. However this should be considered in light of other built form controls such as setbacks, recession planes and building heights for example to develop a suite of rules. Consideration should also be given to how this would relate to the Comprehensive Residential Development allowances and incentives.

Residential 6, 6A and 7 Zones provide a range of site sizes but are confined to specific areas approved within the plan change processes and are less relevant in a global context (it is assumed that these zones will remain specific to these areas).

In the Residential 7 Zone the distribution of site size densities is less obvious (as shown in the ODP map opposite). As this area is being delivered as a comprehensive development there is little issue. However

if there were a desire to repeat the site sizes elsewhere (particularly those in Area A) in the district care will be need to minimise effects on neighbouring properties especially between density boundaries.



Example : Silverstream ODP Areas.

3.3.3 Frontage Dimension

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	15M	15M	15M	13M	NONE EXCEPT FOR CORNER SITES WHICH REQUIRE FRONTAGE WIDTH LESS THAN SITE DEPTH.	15M	NONE
Comment	<p>At 15m frontages are comfortable and the management (balance) of pedestrian and vehicle access and front garden amenity is achievable.</p> <p>This width also allows on street parking and street amenity provisions.</p> <p>However it is restrictive for 300m<sup>2</sup> lots (requires depth of 20m)</p>	<p>At 15m frontages are comfortable and the management (balance) of pedestrian and vehicle access and front garden amenity is achievable.</p> <p>This width also allows on street parking and street amenity provisions.</p>	<p>At 15m frontages are comfortable and the management (balance) of pedestrian and vehicle access and front garden amenity is achievable.</p> <p>This width also allows on street parking and street amenity provisions.</p>	<p>At 13m frontages are comfortable and the management (balance) of pedestrian and vehicle access and front garden amenity is achievable.</p> <p>This width also allows on street parking and street amenity provisions.</p>	<p>The rule for corner sites provides good flexibility for larger sites but can lead to poor outcomes for smaller site sizes such as the 137.5<sup>2</sup> which would result in restrictive square sites.</p> <p>(there are not enough units at this scale developed yet to review outcomes)</p>	<p>At 15m frontages can lead to poor outcomes for smaller site sizes especially for Area A which would result in lots that are 15m wide x 10m deep.</p> <p>(there are not enough units at this scale developed yet to review outcomes)</p>	<p>Allows full range and provides good flexibility. When coupled with 200m<sup>2</sup> minimum site sizes good outcomes can be achieved.</p>

Table : frontage dimension

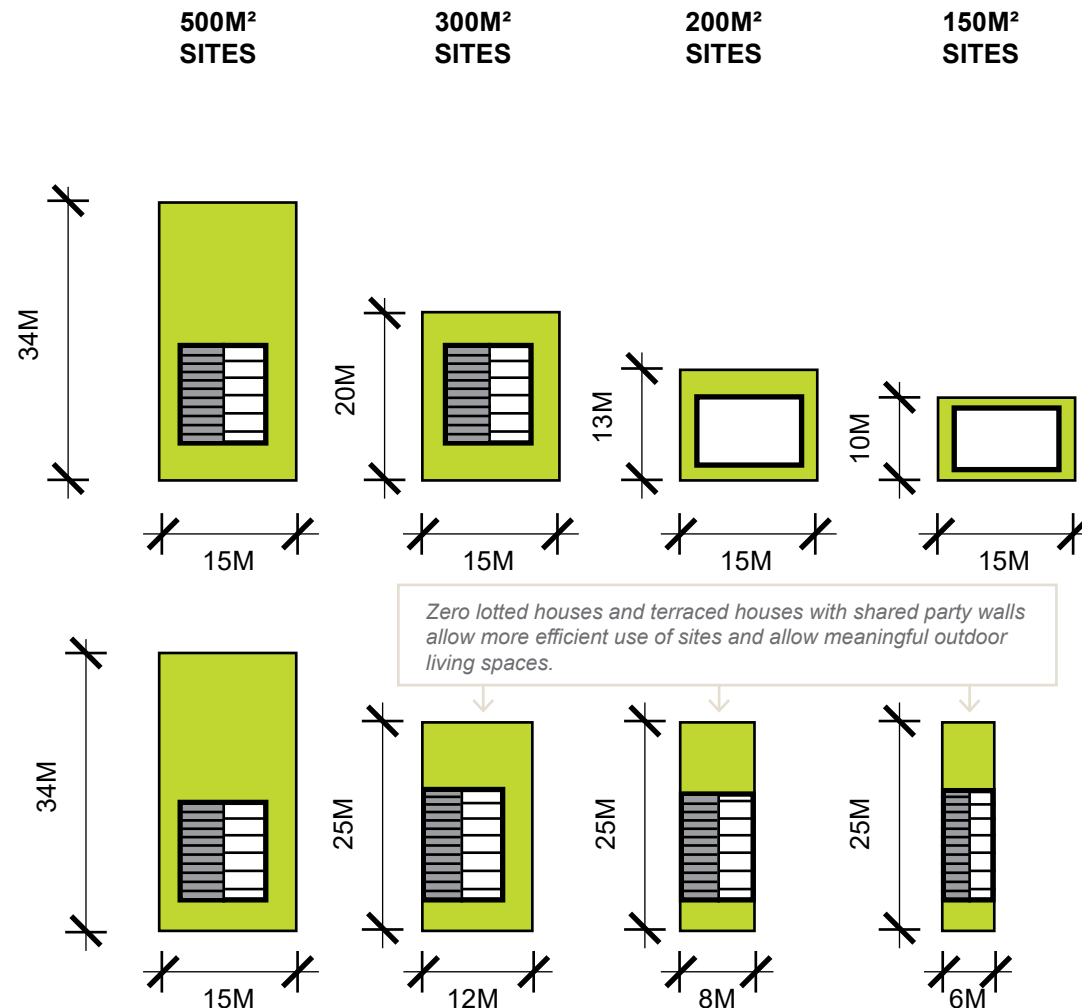
### 3.3.4 Discussion and Recommendations

The operative plan provides consistency across most of the residential zones with a minimum frontage of 15m. This provides simplicity of the provisions and clarity of the plan for developers and land owners. At a width of 15m issues rarely exist relating to the balancing of space between vehicle driveways, pedestrian paths, front gardens and visibility to and from houses.

This approach is appropriate for larger sites and hence the majority of sites in the district including sites in Residential 2 and 3 Zones. However for sites less than 400m<sup>2</sup> the minimum frontage rule can become a hindrance to achieving good quality outcomes or the flexibility required to enable diversity in housing types.

The diagrams opposite illustrate how on the top row a 15m wide frontage starts to overly burden the site layout as sites become smaller and how varied site frontages in the bottom row can help to enable more intensive house typologies.

It is recommended that minimum site frontages should be maintained for lots larger than 350-400m<sup>2</sup> but sites smaller than this should have a sliding scale or no requirement. However consideration of site frontages for smaller sites should be considered in light of other built form controls such as minimum outdoor living spaces, location and proportion of garaging in street facing façades, visibility of front doors and habitable rooms from the street, setbacks, recession planes and building heights for example to develop a suite of rules that work together.



Comparison of sites constrained by 15m frontage and those that are not.

3.3.5 Outdoor Living Space

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
<i>Rule</i>	<b>NO REQUIREMENT FOR ZONE BUT CRD 4M X 4M</b>	<b>NO REQUIREMENT FOR ZONE BUT CRD 4M X 4M</b>	<b>NOREQUIREMENT</b>	<b>NOREQUIREMENT</b>	<b>MIN 30M<sup>2</sup> WITH MIN DIMENSION OF 4M</b>	<b>MIN 30M<sup>2</sup> WITH MIN DIMENSION OF 4M</b>	<b>TOTAL MIN AREA OF 30M<sup>2</sup> WITH MIN MAIN OUTDOOR SPACE OF 16M<sup>2</sup> DIMENSION OF 4M</b>
<i>Comment</i>	Rear lot subdivision often puts pressure on outdoor living space hence some control should be considered with a minimum dimension width.  For CRD the 4mx4m is a tight minimum and could be more generous depending on lot size.	At 600m <sup>2</sup> minimum site sizes this is not concern as plenty of space for outdoor living  However for CRD the 4mx4m is a tight minimum and could be more generous depending on lot size.	At 600m <sup>2</sup> minimum site sizes this is not concern as plenty of space for outdoor living	At 400m <sup>2</sup> minimum site sizes this starts to become an issue especially with large houses and site coverage hence some control should be considered with a minimum dimension width.	Rule does not really promote a consolidation of outdoor living space although the minimum dimension of 4m helps.  30m <sup>2</sup> total area is appropriate for smaller sites in this zone but not generous for the larger sites.	Rule does not really promote a consolidation of outdoor living space although the minimum dimension of 4m helps.  30m <sup>2</sup> total area is appropriate for smaller sites in this zone but not generous for the larger sites.	Rule is not ideal and can lead to minimal outdoor living space and the majority of 30m <sup>2</sup> is provided for in side gardens. 16m <sup>2</sup> (same as 4mx4m) for main living space is a tight minimum and could be more generous.

Table : outdoor living space

### 3.3.6 Discussion and Recommendations

The operative plan provides minimum outdoor living controls for zones that allow smaller site sizes including Residential 1, 6A and 7 but does not provide controls for larger sites which is appropriate. However the minimum standards are not generous in general and target minimums on small sites. Larger sites contain the same minimum standards which could be more generous and proportionate to the size of the site.

It is recommended that stronger rules should be investigated to ensure minimum dimensions for sites less than 400m<sup>2</sup> and further analysis should be given to a sliding scale of outdoor living space proportionate to site size similar to the table below.

SITE SIZE	MINIMUM OUTDOOR SPACE	MIN MAIN OUTDOOR SPACE DIMENSION
200-300M <sup>2</sup>	40M <sup>2</sup>	5M
300-400M <sup>2</sup>	60M <sup>2</sup>	6M
400M <sup>2</sup> +	100M <sup>2</sup>	8M

Table : Indicative sliding scale for min outdoor living space.



