WAIKANAE GARDEN PRECINCT

CHARACTER ASSESSMENT

RMA [ENABLING HOUSING SUPPLY & OTHER MATTERS] AMENDMENT ACT & NSP-UD / IMPACT ON CHARACTER




Prepared for Kapiti Coast District Council by

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TABLE OF CONTENTS

1 INTRODUCTION

CONTEXT AND BACKGROUND

Waikanae Garden Precinct is identified in the Kapiti Coast District Plan as one of several distinct precincts within the General Residential Zone with location-specific issues that need to be managed. According to the District Plan, the Waikanae Garden Precinct: "is characterised by low residential density and high amenity values associated with existing established trees and remnant indigenous vegetation. *Development should be undertaken in a manner which is sympathetic to preserving the existing high standards of character and amenity values."*

The National Policy Statement on Urban Development (2020) (NPS-UD) and subsequent Resource Management (Enabling Housing Supply and Other Matters) Act, call for increasing the existing residential density and are applicable to the Kapiti Coast District Council as a Tier 1 local authority. In response, proposed District Plan provisions are being prepared for the General Residential Zone, including the Waikanae Garden Precinct, with different provisions for the areas within 400m of a Town Centre or 200m of a Local Centre, and within 800m of the Paraparaumu Metropolitan Centre Zone or a Rapid Transit Stop.

The increased density provisions have the potential to impact on some of the essential local character attributes of the Waikanae Garden Precinct. However, no specific studies/analyses have been undertaken to date to: (a) identify the specific character attributes of the Waikanae Garden Precinct; and (b) explain the rationale behind the current District Plan provisions and the way they are intended to facilitate the management of those character attributes. Note that the general 'bulk and location' provisions for the Waikanae Garden Precinct are the same as those for the General Residential Zone, except for the specific provisions re minimum lot size. This makes it difficult to establish the extent to which the character of Waikanae Garden Precinct might be affected by development under the increased density provisions.

To understand the potential impact of the new provisions on the character attributes of the Waikanae Garden Precinct, the Council has commissioned Urban Perspectives Ltd in association with Boffa Miskell to undertake a character assessment. The assessment will help inform the development of District Plan provisions in response to the new legislation and the NPS-UD, while acknowledging the essential local character attributes of the Waikanae Garden Precinct.

PURPOSE

The purpose of the study is two-fold:

(a) assess the present character of the Waikanae Garden Precinct (WGP or precinct) - identify its essential character attributes and establish the significance of those attributes to the collective character of the precinct; and

(b) identify the potential impact (degree and nature of potential change) of the proposed increased density provisions on each character attribute and the collective character of the precinct as a whole.

STUDY AREA & SCOPE OF THE ASSESSMENT

The boundaries of the Waikanae Garden Precinct as identified by the District Plan are shown on Map 1/Appendix 1.

Character Definition

For the purposes of this study 'Character' includes both built and natural elements within the private and public realms within an area or neighbourhood. While the individual elements are important, 'character' is largely determined by the relationship between those elements and the unique way they combine to form patterns and create the context and image of an area as a whole. The more pronounced,

consistent or continuous those elements, relationships and patterns are, the more distinctive and coherent the overall character of an area feels and the stronger its sense of place is.

Character Assessment

The assessment of the study area is focused on identifying typical features/elements and predominant underlying patterns relating to landform, vegetation and open space; spatial structure; density, site coverage and subdivision patterns. Built form and local streetscape characteristics have also been considered.

The specific characteristics of the WGP investigated in the study include:

- Landscape character (landform/topography, vegetation patterns)
- Spatial form and character (block structure, street patterns and open space network)
- Subdivision age
- Building age
- Building height
- Site coverage
- Lot size and shape
- Frontage setbacks/front yards and separation distances/side yards
- Streetscape characteristics and building character

METHODOLOGY/RESEARCH METHODS

The character assessment is based on a combination of the following research methods:[1]

- Landscape and Streetscape Appraisal - an expert field study of the area identifying important and consistent streetscape characteristics. The streetscape analysis also identifies any notable areas or 'local landscape/streetscape' features that for whatever reason might have a higher amenity/character value.
- Use of Council's Data and GIS Information [2] - patterns of typical slopes and vegetation, subdivision and building age, site coverage, lot size, frontage setbacks and building height have been identified based on records and information from the Council's database and GIS and Land Information NZ (LINZ). A series of maps, all to a single scale, have been composed to show the distribution of buildings with similar characteristics and the location of important landscape features.
- Interpretation of Results - the information from Council's records and GIS databases has been analysed and recorded in relation to the study area as a whole. This analysis was then verified against and integrated with the results from the streetscape appraisal.

[1] The methodology follows the methodology used for the 2011- character assessments of the Kapiti Coast Beach Residential Areas (Paekakariki, Raumati, Otaki) and the 2017- character assessment of Waikanae Beach.

[2] There are some gaps in the database and it is acknowledged that its accuracy is not absolute. However, the information derived from the database is considered to be sufficiently accurate for the purpose of this study - which is to identify important patterns of development within the study area that underpin its collective character.

Implication of increased densities on the local character - understanding the impact of increased density is based on:

- Comparative analysis of 'character findings' against the existing and proposed new increased density provisions to identify key issues/effects. The analysis is limited to the key 'bulk and location' provisions including site coverage, building height, setbacks and lot size.

The collective use of the identified research/analytical methods allows an objective assessment of the area's character and helps to inform conclusions on the implications of the new increased density provisions.

ACKNOWLEDGEMENTS

Urban Perspectives are grateful to KCDC for supplying GIS information from the Council's database.

2 EXECUTIVE SUMMARY

CHARACTER ASSESSMENT SUMMARY

Sense of place

Extending over a large flat area of 103ha north of the Waikanae River, the Waikanae Garden Precinct (WGP or precinct) forms part of the river floodplain with its shallow river terraces, fertile soils and remnants of regenerating native forest in places.

The WGP has long been recognised through the District Plan as an area with a distinctive 'green' character creating a strong sense of place. The Waikanae River and associated vegetation is an important element of the area's sense of place which is further enhanced by the proximity of the Tararua Range providing a prominent green backdrop of views to the east, north-east and south.

Based on an extensive amount of mature native and exotic vegetation, the area's collective green image has its roots in the early settlement and subdivision patterns once characterised by large properties and homesteads with large gardens, many of which included stands of mature native vegetation. This, together with the fertile soils and the early settlers' focus on retaining existing areas of remnant native forest provided the framework for the subsequent development/subdivision of the area. Despite substantial further subdivision, much of the original tree planting and remnant vegetation have been retained and enhanced with extensive subsequent planting. This accounts for the distinctive and unifying green pattern that runs throughout the precinct, underpinning its collective character.

Key characteristics

- extensive mature vegetation including a substantial number of tall trees (8m+)–and including ecologically significant areas and remnant vegetation contributing to a high vegetation cover (with the majority of lots with vegetation cover of tall trees between 40% and 80% +)
- varied street network creating two distinctive street/block patterns: (a) connected street pattern with regular in shape/similar in size blocks and a slightly lower vegetation cover along the northern edge of the precinct; and (b) pattern of large blocks subdivided by a series of cul-de-sacs covering most of the precinct. Many of those large blocks accommodate the largest lots within the precinct where vegetation patterns are most intense
- general sense of low-density based on stand-alone primarily single-storey dwellings on individual medium-to-large size lots with a predominantly low site coverage (30% or less)
- deep front yards (5m+) accommodating large amounts of prominent mature vegetation which reduces the visibility of dwellings along the street and creates an overwhelming, green-dominated streetscape further enhanced by mature street trees.
- generous rear (5m+) and reasonably wide side yards planted with mature vegetation that accentuate the separation distance between buildings and reinforce the perception of low density
- diverse building character (mixture of building ages and a range of building forms and styles) with buildings visually subservient to the green landscape setting
- a relatively small number of non-residential buildings and few public open spaces/reserves within the boundaries of the precinct

The combination of low site coverage, generous lot sizes and the predominance of deep front and rear yards has allowed for retaining/establishing extensive mature vegetation within the private lots. The combination of these characteristic patterns contributes to a cohesive green image where the sense of greenery and mature vegetation dominates the built form in views from the street. This is further enhanced by the planted berms and associated mature trees.