Example : Minimal outdoor living space in development in Pegasus

3.3.7 Refuse bin storage and screening

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	2.25M <sup>2</sup> PER UNIT AND SHALL BE SCREENED.
Comment	The screening of storage and waste areas is not generally not an issue at this density	The screening of storage and waste areas is not generally not an issue at this density	The screening of storage and waste areas is not generally not an issue at this density	The screening of storage and waste areas is not generally not an issue at this density	Consideration should be provided for the screening of rubbish bins and storage areas on smaller sites where space is a premium and often front gardens provide shared amenity	Consideration should be provided for the screening of rubbish bins and storage areas on smaller sites where space is a premium and often front gardens provide shared amenity	This is a good control and helps to manage shared amenity in front gardens.

Table : Refuse bin storage and screening

### 3.3.8 Discussion and Recommendations

Refuse bin storage and screening is not currently a requirement in the operative plan except for comprehensive residential developments. However as more medium density development and intensification occurs issues relating to the untidiness and lack of shared amenity across front gardens will become more of an issue.

It is recommended that if Council decides to encourage intensification and medium density development consideration should be given to the screening and storage of refuse bins and other utilitarian activities that might undermine the streets shared amenity.



*Example : Discrete refuse storage along shared lane between houses, Sydney.*

3.3.9 Minimum Landscape (Planting) Requirements

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	<b>MIN 20% OF SITE AREA SHALL BE PLANTED SPECIFIC CONTROLS FOR TREE PLANTING</b>
Comment	The lack of planting is not an issue at this density as planting and soft landscaping is more likely.	The lack of planting is not an issue at this density as planting and soft landscaping is more likely.	The lack of planting is not an issue at this density as planting and soft landscaping is more likely.	The lack of planting is not an issue at this density as planting and soft landscaping is more likely.	The lack of planting is not an issue for the larger sites as planting and soft landscaping is more likely. However for smaller sites minimum planting including trees should be considered.	The lack of planting is not an issue for the larger sites as planting and soft landscaping is more likely. However for smaller sites minimum planting including trees should be considered.	Good control to ensure planting on sites providing amenity, biodiversity and reduces surface stormwater run-off.

Table : Minimum landscape requirements



### 3.3.10 Discussion and Recommendations

Minimum landscaping including tree and shrub planting is not currently a requirement in operative plan. This is generally not an issue for Residential zones 1, 2 3 and 6. However in some cases such as the example opposite in Kaiapoi development has included significant hard surfacing at the expense of garden plantings trees and lawns. These types of developments can lead to poor environmental out-comes, lack of biodiversity and contribute to increased storm water runoff due to large impervious surfacing.

It is recommended that for more intensive development controls should be considered to require minimum standards of landscape planting including trees.



*Example : Minimal on site landscaping and significant hard surfacing in new development in Kaiapoi*

### 3.4 BULK AND LOCATION RULES

#### 3.4.1 Building Coverage

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	<b>50% OR 60% FOR COMPREHENSIVE DEVELOPMENT.</b>	<b>35% OR 50% FOR COMPREHENSIVE DEVELOPMENT.</b>	<b>35%</b>	<b>35%</b>	<b>35% OR 40% FOR RAVENSWOOD</b>	<b>AREA A 60% AREA B 50% AREA C 40%</b>	<b>50%</b>
Comment	Moderate to high building coverage and care required to balance landscape amenity and built form.  CRD building coverage starting to get quite high and care is required to achieve efficiency of outdoor living space and landscaping.	Low building coverage with good balance of landscape amenity and built form.  CRD building coverage moderate to high building coverage and care required to balance landscape amenity and built form.	Low building coverage with good balance of landscape amenity and built form.	Low building coverage with good balance of landscape amenity and built form.	Low building coverage with good balance of landscape amenity and built form.	Low building coverage for area C with good balance of landscape amenity and built form.  However building coverage for areas A and B are moderate to high building coverage and care required to balance landscape amenity and built form.	Moderate to high building coverage and care required to balance landscape amenity and built form.

Table : Building Coverage

### 3.4.2 Discussion and Recommendations

The operative plan provides a range of building coverage ratios across the residential zones. These are generally related to density for example the lower density zones 1,2,3 and 6 enable less building coverage and the higher density zones 6A and 7 enable greater building coverage which is an expected approach.

Lower density zones are appropriate and issues such as the balancing of amenity, outdoor living space, house footprint, vehicle access and setbacks can be all adequately managed. It is noted that the 50% site coverage allowable for CRD or dispensations through global consents can lead to isolated pockets within residential neighbourhoods especially within the Residential 2 Zone of greater building coverage and abrupt change in density. This issue when not dealt with in a sensitive manner can lead to poor outcomes such as the example opposite.

For higher density zones care and consideration to the wider suite of controls is necessary to balance on site amenity, outdoor living space, house footprint, vehicle access and setbacks.

It is recommended that when providing building coverages for more intensive development of 50% or over strong provisions should be considered to require on site landscaping including tree and shrub planting and minimum outdoor living spaces.



*Example : Moderate to high building coverage in Residential 2 Zone, Papawai Drive, Rangiora as a result of dispensations agreed in global consent process resulting in minimal outdoor living space and on site landscaping due to large building footprints.*

3.4.3 Setbacks

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	MIN 2M FOR HOUSE AND 6M FOR ANY GARAGE (4M AT RIGHT ANGLES) TO THE STREET	MIN 2M FOR HOUSE AND 6M FOR ANY GARAGE (4M AT RIGHT ANGLES) TO THE STREET	MIN 2M FOR HOUSE AND 6M FOR ANY GARAGE (4M AT RIGHT ANGLES) TO THE STREET	MIN 2M FOR HOUSE NONE FOR GARAGE TO THE STREET	MIN 2M FOR HOUSE NONE FOR GARAGE TO THE STREET	MIN 2M FOR HOUSE IN AREA A, 3M IN AREA B AND C, 5.5M FOR GARAGE TO THE STREET	MIN 2M FOR HOUSE AND 4.5M FOR ANY GARAGE (+1.2M BEHIND HOUSE FACADE) TO THE STREET
Comment	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Good setback to get garages off the street but does not specifically restrict garage location behind house facade. Can lead to allowing garages in front of houses.	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Good setback to get garages off the street but does not specifically restrict garage location behind house facade. Can lead to allowing garages in front of houses.	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Good setback to get garages off the street but does not specifically restrict garage location behind house facade. Can lead to allowing garages in front of houses.	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Can lead to poor outcomes with garages in front yards, blank walls and restricts views to and from the street.	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Can lead to poor outcomes with garages in front yards, blank walls and restricts views to and from the street.	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Good setback to get garages off the street but does not specifically restrict garage location behind house facade. Can lead to allowing garages in front of houses.	House setback minimum is appropriate but no consistency rule along street edge and no maximum.  Good outcome with garages recessed behind front façade.

Table : setbacks

### 3.4.4 Discussion and Recommendations

Street setbacks to houses in the operative plan are generally consistent across zones. However there are no controls to provide continuity along the street and no maximum setback to houses. Although some variation is positive and can provide visual interest along a street when houses are located with significant setbacks from streets the benefits of passive surveillance and social interaction within neighbourhoods can be compromised.

Residential Zones 1,2,3 and 7 provide good setbacks to garages such that they are 'off the street'. However these controls still allow garages to be located in front of houses risking them screening views between the house and the street.

The example opposite in Rangiora illustrates this issue. The house has no social interaction with the street, front gardens provide no amenity value and passive surveillance is restricted.

It is recommended that additional controls are introduced across all zones to require the location of garages in alignment with or behind the main building façade facing the street.



*Example : Garage in front garden restricting views between the street and the house, Rangiora.*

3.4.5 Recession Planes

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	2.5M ABOVE SITE BOUNDARY AT ANGLE DESCRIBED. OR 5.7M ABOVE SITE BOUNDARY AT 45 DEGREE ANGLE FOR COMPREHENSIVE	2.5M ABOVE SITE BOUNDARY AT ANGLE DESCRIBED. OR 5.7M ABOVE SITE BOUNDARY AT 45 DEGREE ANGLE FOR COMPREHENSIVE	2.5M ABOVE SITE BOUNDARY AT ANGLE DESCRIBED.	2.5M ABOVE SITE BOUNDARY AT ANGLE DESCRIBED.	5.7M ABOVE SITE BOUNDARY AT 45 DEGREE ANGLE.	5.7M ABOVE SITE BOUNDARY AT 45 DEGREE ANGLE.	2.3M ABOVE SITE BOUNDARY ANGLES ARE MORE ACUTE THAN LOWER DENSITY
Comment	This control is fairly standard however for CRD the control seems arbitrary or blanket control that does not specificity relate to loss of daylight effects, and starting height can result in shadowing.	This control is fairly standard however for CRD the control seems arbitrary or blanket control that does not specificity relate to loss of daylight effects, and starting height can result in shadowing.	This control is fairly standard	This control is fairly standard	The control seems arbitrary or blanket control that does not specificity relate to loss of daylight effects, and starting height can result in shadowing.	The control seems arbitrary or blanket control that does not specificity relate to loss of daylight effects, and starting height can result in shadowing.	Good control that will allow more intensive development but maintain and manage expectations for daylight access.

Table : recession planes

### 3.4.6 Discussion and Recommendations

Generally the recession plane controls in the operative plan are fairly standard and consistent with other district plans in New Zealand. However the control for CRD as well as Residential Zones 6A and 7 seem arbitrary with a blanket 45° degree angle that does not follow solar access angles. In addition the 5.7m starting height is very permissive and can lead to shadowing effects and overlooking along site boundaries.

The Christchurch District Plan RMD Zone provides an alternative where by the height at the boundary is retained at a standard 2.3m but the angle of recession is increased to account for the expectation for higher density development in the zone. This is considered a more appropriate approach managing to daylight access and privacy effects.

It is recommended that alternative recession plane rules are considered similar to the CDP RMD control to manage effects of higher density zones.



*Example : Recession planes at work in Rangiora.*

### 3.4.7 Building Height

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	8M	8M	8M	8M	10M	AREA A 9M AREA B 8M AREA C 8M	11M BUT ONLY WHEN THREE STORIES
Comment	Control is appropriate allowing sub floor, two stories plus pitched roof.	Control is appropriate allowing sub floor, two stories plus pitched roof.	Control is appropriate allowing sub floor, two stories plus pitched roof.	Control is appropriate allowing sub floor, two stories plus pitched roof.	Control allows possible 3 storey with sub floor and a flat roof.	Area B/C allows sub floor, two stories plus pitched roof and Area A allows possible 3 storey flat roof at a squeeze and can lead to poor outcomes.	Control allows a variety of 2 storey but restricts 3 storey at 11m, to pitched roof which is a good outcome.

Table : building height



### 3.4.8 Discussion and Recommendations

Generally the maximum height controls in the operative plan are fairly standard and consistent with other district plans.

The 8m height control will comfortably allow two storey houses with sub floor space and eave space for a pitched roof. The 9m and 10m heights in Residential Zones 7 and 6A respectively will allow three storey with a flat roof however 9m is very tight to achieve this and maintain good outcomes.

The Christchurch District Plan RMD Zone provides an 11m height rule which is good in that it allows 3 story pitched roof housing typologies as well as a variety of flat roof and two storey alternatives. It is important to note that this rule specifically restricts 4 storey development (flat roofs within 11m could be possible but not advisable).

It is recommended that building heights in the district are appropriate and an adoption to a similar rule as the RMD could be considered.



*Example : Two storey pitched roof houses in Residential 6A Pegasus.*



*Example : Two storey pitched roof houses in Rangiora.*

3.4.9 Minimum unit size

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	STUDIO 35M <sup>2</sup> , 1 BED 45M <sup>2</sup> , 2 BED 60M <sup>2</sup> , 3 BED 90M <sup>2</sup> .
Comment	Generally not an issue at this density	Generally not an issue at this density	Generally not an issue at this density	Generally not an issue at this density	Generally not an issue.	Generally not an issue.	It is good practise to provide minimum standards for more intensive development to avoid box apartments and poor outcomes. These minimum standards provided in the RMD are tight and more generous spatial provision is advisable.

Table : unit size

### 3.4.10 Discussion and Recommendations

The operative plan does not currently provide controls on minimum unit size (for multi unit developments) and there is currently no real reason to do so. However if the district does see an emergence of apartment living then this should be a consideration.

Historically in New Zealand poor outcomes have resulted where developments have maximised the unit number by compromising unit sizes. The Christchurch District Plan provides controls on unit sizes which provide minimum standards however these minimums are very tight and should be considered absolute. The Auckland Design Manual<sup>1</sup> (ADM) provide more generous standards: 40m<sup>2</sup> for a studio; 50m<sup>2</sup> for a one bedroom apartment; 75m<sup>2</sup> for a two bedroom apartment and 100m<sup>2</sup> for a three bed-room apartment.

Therefore it is recommended that if the district were to see the emergence of apartment living that controls should be introduced to control the minimum sizes of units.



Example : indicative 50m<sup>2</sup> one bed apartment layout



Example : indicative 75m<sup>2</sup> two bed apartment layout



Example : indicative 105m<sup>2</sup> three bed apartment layout

Examples provided here are typical units developed by Jasmax.

<sup>1</sup> <http://www.aucklanddesignmanual.co.nz/project-type/buildings-and-sites/housing/apartments#/project-type/buildings-and-sites/housing/apartments/guidance/the-building/apartment-layout/apartment-space>

3.4.12 Privacy Controls (window/outlook setbacks)

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	NONE PROVIDED	<b>BALCONIES 4M, 1.8M FROM GROUND FLOOR WINDOW.</b>
Comment	Generally not an issue at this density	Generally not an issue at this density	Generally not an issue at this density	Generally not an issue at this density	Generally not an issue at this density	No controls can lead to poor outcomes when windows are opposite.	It is good practise to provide sufficient setbacks between windows on adjacent dwellings. The standards provided in the CDP RMD are tight and can lead to poor privacy outcomes. Much greater setbacks should be considered to avoid loss or privacy.

Table : Privacy controls

### 3.4.13 Discussion and Recommendations

The operative plan does not currently provide privacy controls such as setbacks from windows and balconies. In more intensive developments this can become an issue when for example bedrooms and living rooms have windows opposite each other in close proximity. If the district does see an emergence in apartment living in particular then this should be a consideration.

Historically in New Zealand poor outcomes have resulted where developments have been located with 1-2m separation and poor design has led to windows being located opposite each other. Other district plans such as the Christchurch District Plan and the Unitary plan provide some outlook controls however these should be much greater minimum separation distances. The CDP allows 1.8m which is a poor outcome. The AUP required 6m from a main living room and 3m from a main bedroom but only 1m from secondary bedrooms and hence can lead to only 2m separation which is also a poor outcome.

Therefore it is recommended that if the district were to see the emergence of apartment living that controls should be introduced to control the minimum sizes of units. Ultimately buildings should be designed such that facing walls do not have windows opposite each other and when this is unavoidable then 6-8m separation as a minimum should be maintained.



Example : Outlook issues Exmouth St, Eden Terrace, Auckland



Example : Outlook issues Onehunga Mall, Auckland

### 3.5 STREET INTERFACE RULES

#### 3.5.1 Garage Size

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	NONE PROVIDED OR FOR CRD GARAGE DOOR SHOULD NOT BE MORE THAN 50% OR 6M WHICHEVER IS THE LESSER	NONE PROVIDED OR FOR CRD GARAGE DOOR SHOULD NOT BE MORE THAN 50% OR 6M WHICHEVER IS THE LESSER	NONE PROVIDED	NONE PROVIDED	A. 40M <sup>2</sup> WHERE ANY ROAD FRONTAGE OF THE SITE IS 15M OR GREATER; OR B. 21M <sup>2</sup> WHERE ANY ROAD FRONTAGE OF THE SITE IS LESS THAN 15M.	NONE PROVIDED	NONE PROVIDED
Comment	At this site size and with a minimum site frontage of 15m garage width is not an issue.	At this site size and with a minimum site frontage of 15m garage width is not an issue.	At this site size and with a minimum site frontage of 15m garage width is not an issue.	At this site size and with a minimum site frontage of 15m garage width is not an issue.	This rule is aimed to restrict double garaging for narrower sites - although at 15m this is a bit excessive, and does not allow stacked garaging which is acceptable at all site frontages.	For smaller sites (Area A) no control can lead to poor outcomes and dominance of garages along the street edge.	For smaller sites no control can lead to poor outcomes and dominance of garages along the street edge.

Table : Garage Size

### 3. 5.2 Discussions and Recommendations

The operative plan provides controls for the size of garage doors in CRD in the Residential 1 and 2 Zones as well as a more specific garage size rules in the Residential 6A Zone to mitigate the effects of garages dominating the street interface and undermining amenity in the streetscape.

For the lower density zones 1,2,3 and 6 the issue is not significant and there are no controls which is appropriate. The combination of the 15m site widths and generous site sizes allow garages to balance proportionately with houses and gardens by default.

However for higher density zones including Area A in the Residential 7 Zone no controls are provided in the plan. In some cases such as the example opposite poor outcomes have resulted with garages dominating the streetscape and houses recessed behind.

It is recommended that controls should be considered to minimise garage size for high density zones (in combination with setback rules) to manage the visual dominance effects on the streetscape.



*Example : Double garages on narrow sites can lead to visual dominance of garages and poor outcomes for the streetscape, Silverstream Kaiapoi.*

3.5.3 Street Boundary Fencing

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	1.5M (EXCEPTION TO STRUCTURES SETBACK RULE) OR FOR CRD 0.9M OR 1.8M WITH 50% TRANSPARENCY.	SOUTH WEST RANGIORA RES ZONE: 1.2M OR 1.5M (EXCEPTION TO STRUCTURES SETBACK RULE) OR FOR CRD 0.9M OR 1.8M WITH 50% TRANSPARENCY.	1.5M (EXCEPTION TO STRUCTURES SETBACK RULE)	NO FENCING AT BOUNDARY	NO FENCING AT BOUNDARY	MINIMUM VISUAL PERMEABILITY/ OPENNESS OF 45% + 1.5M (EXCEPTION TO STRUCTURES SETBACK RULE)	1.8M AT 50% TRANSPARENCY OR 1M OTHERWISE
Comment	At 1.5m fencing can result in the restriction of views to and from houses.  A minimum provision should be reduced to 1.2m to enable visibility of houses, children on driveways etc.	1.2m is a good control and could be used more widespread in district. At 1.5m fencing can result in the restriction of views to and from houses. At 1.8m and 50% transparency fencing can result in poor outcomes, restricting views and creating compliance issues.	At 1.5m fencing can result in the restriction of views to and from houses.  A minimum provision should be reduced to 1.2m to enable visibility of houses, children on driveways etc.	No fencing can work for certain areas however can lead to safety issues with children running onto the street. It is assumed that pets can be contained in rear gardens.	No fencing can work for certain areas however can lead to safety issues with children running onto the street. It is assumed that pets can be contained in rear gardens.	At 1.5m fencing can result in the restriction of views to and from houses. 45% transparency is beneficial although can lead to compliance issues. Less likely in comprehensive development.	At 1.8m and 50% transparency fencing can result in poor outcomes, restricting views and creating compliance issues. However 1m rule alternative is good control.

Table : Street Boundary Fencing



### 3. 5.4 Discussions and Recommendations

The operative plan provides a range of fence height controls at the road boundary from no fencing in the Residential 6 and 6A Zones through to allowance of 1.5m and 1.8m high fencing with 50% transparency under CRD in the Residential 1 and 2 Zones.

In general it is considered best practise to provide low front fencing (1.2m or below) to encourage views between houses and the street, to encourage passive surveillance of the public realm and to encourage socially engaging neighbourhoods.