Essential character attributes/patterns/relationships[3]

- **Primary attributes -** the primary and most prominent/significant attribute of the WGP is derived from the extensive and contiguous vegetation cover, especially that related to tall native and exotic trees. The extensive vegetation cover creates a distinctive and largely continuous green pattern which runs through and is experienced across the precinct as a whole.

  While the intensity of this vegetation pattern varies across the precinct, and is less pronounced within some of its parts, there is a general sense of continuity of mature vegetation running throughout the precinct that binds it together. The continuity and integrity of that pattern, with a special focus on tall 8+m trees, are key aspects of the primary attribute.

  The primary attribute, which accounts for the high amenity values of the precinct, makes its contribution at two levels: (a) it enhances the on-site/private amenity value of individual sites; (b) contributes to the collective/public amenity value of the precinct as a whole.

- **Enabling attributes** - the primary character attribute has been enabled by three interrelated predominant and generally consistent patterns:

  (i) generous lots size (predominance of lots above 700m^2 up to 1200m^2+. (Note that the green pattern of tall trees and associated vegetation cover intensify and is most pronounced within the larger size lots which are often located mid-block as a result of the underlying street/block structure);

  (ii) low site coverage - predominance of site coverage below 30% for more than half of the sites, with most of the remaining sites having site coverage below 40%. This has allowed for sufficient space around the existing tall trees to accommodate the tree canopy, protect the roots of the trees and support their establishment and growth; and

  (iii) deep front and rear yards - predominant frontage setback of more than 5m and rear yards typically above 6m with many sites having much deeper front and/or rear yards. This has allowed for: (a) large scale mature vegetation and tall trees within the front yards providing a largely continuous green buffer between the dwellings and the street and contributing to an overwhelmingly green streetscape character; and (b) mature vegetation/tall trees within rear and side yards which tend to aggregate to create large intense mid-block clusters of mature trees.

[3] These have been identified based on the adopted 'Character' definition (page.2 of this report). According to that definition, 'character' includes both built and natural elements within the private and public realms of an area, noting that while the individual elements are important, 'character' is largely determined by the relationship between those elements and the unique way they combine to form patterns and create the context and collective image of an area as a whole. The more pronounced, consistent or continuous those elements relationships and patterns are, the more distinctive and coherent the overall character of an area feels and the stronger its sense of place is.

- **Supporting attributes**

  (i) low rise building form comprised of 1-2 storey stand-alone dwellings on individual lots - the visual expression of the distinctive and dominating green pattern is supported by the predominant low building height (single storey), which, combined with the predominant stand-alone dwelling typology, accentuates the scale and visual prominence of tall trees and other mature vegetation.

The combination of the enabling attributes - low site coverage, generous lot sizes and the predominance of deep front and rear yards - has allowed the establishment and growth of extensive mature vegetation within the private lots. The combination of these characteristic and consistent patterns contributes to a cohesive green image where the sense of greenery and mature vegetation dominates the built form in views from the street. This is further enhanced by the predominant low-rise/low density development pattern.

The value/landscape significance of the existing tall trees and other mature vegetation/remnants of indigenous vegetation, makes the WGP as a whole generally sensitive to change and particularly sensitive to any increased level of intensification.

DISTRICT PLAN REVIEW / OPERATIVE AND DRAFT PROVISIONS VERSUS CHARACTER ASSESSMENT: KEY FINDINGS

Operative Provisions

Previous and present levels of intensification that have shaped the existing environment have largely kept development density at a level where tall tree planting and other mature vegetation have been able to be maintained. This in turn has preserved the precinct's primary character attribute underpinning its distinctive 'garden' image and collective green character. This is partly due to the general alignment of the operative District Plan provisions with the existing underlying character patterns.

The rate of new development/subdivision in the last 20 years has been low and mainly limited to development resulting in a small number of new infill dwellings. This means that the operative provisions have not been widely tested in general and/or in relation to more intense forms of subdivision (e.g. subdivision of large sites into multiple lots), where potential loss of tall trees could be significant in the absence of an precinct-wide 'tree protection' provision. Further to this, the outcomes of subdivision resulting in lots below 700m^2, suggests that protecting the primary attribute has not always been achieved (e.g. vegetation cover of below 40% is often associated with lots under 700m^2).

Notwithstanding that, the package of operative provisions, although not ideal, seems to have provided a level of 'vegetation cover' protection under the current rate and scale/type of development. This is mainly because the site coverage and minimum lot size provisions generally align with the existing patterns. The high amenity value of the precinct based on its prominent and extensive vegetation pattern might have also helped to some degree to 'self-regulate' development and facilitate generally sympathetic development outcomes.

Draft Provisions

The extensive tall tree vegetation pattern underpinning the precinct's primary character attribute, has been enabled/facilitated by the existing patterns of low site coverage, large lot size and deep front and rear yards, in combination with a predominant building form based on 1-2 storey, stand-alone dwellings on individual lots.

The comparative analysis of the draft provisions against the existing character patterns and relative to the operative provisions established that the draft provisions:

- are markedly different from the existing patterns re site coverage, lot size, setbacks and building form/bulk (e.g. the 'enabling' and 'supporting' attributes); and

- would enable density of development and building character that would be a clear departure from that allowed under the operative provisions.

This means that new development under the draft provisions, if they were to be implemented, would impact significantly of the precinct's primary character attribute by enabling tree and other vegetation removal and/or by adversely impacting on the long-term survival and health of both native and exotic tall trees and established habitats.

If the integrity of the precinct's primary character attribute is to be maintained, the existing pattern of tall tree vegetation cover should be appropriately managed.

CONCLUSIONS

Character

- The WGP has a distinctive character based on a set of definable character attributes (primary, enabling and supporting attributes) that work together and reinforce each other. The precinct's primary attribute - the collective green pattern of extensive and contiguous vegetation cover of tall 8+m trees - has been enabled by the existing patterns of low site coverage, deep setbacks and large lot size, and further supported by the low rise/low density building form.

Operative and Draft Provisions

- The primary attribute has so far been managed reasonably well by the operative District Plan provisions, although there hasn't been sufficient new development to fully test those provisions.

- The draft provisions promote development with a density and building scale and character that would be markedly different from that allowed under the current District Plan provisions (which promote relatively low-density residential development) and in sharp contrast to the existing predominant patterns of the WGP. This suggests that the primary, most prominent and valued character attribute of the WGP - the significant tall trees vegetation cover - could potentially be severely compromised and in parts completely lost under a level of development enabled by the draft provisions. This in turn will adversely impact on the precinct's overall character and amenity value.

Parts of the WGP that are most sensitive to change /spatial extent

- The continuity of the existing green pattern throughout the precinct and the value/landscape significance of the existing tall trees and other mature vegetation/remnants of indigenous vegetation, makes the WGP as a whole generally sensitive to change and particularly sensitive to any increased level of intensification.

- The character value of the vegetation pattern was determined by the extent of vegetation cover of tall (i.e. 8m and above) trees within each site. On this basis, sites with tall tree cover above 30% and up to 80%+ were identified as 'primary' or character defining sites; sites with tall tree cover between 20% and 30% as contributory sites (sites contributing to the character); and sites with tall tree cover of below or up to 20% as supporting or neutral sites.

- Primary and contributory sites are most sensitive to increased level of intensification (such as that enabled by the draft provisions) as the potential loss of vegetation there would be most significant. As those sites account for more than 80% of the sites within the precinct, the potential collective loss of vegetation resulting from intensification across the precent would have a significant impact on its primary attribute and considerably change its overall character. Even if only some of those sites are to be redeveloped, this would break up and affect the continuity of the existing vegetation pattern as those sites are spread throughout the area.

- In comparison, supporting/neutral sites are less sensitive to intensification as: (a) their vegetation cover, and most often the density of that cover, are lower; and (b) they account for only 2% of the sites and therefore impact on the continuity of the vegetation pattern resulting from their red0evelopment would be low.

Possible further investigation on vegetation cover

- Not all contributory sites (vegetation cover 20-30%) exhibit an equal density of cover. This can also be said about some of the sites with vegetation cover between 30-40%. To establish in more detail the sensitivity of such sites to change further investigation re density of vegetation cover could be considered for sites within the 20%-40% vegetation cover category.

3 DETAILED CHARACTER ASSESSMENT

LANDSCAPE CHARACTER

CONTRIBUTION OF LANDFORM TO CHARACTER

Landform and vegetation individually and in combination contribute to an area's character. Both provide environmental limits and opportunities. How the land was shaped by the underlying geology and the subsequent geomorphological processes should guide the nature and scale of any built development. Unfortunately, there is often little acknowledgement given to this and landforms are dramatically altered resulting in major changes to both the original form of the land or to the processes that shaped it. Residential subdivision and development can recognise and be guided by the natural landforms, or it can totally change or modify it.

Recognition and acknowledgement of landform helps to create the character of an area; it creates identity and attachment.

The underlying landform and geomorphology of the Waikanae Garden Precinct is derived from its location around the Waikanae River floodplain with shallow river terraces and deep fertile soils.

Mapping Landform

To assist with depicting and understanding the landform, a digital elevation model (DEM) map has been produced with hill shade and 0.5m contours for each precinct overlaid on the cadastre. The DEM is generated from the land surface and excludes buildings and structures. Also shown are the slopes steeper than 1:3.

CONTRIBUTION OF VEGETATION TO CHARACTER

Vegetation is another significant contributor or creator of character. Native vegetation that has developed on the underlying landform as part of the natural process is especially valuable in terms of character contribution.

Given that native vegetation in the 'lowlands' of New Zealand where most of the population live, exists as very small fragments or remnants, retention and protection of these areas and enhancing them is very important.

Enhancement can be achieved by linking the fragments together, protecting the edges to create a buffer and wind protection and managing them to ensure they endure as permanent features in the landscape rather than allowing them to be compromised by pest plants, damage through root compaction and, drainage and changes to the water table.

Exotic vegetation can also create or contribute to landscape character, albeit a different type of character. In residential areas generally, it is the combination of native and exotic vegetation that is responsible for creating an area's landscape character.

The contribution of vegetation to landscape character, especially the contribution of native vegetation, varies across the Kapiti Coast environment. There are few remnants present across the wider Kapiti Coast area with the Waikanae Garden Precinct containing the most significant of these, several of which are mapped and recognised in the District Plan provisions. These remnants are often contiguous across several properties.

Mapping Vegetation

Several vegetation maps were produced as part of the assessment.

A map highlighting all vegetation of height 2.0m can show the distribution and pattern of vegetation but is of limited use when assessing scale and value of vegetation in residential areas and the impact of intensification on vegetation. Vegetation height and density provide more useful parameters to assessing value and the effects of potential impact of intensification.

While all types of vegetation contribute to character in residential areas, large trees are the greatest contributors because of their age, height, scale and canopy spread. Large trees, especially many native trees species, are particularly vulnerable to intensification.

A height threshold of trees 8.0m and above was selected and mapped. An 8.0m tall tree has a similar scale relationship to the height of a residential dwelling and trees of this height make a significant visual and amenity contribution to an individual lot and collectively to a neighbourhood.

Two key factors to consider in relation to 8.0m trees and potential intensification of development are: (a) the spread of the canopy; and (b) the extent of the root zone.

As a general rule, the extent of a tree's root zone aligns with at least the spread of the canopy (i.e. the drip zone); any ground disturbance (i.e. excavation and/or ground compaction) or building development should not encroach within the drip line. In residential areas, buildings are often constructed within a tree's dripline with tree roots being cut back to enable building and / or the root zone compacted. Sometimes the effects of this disturbance are evident reasonably quickly, but it often may take several years before the effects are manifested. This is especially an issue of concern for native forest remnants / trees.

WAIKANAE GARDEN PRECINCT CHARACTER

Landform

The Waikanae Garden Precinct (WGP) extends over a large, flat 103 ha area north of the Waikanae River. It is part of the river floodplain with shallow river terraces with fertile soils and tracts of remnant and regenerating native forest in places. The precinct is characterised by a generally flat topography with a limited number of localities with a gently sloping undulating terrain (refer Appendix 1, Map 2 & Map 3). The 'average slope' map (refer Appendix 1, Map 4) illustrates that the vast majority of sites (80%) have an average slope between 1:8 and 1:20. Unlike the Beach Residential Precincts, the WGP's landform on the whole is not a pronounced feature of or a major contributor to its character.

The pattern of settlement has significantly influenced the precinct's character where early settlement and subdivision saw development of large properties and homesteads generally with large gardens, many of which included stands of mature native vegetation. The deep fertile soils together with focus of some early settler developers on retaining areas of remnant native vegetation provided a framework for the pattern of subsequent residential subdivision that occurred. Despite substantial further subdivision, much of the remnant vegetation and original tree plantings have been successfully retained and enhanced with extensive subsequent planting.

Vegetation

While contiguous tracts of remnant native vegetation are present and protected in several parts of the WGP, together with 'Key Indigenous Trees', there are also smaller clusters and groups of tall native trees present throughout. In addition, there are extensive plantings of exotic trees and vegetation, including many mature street trees, which complement the plantings in private properties. The resulting landscape is one where the vegetation, especially tall trees are essentially responsible for creating the distinctive character of this precinct.

The pattern and distribution of tall trees visually dominates the precinct. From the roads and streets, dwellings and other structures are visually subservient with dense areas of tall vegetation along road frontages obscuring views and creating a unified residential environment.

The level of intensification occurred previously to create the current environment, has kept building density at a level where tree plantings and other vegetation have been able to be maintained at a high density. This has created a distinctive vegetation pattern throughout the precinct and an overall green character. Intensification at higher levels than the existing would have significant adverse effects on the

established vegetation pattern and for this to occur it would require tree and other vegetation removal and/or result in adverse impacts on the long-term survival and health of both native and exotic trees and the established habitats.

VEGETATION MAPS ANALYSIS

Two maps have been prepared to illustrate the characteristics of the vegetation pattern of tall trees (8m and above): (a) 'vegetation coverage' map; and (b) 'vegetation' map (8m and above trees).

The 'vegetation coverage' map (Appendix 1/ Map 5) shows the vegetation cover[4] of tall trees on each site. Vegetation cover was calculated for each lot and recorded within 5 categories with a 20% interval between them (starting with vegetation cover of up to 20%). The 20%-40% vegetation cover was further split into two sub-categories within 10% difference to provide a more detailed understanding of vegetation cover within this broader category. The percentages of lots within each category were identified and their geographic distribution plotted on the map.

The 'vegetation' map shows the location/distribution of tall trees throughout the precinct and provides an indication of the density of tall tree vegetation within each site (Appendix 1/ Map 6).