Neighbourhoods in the Waimakariri District often have low street fencing and sometimes no fencing however in some instances such as the example opposite in Kaiapoi fencing has been constructed to 1.8m high and higher. The effect of this is poor and results in unwelcoming streets with low amenity.

The 50% transparency rule for fencing up to 1.8m in CRD can be useful to allow containment for pets however often these rules lead to compliance issues and solid fencing is constructed.

It is therefore recommended that controls such as the Rangiora South West residential area provisions of 1.2m high fencing should be the standard across the district assuming that pets can be contained in rear gardens.



*Example : Kaiapoi street with 1.8m high fencing and no transparency leads to poor outcomes and unsocial streets.*



*Example : Low fencing in Kaiapoi allows social interaction between pedestrians and residents in front gardens or on porches.*

3.5.5 Built form response to street

	RESIDENTIAL 1	RESIDENTIAL 2	RESIDENTIAL 3	RESIDENTIAL 6	RESIDENTIAL 6A	RESIDENTIAL 7	CDP RMD
Rule	<b>NONE PROVIDED OR FOR CRD ONE HABITABLE ROOM FACING THE STREET AT GROUND LEVEL + FRONT DOOR VISIBLE FROM STREET+GLAZING AND FENCING RULES</b>	<b>NONE PROVIDED OR FOR CRD ONE HABITABLE ROOM FACING THE STREET AT GROUND LEVEL + FRONT DOOR VISIBLE FROM STREET+GLAZING AND FENCING RULES</b>	<b>NONE PROVIDED</b>	<b>NONE PROVIDED</b>	<b>NONE PROVIDED</b>	<b>NONE PROVIDED</b>	<b>AT LEAST ONE HABITABLE ROOM FRONTING ROAD.</b>
Comment	Not an issue at this density as houses generally provide habitable rooms facing the street, however for CRD rule is appropriate and important to encourage passive surveillance and social street environments	Not an issue at this density as houses generally provide habitable rooms facing the street, however for CRD rule is appropriate and important to encourage passive surveillance and social street environments	Not an issue at this density as houses generally provide habitable rooms facing the street.	Not an issue at this density as houses generally provide habitable rooms facing the street.	For smaller sites with narrower frontages no provision for habitable rooms facing the street can lead to poor social outcomes and street amenity however garage size control restricts dominance of garages on streetscape.	For smaller sites with narrower frontages no provision for habitable rooms facing the street can lead to poor social outcomes and street amenity.	Control leads to good outcomes but WDP CRD rule is better.

Table : Built form response to street

### 3. 5.6 Discussions and Recommendations

The operative plan does not provide controls to enable habitable rooms facing the street except for CRD which provides a good rule requiring one habitable ground floor room plus the front door visible from the street.

This issue is less relevant for lower density zones including the Residential Zones 1,2,3 and 6 as houses at this density generally provide habitable rooms facing the street by default. However for more intensive environments with smaller sites and narrower frontages it is important to ensure habitable rooms feature in the front façade of houses. It is common that garages dominate the front façade at the expense of habitable rooms.

It is recommended that the CRD rule be applied to higher density zones which allow smaller sites and narrower frontages in the district.



*Example : No habitable rooms at ground level can lead to poor outcomes however this is mitigated to some extent in this example through providing 1st floor terrace and overlooking from bedrooms. Silverstream Kaiapoi.*

### 3.6 OPERATIVE PLAN GENERAL DISCUSSION

In general the operative plan contains a number of rules and provisions that are considered good practise or close to it. However there are some inconsistencies across zones and some standardisation which could occur to simplify provisions such as front fence heights for example.

A key recommendation of this review is that if intensification and medium density development is encouraged in the district then a specific suite of rules should be developed to manage site, built form and public interface effects. Some of these rules can be adapted from the CRD provisions and others such as recession planes and building heights could be aligned with other district plans such as the Christchurch District Plan Medium Density Zone.

The master planned zones Residential 6,6A and 7 have rules and provisions designed to enable the vision or overall area outcome of these specific areas. For example clustering of lower density development in certain areas and higher in others. The rules are not designed as general zone rules and are specific to areas and sites within the master planned areas. Therefore it is not recommended that these suites of rules are applied elsewhere in the district except through potential future plan change processes. There is concern that for example Residential 7 Zone site size rules can allow 150m<sup>2</sup> sites which could be problematic to manage and could lead to poor urban design outcomes if allowed in general zones.

Dispensations allowed under global consents have led to in some cases poor urban outcomes. For example site coverage in Papawai Drive or the general built form scale and mass of the Charles Upon Retirement Village in Rangiora are examples where development has been

allowed that results in poor urban design outcomes.

It is recommended that in terms of large scale retirement villages specific provisions should be considered to mitigate effects on surrounding suburban neighbourhoods.

### 3.7 BEST PRACTICE RECOMMENDATIONS

The following is a summary of the recommendations for each rule reached in the document.

#### 3.7.1 Summary of Recommendations

##### *Site Rules*

- + It is recommended to provide smaller site size allowance in the Residential 1 Zone to enable and encourage medium density development surrounding the key activity centres. Hence consideration to allow sites that are 200m<sup>2</sup> in this zone should be made.
- + The 15m site frontage rule is appropriate for sites that are greater than 350m<sup>2</sup>. However this rule effects the flexibility and ability to achieve good urban design outcomes for smaller sites. Therefore consideration should be given to reducing site frontages for sites smaller than 350m<sup>2</sup>.
- + Outdoor living space controls for smaller sites are considered minimal and in some instance lead to poor outcomes in the district. Therefore further consideration should be given to increasing space for sites less than 400m<sup>2</sup>.
- + If intensification and medium density is encouraged in the district then consideration to providing rules around refuse storage and screening to mitigate amenity effects on streets and shared amenity within developments.
- + For more intensive developments rules should be

introduced to provide minimum landscape provisions including both trees and shrub planting.

##### *Bulk and Location Rules*

- + 50% Site coverage allowed in Residential 2 Zone under the CRD mechanism can lead to poor outcomes including insufficient space for and landscaping and outdoor living spaces particularly when site sizes are small. It is recommended that this ratio is reviewed to be more in-line with suburban development character.
- + Additional controls should be introduced to all zones to require the location of garages in alignment or behind the front façade of buildings to maintain consistent building setbacks, amenity in front gardens and visibility of dwellings from the street.
- + If intensification and medium density is encouraged alternative recession planes should be considered that respond to light access but anticipate greater shadowing effects (hence steeper angles such as used in the Christchurch District Plan RMD Zone)
- + Current building height rules are appropriate however consideration of adopting a similar rule to the Christchurch District Plan RMD Zone of 11m if intensification and medium density is encouraged.
- + If apartment living is anticipated in the district in the future then consideration to introduce rules around minimum unit sizes should be made.

##### *Street Interface Rules*

- + If intensification and medium density is encouraged an adoption of the CRD rule for garage door size should be made that restricts the size to the lesser of 50% or 6m should be considered.
- + Front fencing is mixed across the district however

some zones allow 1.5 to 1.8m high fencing which is not best practise. Heights of 1.2m should be considered across the zones as a standard assuming that pets can be contained in rear gardens.

- + If intensification and medium density is encouraged an adoption of the CRD rule which requires one habitable room facing the street at ground level and the front door is visible from the street should be considered.



*Medium density development, Rangiora.*

## 4.0 RESIDENTIAL INTENSIFICATION

### 4.1 INTRODUCTION

The following sections of this document focuses on urban design considerations in regard to residential intensification in the Waimakariri district. It is structured into three sections firstly an overview of intensification in New Zealand and Waimakariri, then urban design principles both location and site based are developed to identify where and how intensification should be considered in the Waimakariri District, and finally spatial analysis (GIS) is undertaken based on the principles to determine appropriate locations for intensification in the Waimakariri District.

### 4.2 LIMITATIONS OF THIS STUDY

Urban design considerations are only part of the rationale for residential intensification. Other factors should be considered in identifying locations for intensification in the district such as those currently being investigated in the Draft District Development Strategy as well as market demands (development) and property analysis, natural hazards assessments, and future public transport proposals amongst others.

These separate studies fall outside the scope of this study. However it is recommended that the outcomes of this study are integrated into this wider pool of investigations at a later date. It is important that a balanced consideration is reached in any determination of district plan provisions, new zones or overlays.

### 4.3 INTENSIFICATION BACKGROUND

Suburban intensification has been an active process in New Zealand towns and cities since at least the 1960's when 'new living styles' became a mainstream trend. Developers identified the value in replacing the quarter acre section with a number of house sites or in the form of wholesale changes such as the introduction of multi-strata title systems and the infamous 'sausage flat' developments.

Suburban intensification from the outset has had mixed success in terms of achieving meaningful increase in housing density. Furthermore intensification has not often resulted in quality built form outcomes. For example the 1960s sausage flats although made good use of long rectangular sections evoked widespread negative reactions in relation to the site and building designs. Outdoor living spaces and amenity planting were often sacrificed for cross leased driveways and vehicle parking, developments often turned their back or end to the street resulting in poor street amenity and erosion of the social neighbourhood, and buildings were typically boring utilitarian blocks with little modulation of built form.

#### 4.3.1 Site Amalgamation

In more recent times small scale subdivision, infill and rear lot development although still common place and popular, is starting to make way for more comprehensive development of either large lot subdivision or development on 'amalgamated' sites.

It is important to recognise that the site amalgamation, the process of joining one or more sites together in order to unlock development potential is not necessarily straight forward and development models are often tricky to stack up. For example developers have tended to struggle with the risk and hassle associated with acquiring two sites

adjacent to each other. Auckland Council in research leading up to the adoption of the Unitary Plan<sup>1</sup> in 2016 identified that very little amalgamation had occurred in the period between 2004 and 2014.<sup>2</sup>

However there remains strong will especially among local councils to encourage intensification through amalgamation and both Auckland Council and Christchurch City Council have included enabling provisions to encourage intensification through site size threshold triggers and other incentives. The merits of those provisions and successes is outside the scope of this report however it is important to consider that in Waimakariri it would be advisable to enable all forms of intensification in order to achieve the greatest success.

#### 4.3.2 Intensification Moving Forward

In the last 5-10 years market take up of intensification across the country has exceeded expectations. It is reasonable to assume that intensification is going to continue to gain momentum as the strain on finite resources (including land, energy, water, utility and economic resources) for both households and local councils will lead to alternative priorities and alternatives to green field development and urban expansion<sup>3</sup>.

In Auckland apartment living has grown significantly and although still a fledgling market for New Zealand has seen a culture shift especially among the young and old

<sup>1</sup> Auckland Unitary plan adopted in part in 2016.

<sup>2</sup> Residential Property Amalgamation and Aggregation in Auckland, 2004-2014 Technical Report 2016.

<sup>3</sup> Factors that Facilitate High Quality Medium Density Residential Development, A Report Commissioned by the Independent Hearings Panel for the Christchurch Replacement District Plan- 7.1 *Benefits of Medium Density Residential Development*

into this market<sup>4</sup>. In Queenstown and to a lesser extent Christchurch more intensive developments are on the rise with a number of medium density houses, units, terraced homes and walk-up apartments are becoming available.

In Waimakariri this is also apparent with in master planned developments such as Silverstream and Pegasus (noting that the success of these developments is yet to be fully understood in a Waimakariri context). In Rangiora some medium density housing has sporadically been developed within areas surrounding the commercial centre such as the example opposite.

### 4.3.3 Medium Density Development

Medium density development in New Zealand is popular with councils and developers eager to see more intensive development and the potential economic, community, social and environmental benefits they can offer.

However there is some confusion surrounding the definition of medium density development in New Zealand. Loosely medium density development is defined by a more intensive layout and built form outcome from traditional suburban neighbourhoods. It is not just be the same house design on a smaller lot. Medium density development can be defined by the culmination of site and building effects that differentiate them from lower density suburban neighbourhoods.

Various councils around New Zealand have recognised the need to treat medium density specifically in their plans and are adopting specific zone or zones and associated provisions to focus on the specific effects. For example the Christchurch District Plan now contains a Residential Medium Density Zone and in the Auckland Unitary Plan medium density is catered for in the Mixed Housing Zone.

<sup>4</sup> [https://www.nzherald.co.nz/business/news/article.cfm?c\\_id=3&objectid=12040853](https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12040853)



*Medium density development Rangiora.*

It is also understood that the National Planning Standards which is currently in development is likely to cover medium density housing.

For the purpose of this report medium density is referred to development on lot sizes between 200m<sup>2</sup> and 350m<sup>2</sup> which is widely accepted as the range in which the effects of more intensive standalone housing start to apply pressure on the site, neighbours and public realm street. These effects for example include higher risk of overlooking and loss of privacy due to closer proximity and in some cases height of buildings, reduced private open space and landscaping, dominance of garages and vehicle parking

at the street interface, increased demand on solar gain and effects of shadowing from adjacent buildings amongst many others. The Ministry for the Environment in a recent study<sup>5</sup> described medium density as:

*“Medium-density housing means comprehensive developments including four or more dwellings with an average density of less than 350 m<sup>2</sup> per unit... These can be located on either single or aggregated sites, or as part of larger master planned developments”.*

<sup>5</sup> Medium-density housing: Case study assessment methodology (2012)



Intensive development today particularly medium density housing risks making similar mistakes to development in the past as developers, planners, architects and builders are not mindful of the increased pressure on built form and amenity outcomes that come with more intensive developments.

#### 4.4 INTENSIFICATION IN WAIMAKARIRI

Intensification in Waimakariri has occurred periodically in similar time frames to the rest of the country since the early 1960's. Infill, rear lot and redevelopment has occurred across all of the general residential zones in the district. However the Residential 1 Zone has seen higher proportions of the intensification than other zones as expected when considering rules in the operative plan.

Intensification in the district has had mixed results in terms of the quality of built form outcomes that have resulted. Similar to effects of intensification nationwide in Waimakariri these developments have often sacrificed outdoor living spaces and amenity planting to provide cross leased driveways and vehicle parking as shown in the examples opposite. In other cases developments have turned their back or end to the street resulting in poor street amenity and erosion of the social neighbourhood.

The land use Recovery Plan (LURP)<sup>6</sup> identified the need for intensification in the district (**Action 4**) within the recovery post the Canterbury Earthquakes. Action 4 required Waimakariri District Council to make changes to the District Plan (2014) and identify appropriate sites, including brownfield sites within the existing urban area for intensified residential and mixed-use development, and enable comprehensive development of these sites. This enabled more intensive development in the district with examples such as Kaiapoi West (Silverstream) as a result.

<sup>6</sup> Land Use Recovery Plan 2013 (LURP)



*Block of Flats Rangiora.*



*Small site subdivision Rangiora.*

Even pre-quake there was a shift within the district to opening up green field development to meet housing demands and to provide more intensive development such as in Pegasus. This 'master planned' approach on large scale green field sites allowed for the inclusion of higher densities from the outset, effectively limiting need and opportunity for infill and intensification in the future. Arguably this model does not provide the flexibility (without whole sale redevelopment of urban blocks) to provide even high density in the future if required (although this does not seem likely in the foreseeable future).

#### 4.5 INTENSIFICATION PRINCIPLES

The following design principles have been developed specifically for the Waimakariri District. They are based on best practise urban design intensification guidance and cover both 'location' and 'site design' principles.



#### SUPPORT MIXED-USE CENTRES

*Residential intensification should be located within or close to mixed-use centres to support and enhance their social and economic prosperity.*



#### WALKABLE NEIGHBOURHOODS AND TOWNS

*Residential intensification should be based on high quality walkable networks between land uses which reduce the need for reliance on vehicle transport.*



#### ACCESS TO PARKS AND OPEN SPACES

*Residential intensification should be located to make best use of existing parks, playgrounds and sports facilities.*



## ENCOURAGE SUSTAINABLE DEVELOPMENT

*Residential intensification should be located to make efficient use of existing infrastructure including roads, water and electrical supply and connection to wastewater facilities.*



## SUPPORT PUBLIC TRANSPORT

*Residential intensification should be located to support and benefit from existing and future public transport networks.*



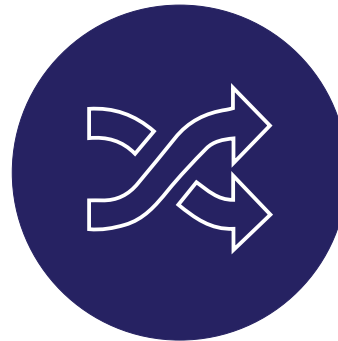
## HOUSING CHOICE AND DIVERSIFICATION OF SUPPLY

*A diversity of housing types including stand-alone and terrace houses and walk-up apartments should be encouraged in residential intensification to cater for changing community needs and to provide housing choice.*



## SAFE ENVIRONMENTS

*Residential intensification provides opportunities to support safe and secure public realm through increased passive surveillance and street activity.*



## FLEXIBILITY AND ADAPTABILITY

*The process of intensification should be considered as a transition over time and consideration to allow changing needs and requirements should be made.*



## SOCIAL COMMUNITIES AND WELL BEING

*Residential intensification provides opportunities to achieve sustainable environmental and social outcomes.*

## 4.6 LOCATION BASED PRINCIPLES

### 4.6.1 Support mixed-use centres



*Principle: Residential intensification should be located within or close to mixed-use centres to support and enhance their social and economic prosperity.*

Providing higher density housing in close proximity to commercial centres will encourage more prosperous, active and vibrant centres. In Waimakariri the Rangiora and Kaiapoi town centres provide a range of civic, commercial and retail offerings but generally do not contain significant residential populations.

These centres generally operate within ‘trading hours’ during the day and become somewhat deserted after hours. Residential development within these areas or within walking distance from them can encourage longer stay activity and economic prosperity.

Conversely residents whom choose to take up more central living opportunities will benefit from the convenience of the close proximity to retail, food and beverage, commercial, employment and civic uses within these centres.

### 4.6.2 Walkable neighbourhoods and towns



*Principle: Residential intensification should be based on high quality walkable networks between land uses which reduce the need for reliance on vehicle transport.*

Movement and transport are key considerations in residential intensification. The greater the density of population the greater the potential pressure on the movement network including vehicle based transport. Hence when considering intensification it is important to focus on enhancement of alternative walking and cycling opportunities to complement vehicle based movement.

One of the underlying assumptions for higher density neighbourhoods is that residents are less reliant on vehicle transport. Therefore these neighbourhoods should be located in walkable distances from key activities such as shopping centres, schools, sports and community facilities.

The widely accepted rule of thumb is that most residents will generally walk 10 minutes or 800m to a significant destination such as a town centre and 5 minutes or 400m to a secondary destination such as a school or local play ground before they are tempted to drive.

Walkability is equally about the quality of the public realm streets and pedestrian paths as it is about distance to activities and destinations. It is therefore important to ensure that high quality accessible networks are in place to support intensification. Routes should be clearly identifiable, convenient and logical with the most direct route as possible. It is important to consider the details including widths of footpaths, cycle lanes, comfort in terms of seating, robust and attractive pavement materials and night time lighting.

### 4.6.3 Access to parks and open spaces



*Principle: Residential intensification should be located to make best use of existing parks, playgrounds and sports facilities.*

At higher densities the ability to provide private outdoor living spaces is reduced. Often when they are provided they are relatively small and cater for passive activities such as outdoor living and dining. In some cases especially in apartment developments private outdoor spaces are significantly restrained to balconies and terraces. These types of developments do not provide a ‘back yard’ and hence especially for families with children can lead to more sedentary lifestyles.

Therefore for more intensive environments there is a general reliance on communal open spaces, parks, recreation facilities, streets and plazas. It is important to consider the location of residential intensification in relation to public open spaces. For example in Victoria Park, Rangiora has the potential to provide a communal open space for surrounding development.