- The analysis of the 'vegetation coverage' map (Appendix 1, Map 6) shows that:
  - more than half of the sites (57%) have a vegetation cover of above 40% and up to 80%+. Sites with vegetation cover above 40% occupy two-thirds of the total area of residential sites across the precinct;
  - most all of the remaining sites have vegetation cover between 20% and 40% with most of the sites in that category with vegetation cover between 30% and 40%; and
  - sites where vegetation cover is below 20% constitute only 2% of all sites.
- The analysis showed that while the intensity of the vegetation pattern of tall trees varies from location to location and/or from site to site, it runs continuously throughout the precinct binding it together. In terms of character, it is the general consistency and continuity of that pattern that contributes to the distinctive green image of the precinct as a whole.
- The 'vegetation cover' and 'vegetation (8m and above)' maps were analysed together to establish the relationship between vegetation cover and intensity or density of vegetation patterns. The analysis showed that tall trees are mostly concentrated within front and rear yards, but they appear in clusters of a different size and density with many tall trees being dispersed across the lot. Density of vegetation cover - which is an important characteristic of the vegetation pattern - has been mapped (refer 'vegetation location' map) but has not been analysed in detail as 'measuring' vegetation density is a difficult and complex task requiring detailed site investigations. As a general observation though, lots with vegetation cover of 40% or above tend to have most of their trees grouped together in larger clusters (resulting in a vegetation cover with a higher density), while the density within lots with a vegetation cover below 40% appears lower, as many of the trees there tend to form smaller clusters or are dispersed/spread across the lot.
- The sites with vegetation cover above 30%, where the density of the cover tends to be most intense, make the strongest (primary) contribution to the collective green pattern and define its character. Primary sites tend to be associated with lots above 700m^2. These are followed by sites with a vegetation cover between 20%-30% which are considered to be contributory sites - sites that contribute to the character of the precinct but exhibit a less pronounced vegetation pattern.

[4] Reference to 'vegetation cover' made throughout this report relates to tall tree (8m and above) cover.

- While trees within the contributory sites tend to be spread across the site or appear in smaller clusters (e.g. have a lower density of cover), compared to the dense clusters/larger groupings within the primary sites, they are nevertheless no less important as they account for and support the continuity of the vegetation pattern across the precinct. The contributory sites are often found in groups or rows around the same locality. Some of the localities with larger groups of contributory sites, which often sit adjacent to sites with a vegetation cover between 30-40%, are found along the northern periphery of the precinct (north of Ngaio Road) and the eastern and western ends of the precinct. Many contributory sites correspond to lots below 700m^2.
- Sites with vegetation cover below 20%, which are almost non-existent within the precinct, are considered to be supporting or neutral sites.

Refer to 'vegetation - character' map, showing the geographic distribution of primary, contributory and supporting/neutral sites (Appendix 1/Map 16).

Summary

The influence of the Waikanae River, together with the contiguous pattern of tall mature vegetation, including significant stands of remnant native vegetation defines the precinct' character.

The extensive tall vegetation cover over most of the precinct is present because of the value placed on it by landowners rather than the district plan provisions (i.e. self-policing). The combination of important tracts of remnant native vegetation together with extensive tree and other vegetation planted over many decades to create a contiguous canopy across the precinct has produced the distinctive and very recognizable character.

Not all contributory sites (vegetation cover 20-30%) exhibit an equal density of cover. This can also be said about some of the sites with vegetation cover between 30-40%. To establish more accurately the sensitivity of such sites to change and gain an understanding of levels of intensification that might be appropriate, further investigation re density of vegetation cover could be considered for sites within the 20%-40% vegetation cover category.

Given this, a comprehensive inventory and analysis of the vegetation cover throughout the precinct would provide a better understanding of the importance and value that mature contiguous vegetation plays in creating this character. This would also help identify vulnerable areas and places where greater focus is required.

SPATIAL STRUCTURE: STREET/BLOCK PATTERNS[5]

Te Moana Rd: the main entrance route to WGP

The spatial structure of the study area is underpinned by the street and block layout.

The main roading network (refer to 'street network' map, Appendix 1/Map 8) is comprised of a secondary arterial road (Te Moana Road) providing the main east/west connection between Main Road (Old SH1), Kapiti Expressway and the coast and several collectors roads running to the north of Te Moana Road (Kohekohe Road/Ngaio Road). Ngarara Road provides the main cross-link to the north with a link to Park Avenue to the north/west. Te Moana Road is the main entrance route to the WGP from either direction.

The streets of the main roading network are relatively straight or gently curving and link to a series of local roads of varying width, including a large number of cul-de-sacs.

STREET/BLOCK PATTERNS

The WGP street/block structure is underpinned by two predominant but distinctly different patterns that have been largely influenced by the topography (refer to 'block structure' map and 'street width' map, Appendix 1/Map 7 & Map 9).

a. Area to the north of the river / south of Kohekohe Road and west of Ngarara Road:

- the pattern to the south of Kohekohe Road and west of Ngarara Road, which covers most of the study area, is based on irregularly shaped blocks, including some very large blocks, subdivided by cul-de-sacs and overall street network with low connectivity;
- the blocks on the northern side of Te Moana Road are exceptionally large (between 300-500m long and up to 300m deep) resulting in a large number of rear/ internal lots within the middle of the blocks. Many of the internal lots are above 1200m^2;
- most of the blocks on the southern side on Te Moana Road/adjacent to the river are smaller than those on the northern side of the road. A small number of cul-de-sacs extend into walkways connecting to the river reserve; and
- many of local streets/cul-de-sacs have a curving layout and are relatively narrow, with some of them with the notion of being private lanes.
- the blocks to the north of Kohekohe Road have a similar rectangular shape and form part of a connected street pattern which is typical for the wider area further to the north;
- most blocks are two-lots-deep and have similar dimensions of approximately 250 x 120m; and
- the linear shape of the blocks and the associated subdivision/lot pattern within the area to the north of Kohekohe Road is underpinned by the topography and associated linear cluster of ecological sites running mid-block between Ngaio Road and Kohekohe Road and stretching between Russell Reserve and Motuiti Scenic Reserve.

WGP: Street Network & Block Structure

[5] The analysis of the study area's spatial structure is based on field work, analysis of aerial photographs and measurements of block dimensions taken from cadastral maps.

Main connecting roads: Te Moana Rd (above) Ngarara Rd (below)

Local street character dominated by mature planting

OPEN SPACE & GREEN NETWORK

Open space structure and the green network are fundamental elements of an area's character.

The open space structure comprises street corridors and verges, the river corridor and reserves (local parks and ecological areas). Except for the ecological sites within the northern end of the study area, the rest of the open spaces are within the public domain.

The green network, which closely follows the open space structure, includes planting on public land (streets, parks and reserves) as well as planting occurring on private land within the individual residential lots. The latter, in terms of amount and maturity, including ecological sites on private land, is one of the most pronounced character attributes of the WGP. Enabled by the predominant generous lot size pattern, it is a distinct feature and a primary element of the precinct's character and sense of place.

STREET CORRIDORS

Main connecting roads /Te Moana Road, Kohekohe Road and Ngarara Road

- Te Moana Road, runs in east-west direction is the widest road in the area with a width above 15m. It has generous berms on both sides with intermittent groupings of mature street trees. For most of its length it has footpaths on both sides.
- Kohekohe Road and Ngarara Road are both above 15m wide and typically have footpath running on one side only. They have planted berms with intermittent groups of trees.
- The generous berms and street tree planting supported by mature front yard vegetation creates an overwhelming sense of large-scale greenery when moving along the main street network.

Local Streets

- The local streets in the study area include some connecting streets and a large number of cul-de-sacs. The width of the local streets varies but is largely below 15m and includes some quite narrow cul-de-sacs.
- Most of the cul-de-sacs have berms and incorporate some street trees. Footpath tends to be on one side only.
- Street character along most local streets, regardless of street trees, is dominated by existing mature planting within the front/side yards.