It is also important to consider streets as important social spaces in areas with higher densities. Streets can be an asset for neighbourhoods where incidental social interaction takes place. Therefore it is important that development recognises this through the orientation of buildings and houses to front onto streets, to provide clear and unobstructed views to and from dwellings and include habitable rooms overlooking streets. In terms of the street scene it is important to consider amenity through the planting of trees on site and within the street alongside seating to provide comfort for pedestrians.

#### 4.6.4 Encourage sustainable development



Principle: Residential intensification should be located to make efficient use of existing infrastructure including roads, water and electrical supply and connection to wastewater facilities.

One of the key benefits of residential intensification is that development utilises existing infrastructure, streets, water and electrical supply for example. Greenfield developments often put a strain on council’s capital and maintenance resources and development costs to provide infrastructure, roads, electricity supply and water connections.

Intensification can be considered as more efficient use of land and help to reduce potential effects on rural land through providing alternatives to sprawling greenfield development and urban expansion. However intensification should not be considered as a fix to urban sprawl rather an alternative that has the potential to reduce effects on productive rural land.

In terms of building design and construction intensification can enable benefits relating to sustainable construction products and methods. For example energy efficacies can be realised through sharing of party walls, modernisation of building methods, appropriate insulation and passive heating can be achieved through maximising solar gain.

#### 4.6.5 Support Public Transport



Principle: Residential intensification should be located to support and benefit from existing and future public transport networks.

A key factor that provides rationale for investment in public transport is the existing and more importantly the potential demand within walking distance from bus stops or railway stations. Providing higher density housing around transport modes, specifically around major stations and network junctions increases the potential demand and patronage of the public transport network.

In Waimakariri public transport is currently limited but has potential to develop over time. Today two bus lines connect the district with central Christchurch. The B or Blue line that connects Rangiora and Kaiapoi and route 95 which connects Waikuku, Pegasus and Kaiapoi with Christchurch city centre. It is possible that these bus routes could be upgraded in the future with higher frequency services and or more dedicated bus lanes could be introduced. In addition the main south island rail line passes through both Rangiora and Kaiapoi which in the future could provide future mass transit opportunities for commuters in the district. The likelihood of these opportunities to go ahead is outside the scope of this report however it is not unreasonable to consider that more efficient public transport networks could play a part in the transport and movement of people in the district in the near future.

One of the underlying assumptions for higher density neighbourhoods is that residents are less reliant on vehicle transport. Close proximity to land use destinations, walkability as well as convenient access to public transport should be considered to complement private vehicle access and movement.

Therefore the proximity to existing and potential public transport is important when considering locations for residential intensification.

## 4.7 SITE AND NEIGHBOURHOOD BASED PRINCIPLES

### 4.7.1 Housing choice and diversification of supply



*Principle: A diversity of housing types including stand-alone and terrace houses and walk-up apartments should be encouraged in residential intensification to cater for changing community needs and to provide housing choice.*

Residential choices in New Zealand generally and in Waimakariri specifically is fairly limited with the majority of residents living in standalone houses on individual lots. However as a result of various factors including rising living costs and changing lifestyles people are increasingly challenging the norm. When considering the elderly or non-children families the traditional 4 and 5 bedroom house model does not provide fit for purpose solutions.

A diversification of housing is becoming increasingly more relevant and more intensive alternatives such as duplex houses, terraced houses and apartments are becoming more popular to meet these needs. In Waimakariri the terraced houses in Silverstream and Pegasus are good indicators of a housing market ready to diversify into alternative options.

It would be a brave person to predict that these alternative housing types will replace standalone houses (or even take a reasonable market share of housing stock) however it is reasonable to suggest that a diversification is needed to complement existing houses in the district now and in the future.

Benefits of the diversification of housing goes beyond providing choice in the residential market. More intensive

residential development has the potential to help tackle housing affordability for people entering the market and for lower income families. When designed well medium density housing can provide good solutions for social housing tenants.

### 4.7.2 Safe Environments



*Principle: Residential intensification provides opportunities to support safe and secure public realm through increased passive surveillance and street activity.*

The Ministry for the Environment's National Guidelines for Crime Prevention Through Environmental Design (CPTED) is broadly recognised in New Zealand as key guidance used to design urban areas, neighbourhoods and streets such that they minimise the risk of crime and enhance personal safety and security.

Passive surveillance is one of four key principles in the guidance and is based on the idea that places that enable observation and social interaction are less likely to attract crime. These self-managing built environments are frequently occupied by people and more often than not over looked by buildings. These places benefit from the users 'passive surveillance' leading to reduced rates of crime.

Providing higher density housing can lead to good CPTED outcomes and increased levels of passive surveillance through the presence of more people and buildings that overlook streets and the public realm.

### 4.7.3 Flexibility and Adaptability



*Principle: The process of intensification should be considered as a transition over time and consideration to allow changing needs and requirements should be made.*

Intensification is generally a slow process and will happen over time. Therefore it is important to provide the ability for developers, designers and builders to respond to changing market conditions and technologies as they emerge.

Houses should also be design to adapt to modern and changing lifestyles, future proofing for technology enhancements and changing environmental conditions

### 4.7.4 Social communities and Well-being



*Principle: Residential intensification provides opportunities to achieve sustainable environmental and social outcomes.*

High quality intensive development often leads to improved social outcomes as housing located in closer proximity can lead to a greater degree of positive social interaction and connectedness. However it is important to make a distinction that when considering higher densities in Waimakariri this is not the high rise apartments which have led to very poor social outcomes, isolation and high levels of crime in housing estates in America and the United Kingdom.

#### 4.8 POTENTIAL INTENSIFICATION METHODS IN WAIMAKARIRI DISTRICT.

There are a number of potential intensification methods that can lead to appropriate urban design and built form outcomes in the Waimakariri District.

The following is an overview of four selected types based on theoretical sites and building designs. The purpose of these examples is to illustrate how good outcomes can be achieved in the intensification process.

**SMALL SITE- MASTER PLANNED SUBDIVISIONS**



**REDEVELOPMENT OR REAR SITE INFILL**



**SITE AMALGAMATION.**



**COMPREHENSIVE REDEVELOPMENT.**





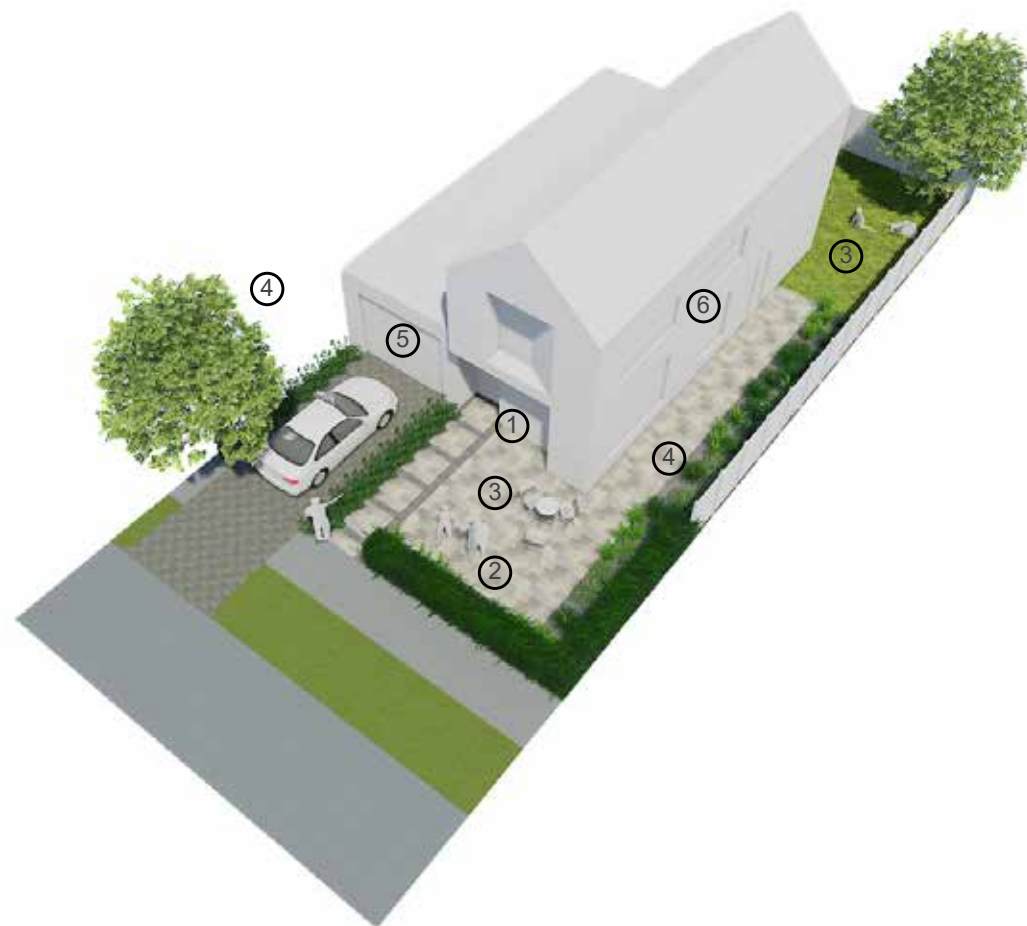
#### 4.9 SMALL SITE - MASTER PLANNED SUBDIVISIONS.

This model illustrates the opportunity to develop more intensive houses on smaller sites (200-350m<sup>2</sup>).

The small site provides standalone houses offering alternative compact 3-4 bedroom family houses. They are appropriate for both brownfield and greenfield master planned subdivisions.

Houses and garages are designed as one built form with garages recessive in the front facade. Built form is often two storey and can be zero lotted to maximise site efficiencies. Care is required to provide north facing usable outdoor living spaces with appropriate planting and landscaping.

- ① Enable 'eyes-on-the-street' with active internal uses (i.e. kitchen) overlooking the street to support passive surveillance
- ② Low or no fencing to encourage interaction with the street and neighbourhood
- ③ Provide compact but functional outdoor living space
- ④ Provide on site landscaping including tree planting
- ⑤ Accommodate cars discretely, on the south side where possible, design façades such that garage doors are recessive, not dominant.
- ⑥ Orientate buildings with consideration to neighbouring dwellings and solar orientation



#### 4.10 REDEVELOPMENT OR REAR SITE INFILL

This model illustrates the opportunity to redevelop existing rectilinear sites with more intensive developments.

The Infill redevelopment on rear site provides opportunities for 2-3 compact houses on existing sites.

Built form is two storey and access to rear houses is via a shared driveway on the southern boundary. Care is required to provide north facing usable outdoor living spaces with appropriate planting and landscaping.

- ① Enable 'eyes-on-the-street' with active internal uses (i.e. kitchen) overlooking the street to support passive surveillance
- ② Low or no fencing to encourage interaction with the street and neighbourhood
- ③ Provide compact but functional outdoor living space
- ④ Provide on site landscaping including tree planting
- ⑤ Accommodate cars discretely, and allow shared manoeuvring space.
- ⑥ Orientate buildings with consideration to neighbouring dwellings and solar orientation



#### 4.11 SITE AMALGAMATION.

This model illustrates the opportunity to amalgamation existing sites in order to unlock development potential. In this example 6-8 dwellings are developed on sites that previously were only 2.

Built form is two storey and access to rear houses is via a shared driveway and central garaging court which is carefully balanced with communal outdoor living spaces.



- ① Enable 'eyes-on-the-street' with active internal uses (i.e. kitchen) overlooking the street to support passive surveillance
- ② Low or no fencing to encourage interaction with the street and neighbourhood
- ③ Provide compact but functional outdoor living space
- ④ Provide on site landscaping including tree planting
- ⑤ Accommodate cars discretely, and allow shared manoeuvring space.
- ⑥ Orientate buildings with consideration to neighbouring dwellings and solar orientation

#### 4.12 COMPREHENSIVE REDEVELOPMENT.

This model illustrates the opportunity to amalgamation significant groups of existing sites or small number of larger sites in order to unlock development potential.

Built form is one or two storey and access is via a shared route connecting both street interfaces and a rear lane where garages are located. This type of development is ideal for terraced housing and care is needed to manage on site landscaping traffic and proximity to neighbouring houses.

- ① Enable 'eyes-on-the-street'
- ② Low or no fencing to encourage interaction with the street and neighbourhood
- ③ Provide compact but functional outdoor living space
- ④ Provide on site landscaping including tree planting
- ⑤ Accommodate cars discretely, and allow shared manoeuvring space.
- ⑥ Orientate buildings with consideration to neighbouring dwellings and solar orientation



### 4.13 IDENTIFICATION OF AREAS TO CONSIDER INTENSIFICATION IN WAIMAKARIRI DISTRICT

This following section provides analysis of where intensification could be considered in the district based on urban design best practise (principles established in this report). This is based on mapping pedestrian catchments to key land uses important to establishing more intensive developments (proximity test).

Intensification is considered appropriate within pedestrian catchments for the Commercial Centre (B1 Zone) As well as the confluence of all other land use pedestrian catchments, schools, public transport and open spaces.

#### 4.13.1 Methodology

To determine appropriate areas for intensification from a urban design perspective a four step methodology has been used:

- + Preparation of spatial parameters: the first step was to determine standard distances for the pedestrian catchments of specific land uses and determining if they are primary or secondary in importance for intensification. Refer to the table opposite.
- + Preparation of base maps: using GIS mapping software the pedestrian catchments for each land use were mapped within the urban areas Rangiora and Kaiapoi.
- + Preparation of map overlays: The none commercial centre base maps were cross referenced resulting in an overall overlay was prepared. This overlay represented the intersection of all catchments.
- + Intensification Area Maps: Once the overall overlay was prepared this was combined with the commercial centre overlay to determine the final intensification area maps.

#### 4.13.2 Spatial Parameters

PROXIMITY TO LAND USE		
LAND USE	IMPORTANCE	DISTANCE
Commercial Centre (B1 Zone)	Primary	800m
High School	Secondary	800m
Primary School	Secondary	400m
Public Transport (major)	Primary	800m
Public Transport (minor)	Secondary	800m
Open space (major >4000m <sup>2</sup> )	Secondary	800m
Open space (minor <4000m <sup>2</sup> )	Secondary	400m

SEPARATION FROM LAND USE		
SENSITIVITY	WHAT	DISTANCE
Tsunami or Flood area	Exclusion	0m
Industrial Heavy	Exclusion setback	800m
Rural Zone	Exclusion setback	400m (or one block depth)

## 4.14 INTENSIFICATION MAPS

### 4.14.1 Rangiora Centre Map

The Rangiora Centre Map shown opposite illustrates the pedestrian catchment surrounding the town centre. The map was derived using GIS software to define the area enclosed by a 800m from the edge of the Business 1 Zone. This zone represents a 10minute walkable catchment from the centre and is considered appropriate for intensification.

The catchment is relatively uniform which is a result of the regular street grid. However it is noted that the area to the north east of the town centre which is currently zoned Rural is included in the catchment as it is anticipated that this land maybe rezoned as residential in the future.

### 4.14.2 Rangiora Overlay Map

The Rangiora Overlay Map shown opposite illustrates the area that is the confluence of pedestrian catchments for schools, open spaces and public transport. Hence the resultant overlay is the area which is within walking distance from primary and secondary schools, bus stops, and open spaces. These two areas are considered appropriate for intensification. (It is noted that the geometry of the northern area will not, in isolation, result in an appropriate intensification area for obvious practical reasons.)



Map: Rangiora Centre



Map: Rangiora Overlay

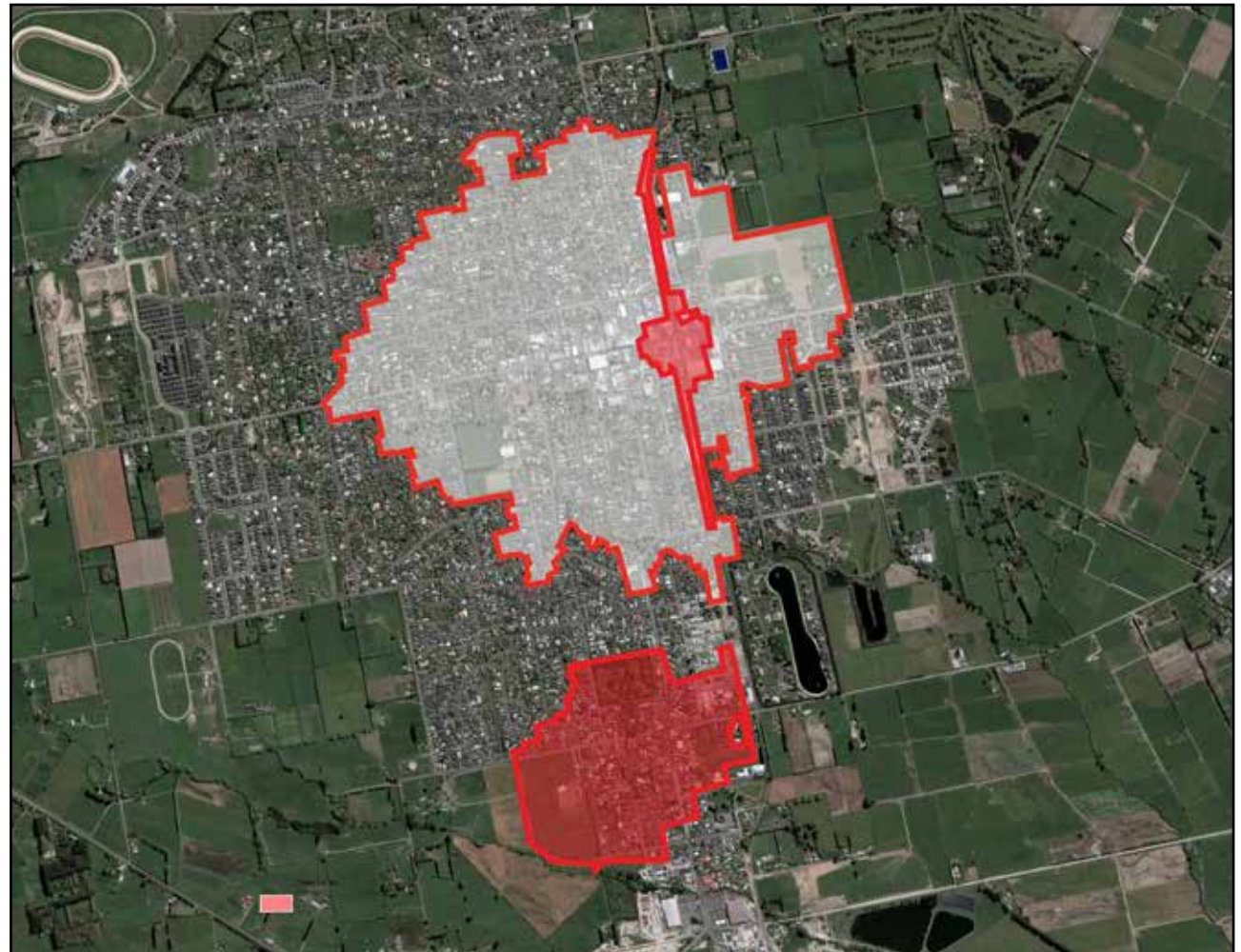
#### 4.14.3 Proposed Rangiora Intensification Map

The Rangiora Proposed Intensification Map shown opposite illustrates the areas that are from an urban design perspective considered appropriate for intensification.

The map is derived from combining the Rangiora Centre Map and the Rangiora Overlay Map. The result is two distinct areas. The main one is roughly in line with the town centre pedestrian catchment and a smaller secondary map is located in the northern end of residential areas of Southbrook.

In terms of the southern area it is noted that it has a boundary with rural landscape to the south west and further reduction of the area could be considered appropriate.

It is reasonable to conclude that the northern town centre area would have a higher importance than the southern area based on the maturity of land use in the centre and the size and focus of the town centre in the wider township context.



Map: Proposed Rangiora Intensification.