Front and rear yard mature planting enhanced by street streets create an extensive green network

PUBLIC OPEN SPACES AND RESERVES

While the study area itself does not include many open spaces, it is defined and/or is surrounded by several important public spaces.

The WGP sits adjacent to the two larger reserves - the extensive reserve along Waikanae River running along the southern boundary of the precinct, and Russell Reserve and Waikanae Park further to the north-west.

Incorporating a series of parks and reserves, the wider Waikanae River reserve area is classified as a special amenity landscape within the Kapiti Coast landscape. The mature vegetation found within the rear yards of the properties adjacent to the river tend to merge the boundaries between public and private planting creating a pronounced dense green interface between the residential area edge and the river's reserve. The mature trees within that interface are visible when moving along adjacent streets.

Russell Reserve, the majority of which is classified as an ecological site, forms a substantial part of a pronounced and well-defined wider cluster of ecological sites running in an east/west direction (mid-blocks between Ngaio and Kohekohe Roads). This cluster connects Russell Reserve to Motuiti Scenic Reserve and include trees of substantial height. Views of those trees in views from along the surrounding streets are enabled by the predominant low building heights, low site coverage and the generous separation distances between adjacent buildings.

The Motuiti Scenic Reserve, which is the only open space located within the boundaries of the study area, is also classified as an ecological site.

GREEN NETWORK

The WGP has an extensive and prominent green network. Comprised primarily of mature vegetation on private land and including remnant vegetation, significant number of large mature trees and designated ecological sites and key indigenous trees, the green network is complemented by the vegetation within the public open spaces and mature street trees. Experienced when moving throughout the study area, this green network accounts for the characteristic 'green/garden image' of the precinct as a whole.

While all types of vegetation contribute to the precinct's primary attribute, large/tall trees are the principal contributors because of their age, scale and canopy spread and are particularly vulnerable to intensification. The value/landscape significance of the precinct's garden-like setting, with emphasis on tall trees, makes the WGP as a whole sensitive to change in general and highly sensitive to the proposed increased level of intensification.

SUBDIVISION AGE

Information on subdivision age was supplied by the Council. Three subdivision age categories were identified (within 20-year periods). It is noted that information on subdivision age appears incomplete as there is no record for the periods prior to 1930 and post 1990. It is assumed that no subdivision was undertaken during those periods.

The 'subdivision age' map (Appendix 1/Map 10) shows the geographic distribution of lots within the same age category.

Figures show that half of the lots within the study area were subdivided during the 1951-1970 period which appears to be the most intense period of development. This was followed by subdivision in the next two decades (1970-1990) when a third of the total number of lots were created. Prior to 1950 only a small number of lots were created.

The figures (in percentages of the total number of lots) are:

Subdivision Age	
1901-1930	-
1931-1950	16%
1951-1970	51%
1971-1990	30%
1991-2000 +	-
N/A	3 %

SUBDIVISION AGE AND STAGES OF DEVELOPMENT

- The graphic and numerical information on subdivision age indicates that the eastern part of the study area was subdivided first with development occurring in two key areas - the south/east end of the study area between Te Moana Road and Main Road (near the railway station) and the area on the eastern side of Ngarara Road.
- This was followed by the subdivision of the parts of the study area to the south of Te Moana Road + a small area on the northern side of Te Moana Road towards its eastern end. The remaining / south and south-western parts of the study area were developed last.

BUILDING AGE

Information on building age was supplied by the Council.[6] Six building age categories were identified within twenty-year periods. The 'building age' map (Appendix 1/Map11) shows the geographic distribution of buildings within the same age category.

Building character reflects the era of construction

The graphic and numerical information shows that building development prior to 1950 was very slow/ almost non-existent but it started to increase in the next four decades with 1970-1989 being the most intense period of construction. Development in the subsequent period 1990-2000 started to slow down, a trend that continued through the last 21 years.

The figures are:

Building Age Categories

Before 1910	0.22%
1930-1949	1.0%
1950-1969	24.0%
1970-1989	42.0%
1990-1999	12.0%
2000+	10.0 %
No data	10.0%

BUILDING AGE AND CHARACTER

- The data records the period of construction of each dwelling. Although many dwellings have been modified over time, knowledge of the original construction date offers useful information about the built/architectural character of the study area and the stages of its development.
- Consistency of age can be correlated with consistency of style and building type, particularly for construction prior to 1940. However, the data shows that: (a) there are few pre-1940s buildings; and (b) that the predominant building character throughout the area is based on designs typical for the 1950-1990 periods, when most buildings were constructed.
- Buildings constructed in the earlier periods are often sitting on some of the largest lots within the area. The two buildings in the study area built prior to 1910 are both hidden from views from the street, with one of them at 362-366/376 Te Moana Road, known as Laybourne, sitting on an exceptionally large and heavily vegetated site.
- Buildings built within the same time period tend to be clustered together - a pattern that is most pronounced around some of the cul-de-sacs and sections of Te Moana Road.

[6] The data on building age is incomplete with gaps in information for 10% of the buildings in the study area. This gap of information is considered insignificant for the intent of the study which focuses on general and typical patterns of development.

- Most of the buildings constructed after 1991 seem to relate to infill development occurring on subsequently subdivided larger original lots.
- On the whole, building character is difficult to appreciate in views from the street due to the large number of single storey buildings obscured by heavily vegetated front yards.

BUILDING HEIGHT

The precinct is characterised by a mix of one and two-storey buildings

Information on building height (measured in metres) was recorded under three height categories within 3m height difference between them. An assumption was made that buildings within 3m-6m correspond to 1 storey, 6m-9m to up to 2 storeys and above 9m to buildings above 2 storeys. It was also assumed that not all buildings within the 6m-9m category were necessarily 2-storey buildings. The 'Building Height' map (Appendix 1/Map 12) shows the geographic distribution of buildings corresponding to one, two or two+ storeys.

The information shows that the study area is a mix of one and two-storey buildings where more than half of buildings are single-storey.

The figures (percentage of the total number for each category) are:

Building height/No of storeys

3m-6m / 1 storey	54.0%
6m-9m / up to 2 storeys	33.0%
above 9m (above 2 storeys)	7.0%
N/A	6%

DISTRIBUTION OF BUILDING HEIGHT

- The single-storey buildings are spread almost evenly throughout the study area. At various locations relatively long sections of the same street are occupied almost exclusively by buildings of the same height.
- The two storey buildings tend to appear in clusters. However, not all buildings with a height of 6m-9m are necessarily 2 storeys as many buildings in that category have taller roof forms that add to their height (as verified by the field work). The same comment applies for buildings above 9m which tend to be 2 storeys with tall roof forms. This means that the predominant pattern of building height throughout the area is 1 storey.
- Perception of building height is influenced by the existing vegetation - e.g. the large number of tall trees and other mature planting tends to reduce the perceived building height and/or obscure the buildings in views from the street. This accentuates the green, low-rise, low-density image of the area.

SITE COVERAGE

Information on site coverage has been supplied by the Council. The information was recorded within four 'site coverage' categories. The 'Site Coverage' map (Appendix 1/Map 13) shows the geographic distribution of the lots within the same category.

More than half of the sites have a site coverage below 30% and approximately a third have a site coverage between 30% and 40%. This brings the vast majority of sites (85% of the total number) having site coverage below 40%. Sites with a coverage above 40% are of limited number (12% of the total).