#### 4.14.4 Kaiapoi Centre Map

The Kaiapoi Centre Map shown opposite illustrates the pedestrian catchment surrounding the town centre. The map was derived using GIS software to define the area enclosed by a 800m from the edge of the Business 1 Zone. This zone represents a 10 minute walkable catchment from the centre and is considered appropriate for intensification.

The area is relatively uniform however a significant amount of the area is located within the Residential Red Zone and hence may not be viable for redevelopment or appropriate for intensification due to land constraints.

#### 4.14.5 Kaiapoi Overlay Map

The Kaiapoi Overlay Map shown opposite illustrates the area that is the confluence of pedestrian catchments for schools, open spaces and public transport.

The resultant overlay is the area which is within walking distance from primary and secondary schools, bus stops, and open spaces. This area is considered appropriate for intensification.



Map: Kaiapoi Centre



Map: Kaiapoi Overlay

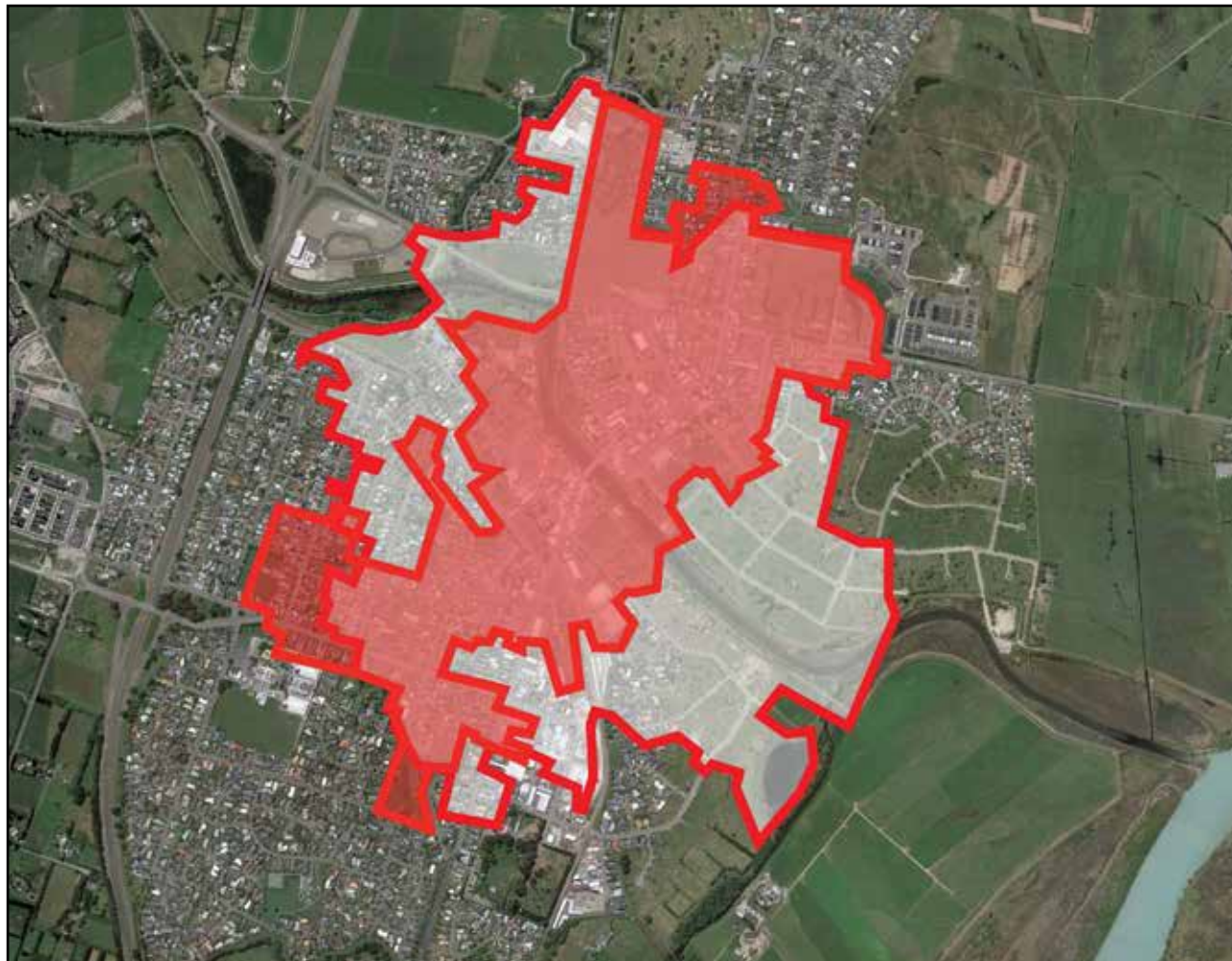


#### 4.14.6 Proposed Kaiapoi Intensification Map

The Kaiapoi Proposed Intensification Map shown opposite illustrates the areas that are from an urban design perspective considered appropriate for intensification.

The map is derived from combining the Rangiora Centre Map and the Rangiora Overlay Map. The area is roughly in line with the town centre pedestrian catchment with the addition of some small areas to the south, west and north of the town centre catchment.

It is reasonable to conclude that the Residential Red Zone and other land constraints such as flood risk management may heavily influence the practicality for intensification in Kaiapoi however the determination of these inputs is outside the scope of this study.



Map: Proposed Kaiapoi Intensification.

## 5.0 APPENDIX

### 5.1 INTENSIFICATION MAPS



Map: Kaiapoi Bus



Map: Kaiapoi Park



Map: Kaiapoi School



Map: Kaiapoi Overlap



Map: Kaiapoi Centre



Map: Kaiapoi Overall



Map: Rangiora Bus



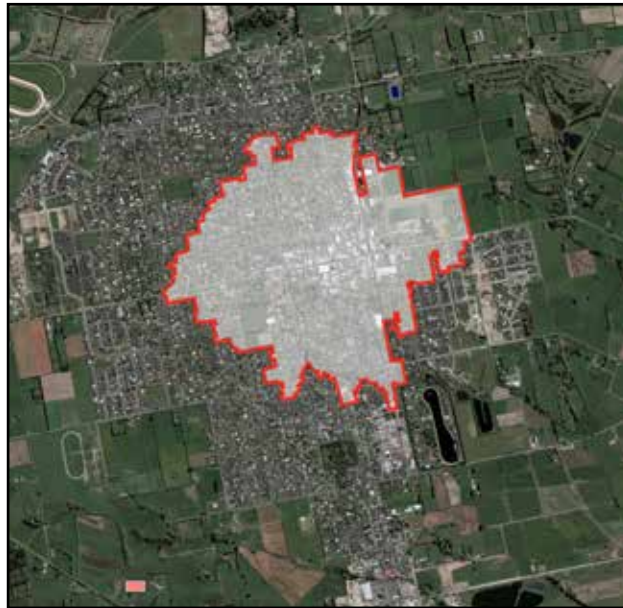
Map: Rangiora Park



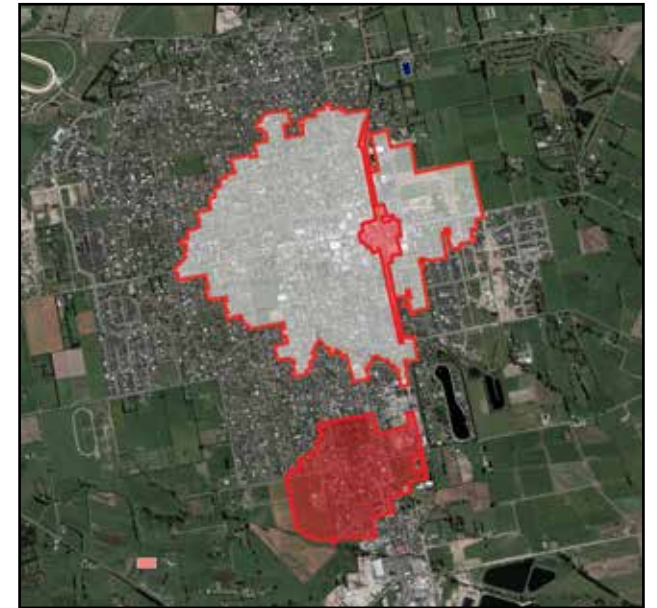
Map: Rangiora School



Map: Rangiora Overlap



Map: Rangiora Centre



Map: Rangiora Overall

## 5.2 LIST OF CRD DEVELOPMENTS CONSIDERED IN ASSESSMENT

- + 20 Pimlico Place, Rangiora.
- + 29 Victoria Street , Rangiora.
- + 29 Oxford Street , Rangiora.
- + 34 William St, Kaiapoi.
- + 2 Ballarat Rd, Rangiora.

## 5.3 GLOSSARY

**Amalgamation (lot)** : where two or more properties which are located next to each other are combined into one single new property.

**Medium density** : typically higher density development than that is typical in New Zealand suburbs and may include stand-a-lone houses, duplexes, terraces houses, or walk-up apartments. Sites are generally 200m<sup>2</sup>-350m<sup>2</sup>.

**Terraced house** : three or more houses that share party walls along a street or laneway.

**Duplex** : two adjoined houses either side by side or less frequently one on top of another.

**Walk-up apartment** : multi storey apartment development that includes access to upper floors via stairwells and not lift access, typically to a maximum of 4 storeys.

**Comprehensive development** : multi unit residential development often including a master planned approach with design of roads, open spaces, sites and houses.

**Comprehensive Residential Development (CRD)** : planning mechanism brought in under the LURP to promote intensive multi unit development in the Waimakariri District.

**Global consent** : resource consent for multiple sites under one consent umbrella often including dispensations from the district plan rules and provisions.

**General residential zone** : Waimakariri District Plan Residential Zones 1,2 and 3.

**Master planned zone** : Waimakariri District Plan Residential Zones 6,6A and 7.

**Rear lot development** : development of houses through subdivision within the rear gardens of lots with shared driveway access.

**Infill development** : residential development on vacant lots or on rear site subdivision lots within existing residential neighbourhoods.

**Zero lotted** : Houses located on the boundary of a site, hence no site lot provided in that location.