The figures (percentage of the total) are:

Site coverage

Below 30%	55.0%
31% - 40%	30.0%
41% - 50%	11.0%
51%-60%	1.0%
N/A	3.0%

SITE COVERAGE

- The Site Coverage map shows that lots with low site coverage (up to 30%) are spread evenly throughout the area. Lots in the next category - 31% - 40% - tend to be clustered around the same locations. In most cases the lowest site coverage appears to be associated with the larger lots. The low site coverage is closely related to the predominant generous lot size pattern throughout the area.
- Site coverage above 40% tends to be associated with infill development where original larger sites have been subdivided or a second dwelling has been added on the original sites.
- The low site coverage, combined with the predominant larger lot sizes allows for generous private open space.
- Site coverage is an indicator of density and as such reflects the amount of open space on the individual lots and the ability for on-site planting. The combination of low site coverage, pattern of generous lot sizes and the predominance of deep frontage setbacks has allowed for establishing extensive mature vegetation within the private lots. The combination of these characteristic patterns contributes to a cohesive green image where the sense of greenery and mature vegetation dominates the built form in views from the street. This is further enhanced by the planted berms and associated mature trees.

LOT PATTERNS

Information on lot size was sourced from Land Information New Zealand. Five lot size categories were identified. The 'Lot Size' map (Appendix 1/Map 14) shows the distribution of lots within each category.

The information shows that the area is dominated by lots above 700m^2 including similar number of lots within each of the following three categories - 700m^2-900m^2, 900m^2 - 1200m^2 and above 1200m^2.

The figures are as follows:

Lot size

Under 500m^2	5.0%
500m^2 to 699	9.0%
700m^2 to 899m^2	32.0%
900m^2 to 1200m^2	30.0%
Above 1200m^2	24.0%

LOT PATTERNS

- Overall, the study area is dominated by large lots above 700m^2 with the vast majority of lots being between 700m^2 and 1200m^2 and above. The largest lots tend to appear in clusters and are typically found within the centre of blocks.
- Approximately half of the smaller lots (below 700 m^2) are found within the eastern most part of the study area (within the identified zone within 800m from the Waikanae Train Station). Most of those lots appear to be a result of subsequent subdivision for infill housing.
- Lots with similar size/proportions tend to be clustered around the same location/street. There is a repetition of common lot sizes along most of the cul-de-sacs.
- Most lots have a regular shape with similar proportions typically in the order of 1:2 to 1:3 (lot frontage width is the range of 15-18m).
- Rear lots are typically of irregular shape.
- Consistency of lot pattern (size, shape, proportions) is most pronounced within the northern-most end of the study area and along most of the cul-de-sacs.

The precinct is characterised by deep front and rear yards with mature tall planting

BUILDING LOCATION

(FRONTAGE SETBACKS & SEPARATION DISTANCES)

Building location is determined by frontage setbacks, side/rear yards and building alignment. Building location patterns were identified through mapping (re frontage setbacks) and analysis of aerial maps. Frontage setbacks were recorded within 4 categories: within 1.5m (corresponding to the proposed provision), 1.5-2.5m; 2.5-5m and above 5m (refer 'frontage setback' map, Appendix 1/Map 15).

The figures are as follows:

Frontage setback

Within 1.5m	3.0%
1.5m-2.5m	2.0%
2.5m-5m	26.0%
Above 5m	66.0%
N/A	3.0%

FRONTAGE SETBACKS

- Frontage setbacks vary throughout the area but are rarely shallow with most frontage setbacks (two-thirds) being deeper than 5m. Most of the remaining setbacks (26% of the total) are between 2.5 and 5m.
- Relatively consistent frontage setbacks can be seen along parts of some streets, but, given the mature vegetation found within the front and many side yards, such a consistency is not readily apparent in views from the street.

SEPARATION DISTANCES

- There is no pronounced consistency of either side or rear yard dimensions throughout the precinct as a whole. However, there are grouping of buildings found within the same location a similar rear yard pattern. Overall rear yards are generally generous in the range of 10-20m for most properties and in some cases over 25m. An example of the latter can be found in the vicinity of Kohekohe and Ngaio Roads where the deep rear yards seem to be a result of the large/deep lot pattern and the existing mature rear yard native vegetation (designated as ecological area by the District Plan). Rear yards for some lots adjacent to the river are also very deep. Rear yards tend to be smaller on some of the north facing lots.
- In many locations existing tall trees in the rear yards of adjacent properties tend to aggregate to create large contiguous green clusters mid-block. This, together with the mature vegetation including tall trees in the side yards, accentuate the visual separation between neighbouring buildings and magnifies the sense of low density with buildings set up amongst greenery.
- Separation distances between adjacent buildings (based on side yards) are variable, but for most dwellings they are in the range of 6m.

STREETSCAPE CHARACTERISTICS

Streetscape character dominated by mature front yard planting. Street boundaries typically defined by planting or low fencing

- The streetscape character is what people experience when moving through an area. It is directly influenced by the underlying street edge conditions which in turn are defined by frontage setbacks, fencing and front yard planting, building orientation and front façade treatment and parking or garages arrangement within the front yard. A key aim of a streetscape analysis is to identify important and consistent streetscape characteristics, and any notable elements or areas that for whatever reason might have a higher amenity/character value.

STREET EDGE DEFINITION (FENCING, LANDSCAPING, GARAGES)

- The street edge definition/fencing patterns vary throughout the precinct, including a combination of fencing and/or planting. In the most cases fencing is either low or non-existent with mature planting providing street edge definition. Tall fences are found along some of the streets, but as whole they are not a recuring feature throughout the precinct and in most cases are softened by substantial planting.
- Lawns and gardens are recurring features throughout the precinct as a whole. In many instances front yard planting obscures views of the dwelling from the street.
- As a whole, the streetscape throughout the precinct is dominated by prominent and in most cases large-scale tall vegetation with buildings subservient to the landscape setting.

BUILDING RELATIONSHIP TO THE STREET, RELATIONSHIP BETWEEN NEIGHBOURING BUILDINGS

- Garages built to or close to the street edge are not typical. Most dwellings are well setback from the street boundary with garages and/or car-pads located away from the street boundary. Many buildings have integrated garages.
- Typically, buildings display a well-presented front elevation with entrances, windows, and porches facing the street.
- Mature vegetation within the rear yards is often seen in views from the street through the gaps between adjacent buildings. In many locations existing tall trees in the rear yards of adjacent properties tend to aggregate to create large contiguous green clusters mid-block. This together with the mature vegetation in the side yards, accentuates the visual separation between neighbouring buildings and magnifies the sense of low density and the notion of buildings set up amongst greenery as viewed from the street.
- Most buildings are aligned with the street boundary and with their immediate neighbours. However, this pattern is not apparent in views from the street, as often the buildings are obscured by mature front yard planting.

BUILDING CHARACTER

- The building character of the study area as a whole is diverse. The area is a mixture of some older and more recent dwellings in a range of building/architectural styles that reflect the era of construction. Most buildings are single-storey but some of the more recent dwellings tend to be two-storeys and some have been architecturally designed. There are no notable buildings or any pronounced groupings of buildings with a consistent or otherwise significant streetscape value that warrant protection.
- Most buildings appear to be well-maintained and in good condition.

WGP is dominated by detached one and two-storey dwellings

BUILDING TYPE, FORM AND STYLE

- Detached one and two-storey dwellings are the predominant building type.
- A small number of single storey semi-dwellings are found in various locations throughout the area.
- Sloping roofs are typical. Predominant roof forms include gabled, and hipped roofs.
- Building styles, including general form, materials and detail reflect the period of construction. The predominant building character throughout the precinct is based on designs typical for the periods between 1950-1990 when most buildings were constructed. Recurring cladding materials include weatherboards, plaster finish and some bricks. Corrugated iron and tiles are typical roofing materials.

PARKING

Parking and garages close to the street edge are not recurring feature, although long driveways connecting to setback garages can be seen in views from along some of streets.

TOPOGRAPHY & BUILT FORM

Topography is generally flat with only a limited number of locations where the lots sit above or below street level with adjacent street edges planted or retained through planting or landscape features.

NON-RESIDENTIAL BUILDINGS

The precinct includes a limited number of non-residential buildings including the Otaki/Waikanae Presbyterian Church, the Waikanae Fire Station, the Bowling Club, and a medical centre/pharmacy

The non-residential buildings are all low-rise buildings with variable scale and form/design appearance that reflect their function.

Waikanae Bowling Club

Otaki/Waikanae Presbyterian Church

Waikanae Fire Station

WAIKANAE GARDEN PRECINCT: BUILDING CHARACTER (EXAMPLES)











4 DISTRICT PLAN REVIEW: OPERATIVE & DRAFT PROVISIONS

DISTRICT PLAN / OPERATIVE PROVISIONS

According to the District Plan, the Waikanae Garden Precinct (WGP)*: 'is characterised by low residential density and high amenity values associated with existing established trees and remnant indigenous vegetation. Development should be undertaken in a manner which is sympathetic to preserving the existing high standards of character and amenity values".*

The above description identifies two key characteristics/attributes - low residential density and existing established mature vegetation (trees and remnant indigenous vegetation) contributing to the precinct's high amenity values. The operative District Plan does not elaborate on or quantify any those attributes and/or explain how they relate to or might influence each other. Moreover, it is not clear how the current provisions are to manage a 'sympathetic' development that preserves the high amenity values/existing mature vegetation, given the provisions (re bulk and location) are the same as those for the General Residential Area, except for the lot size provision. Note that while the District Plan protects identified individual 'key indigenous trees' and ecological areas (contiguous tracts of remnant native vegetation), these constitute a very small percentage of the existing total 'tall tree' vegetation cover. This means that the current provisions do not explicitly provide for the protection/maintenance of the collective green pattern across the precinct as a whole.

Establishing the degree of alignment between current provisions and the key character attributes (as identified by the assessment) is an important first step towards understanding the impact of the proposed higher density provisions on the WGP's character.

ESSENTIAL CHARACTER ATTRIBUTES/PATTERNS/RELATIONSHIPS[7]

Based on the detailed character assessment (Section 3 of this report) the following character attributes emerged:

- **Primary attributes -** the primary and most prominent/significant attribute of the WGP is derived from the extensive and contiguous vegetation cover, especially that related to tall native and exotic trees. The extensive vegetation cover creates a distinctive and largely continuous green pattern which runs through and is experienced across the precinct as a whole.

  While the intensity of this vegetation pattern varies across the precinct, and is less pronounced within some of its parts, there is a general sense of continuity of mature vegetation running throughout the precinct that binds it together. The continuity and integrity of that pattern, with a special focus on tall 8+m trees, are key aspects of the primary attribute.

  The primary attribute, which accounts for the high amenity values of the precinct, makes its contribution at two levels: (a) it enhances the on-site/private amenity value of individual sites; (b) contributes to the collective/public amenity value of the precinct as a whole.

[7] These have been identified based on the adopted 'Character' definition (page 2 of this report). According to that definition, 'character' includes both built and natural elements within the private and public realms of an area, noting that while the individual elements are important, 'character' is largely determined by the relationship between those elements and the unique way they combine to form patterns and create the context and collective image of an area as a whole. The more pronounced, consistent or continuous those elements relationships and patterns are, the more distinctive and coherent the overall character of an area feels and the stronger its sense of place is.

- **Enabling attributes** - the primary character attribute has been enabled by three interrelated predominant and generally consistent patterns:

    (i) generous lots size (predominance of lots above 700m^2 up to 1200m^2+. (Note that the green pattern of tall trees and associated vegetation cover intensify and is most pronounced within the larger size lots which are often located mid-block as a result of the underlying street/block structure);

    (ii) low site coverage - predominance of site coverage below 30% for more than half of the sites, with most of the remaining sites having site coverage below 40%. This has allowed for sufficient space around the existing tall trees to accommodate the tree canopy, protect the roots of the trees and support their establishment and growth; and

    (iii) deep front and rear yards - predominant frontage setback of more than 5m and rear yards typically above 6m with many sites having much deeper front and/or rear yards. This has allowed for: (a) large scale mature vegetation and tall trees within the front yards providing a largely continuous green buffer between the dwellings and the street and contributing to an overwhelmingly green streetscape character; and (b) mature vegetation/tall trees within rear and side yards which tend to aggregate to create large intense mid-block clusters of mature trees.

- **Supporting attributes**

    (i) low rise building form comprised of 1-2 storey stand-alone dwellings on individual lots - the visual expression of the distinctive and dominating green pattern is supported by the predominant low building height (single storey), which, combined with the predominant stand-alone dwelling typology, accentuates the scale and visual prominence of tall trees and other mature vegetation.

The combination of the enabling attributes - low site coverage, generous lot sizes and the predominance of deep front and rear yards - has allowed the establishment and growth of extensive mature vegetation within the private lots. The combination of these characteristic and consistent patterns contributes to a cohesive green image where the sense of greenery and mature vegetation dominates the built form in views from the street. This is further enhanced by the predominant low-rise/low density development pattern.

The value/landscape significance of the existing tall trees and other mature vegetation/remnants of indigenous vegetation, makes the WGP as a whole generally sensitive to change and particularly sensitive to any increased level of intensification. [8]

DRAFT PROVISIONS [RESOURCE MANAGEMENT (ENABLING HOUSING SUPPLY and OTHER MATTERS) AMENDMENT ACT & NPS-UD)]

The draft provisions permit 3 residential units (11m tall) on a site with a total/maximum site coverage of 50%, minimal setbacks (1.5m front yard, 1m side and rear yard) and no minimum lot size provisions. Height in relation to boundary is based on 60^o recession plane measured from a point 4m vertically above ground level along all boundaries, except in relation to the road boundary and between the existing or proposed internal boundaries and site boundaries with a common wall. The draft provisions apply to the WGP as a whole, except that the building height within the part of the precinct within 800m from the railway station can rise to 20m/equivalent to 6 storeys.

The draft provisions promote development with a density and building scale and character that would be markedly different from that allowed under the operative District Plan provisions (which promote relatively low-density residential development) and in sharp contrast to the existing predominant patterns of the WGP. This suggests that the primary, most prominent and valued character attribute of the WGP -

[8] Refer to 'Landscape Character'/Detailed Character Assessment, section 3 of this report.

the significant tall trees vegetation cover - could potentially be severely compromised and in parts completely lost under a level of development enabled by the draft provisions.

Understanding the specific impact of the proposed increased density on the WGP character requires, in the first instance, establishing the degree to which the draft provisions for minimum lot size, maximum site coverage, maximum height and minimum front/year yards (e.g. provisions covering the 'enabling attributes') align or otherwise with the predominant patterns.

EXISTING CHARACTER VERSUS OPERATIVE & DRAFT PROVISIONS

This section of the assessment analyses how the existing character attributes compare with both the operative and the draft provisions. The focus is on:

a. establishing the degree of protection of the WGP's primary character attribute under the current District Plan provisions; and

b. identifying the implications of the proposed increased density provisions on the WGP's primary character attribute.

The analysis is carried out in relation to the basic bulk/location provisions that are considered most relevant to the purpose of the assessment. The key observations and findings of the analysis are tabulated below.

COMPARATIVE TABLE

SITE (BUILDING) COVERAGE

Operative Provisions	Draft Provisions	Analysis/Observations Existing Pattern v/s Operative Provisions	Analysis/Observations Existing Pattern v/s Draft Provisions	Summary Findings
Maximum site coverage 40% of the total property area excluding rights of way and access legs Impervious area maximum 70% of total allotment area	Maximum 50% of net site area	Existing pattern - More than half of the sites have a site coverage below 30% and approximately a third have a site coverage between 30% and 40%. This brings the vast majority of sites (85%) with site coverage below 40%. Site coverage above 40% (which accounts for 12% of all lots) tends to be associated with infill development where original larger sites have been subdivided or a second dwelling has been added on an 'original' site. Existing Pattern v/s Operative Provisions - the operative provision of 40% site coverage is higher than the predominant pattern, which could potentially lead to the removal of some mature trees, thus breaking up the continuity of	Existing Pattern v/s Draft Provisions - the draft 50% site coverage is higher than both the existing predominant pattern and the current provision. Under the draft provisions, and in the absence of a minimum lot size provision, no precinct-wide protection of existing tall trees beyond those individually listed and minimal setbacks/no ability to manage the form/location of new units on the site, the existing 'tall tree' vegetation is likely to be severely compromised. This effect will be exacerbated by the maximum 'impervious area' provision (70%) which could result in further vegetation removal.[10] The impact would be most severe for sites above 700m² (which provide a greater potential/flexibility for subdivision/new development) and/or on sites	▪ Operative site coverage provision, although not fully aligned with the existing predominant pattern, applied in combination with the minimum allotment size of 700m² does not seem to have significantly compromised the precinct's primary character attribute at the more recent low rate of small-scale development (predominantly infill stand-alone house development). In the absence of any specific provision for retaining vegetation cover of tall trees (except for identified individual trees and ecological areas), the provision can potentially compromise the precinct's primary character attribute, particularly in the context of subdividing large sites

[10] The draft provisions include a requirement for a minimum landscaped area of 20% of a developed site with grass or plants. This means that if a site is developed to fully utilise the permitted building coverage of 50% and provides the required 20% landscaped area, most of the reaming 30% of the site area could be an impervious surface. This will increase the potential loss of vegetation, technically enabling clearing of up to 70% of the site area).

the vegetation pattern. This is mainly because tall trees, although mostly concentrated within front and rear yards, are unevenly distributed across each site and as such do not always provide a large enough/clear-of-vegetation area for development. Further to this, if tall trees are to be retained, consideration should be given to the root zone protection. This, in turn, would require extending the area of the actual vegetation cover beyond the tree root, thus further reducing the area that can be 'safely' developed.[9]

Notwithstanding that, applied in combination with the minimum allotment size of 700m^2, the operative 40% site coverage in the context of predominantly stand-alone or duplex house development, does not seem to have significantly compromised the precinct's primary character attribute. Two qualifying points need to be noted here: (a) the low rate of subdivisions/new development in the last 20 years does not allow to fully test the provision; and (b) the potential impact of large sites' subdivision (above 1400m^2 where the vegetation cover is most intense) into multiple smaller lots, which hasn't occurred so far.

Site coverage should be considered in relation to the maximum 'impervious area' provision which technically allows for up to 70% of the site area to be clear of vegetation.

with vegetation cover of 40% and above.

The potential impact from intensifying development on sites with vegetation cover below 40% might appear to be less compromising. However, the value of smaller areas covered by tall trees is higher as these often contribute to retaining the continuity of the vegetation pattern. (Note: sites with vegetation cover below 40% tend to appear in clusters between sites of higher vegetation cover. Reducing/removing those less intense areas of vegetation will break up and fragment the integrity of the primary character attribute).

above 1400m^2.

- Under the draft site coverage provision (applied in tandem with the minimal setback provisions and no provision for minimum lot size) the primary character attribute would potentially be severely compromised.
- The impact of site coverage on the primary character attribute should be considered in relation to the maximum 'impervious area' provision. This provision, which remain the same under both the operative and draft provisions, technically enables for further clearance of vegetation in addition to any clearance enabled by the site coverage provision.

[9] The key factors to consider in relation to the protection/management of 8+m tall trees and potential intensification include: (a) the spread of the canopy; and (b) the extent of root zone. As a general rule, the extent of tree's root zone aligns with at least the spread of the canopy (i.e. the drip zone) - any ground disturbance (excavation or ground compaction) or building development should not encroach within the drip line. This will reduce the site area for development if the trees are to be protected/retained thus affecting building coverage and impervious area provisions. Note that in residential areas buildings are often constructed within the tree's dripline with tree roots being cut back to enable buildings /or root zone compacted. Sometimes the effects of that disturbance are evident reasonably quickly, but it may take several years before the effects are manifested. This is especially an issue for native forest remnants.

BUILDING HEIGHT

Operative Provisions	Draft Provisions	Analysis/Observations Existing Pattern v/s Operative Provisions	Analysis/Observations Existing Pattern v/s Draft Provisions	Summary Findings
Maximum height of 8m above original ground level	Maximum building height of 11m, except that 50% of a building's roof in elevation, measured vertically from the junction between wall and roof, may exceed that height by 1m where the entire roof slopes 15º or more Maximum height of 20m (equivalent to 6 storeys) for the parts of the precinct within 800m from the Waikanae Railway Station	Existing Pattern - the precinct is a mix of one and two storey buildings with more than half of buildings being single storey. Perception of building height is influenced by the existing vegetation - e.g. the large number of tall trees and other mature planting tend to reduce the perceived building height and/or obscure the buildings in views from the street. This accentuates the green, low-rise, low-density image of the area. Existing Pattern v/s Operative Provisions - the operative provision appropriately reflects and is aligned with the existing pattern.	Existing Pattern v/s Draft Provisions - under the draft provisions buildings must not exceed 11m for the majority of the precinct (except for the parts located within 800m from the Waikanae Railway Station). This could potentially result in 4-storey buildings as a maximum number of storeys has not been specified. For the parts of the precinct located within 800m form the Waikanae Railway Station, buildings could rise to 20m and up to 6 storeys. The proposed height increase, particularly the potential for 4 and 6 storey buildings, is clearly a departure from the existing pattern. However, increasing the hight in itself will not necessarily impact directly on the primary attribute in terms of requiring vegetation removal. Notwithstanding that, the increased height will impact on the visual/streetscape character of the precinct by altering the visual balance and scale relationship between built form and landscape features. This effect will be exacerbated by the proposed draft 'height in relation to boundary' provision which will enable reducing separation distances between adjacent buildings and increasing their bulk, thus potentially changing the current perception of a low-density garden-like setting where buildings are subservient to the landscape, to a building-dominated environment. This change will be most drastic for the parts where 20m tall buildings are to be allowed.	▪ The operative height provision is appropriate in relation to the existing pattern of building height and assist in retaining the collective visual character of the existing landscape-dominated streetscape. ▪ The proposed draft height in itself will not necessarily require vegetation removal and therefore will not have a direct impact on the primary character attribute/tall tree vegetation pattern. It will, however, alter the scale relationship between built form and landscape features and therefore affect the visual/public character of the precinct and its collective green image manifested through its landscape-dominated streetscape. ▪ The impact could be significantly detrimental when considered in relation to the proposed 1.5m frontage setback and 1m side yard and associated potential for front/side yard vegetation removal (see detailed comments under 'setbacks' below).

HEIGHT IN RELATION TO BOUNDARY

Operative Provisions	Draft Provisions	Analysis/Observations Existing Pattern v/s Operative Provisions	Analysis/Observations Existing Pattern v/s Draft Provisions	Summary Findings
2.1m vertically above ground level at the	4m vertically above ground level along all	Existing Pattern - the existing pattern has not been studied. However, it appears that buildings comply with that provision given the	Existing Pattern v/s Draft Provisions - the draft provision together with the increased height will allow taller/bulkier buildings located closer to the	▪ The operative height in relation to boundary provision generally reflect the existing character while ensuring a generous

boundary, with a 45º recession plane. Applies to all boundaries	boundaries with a 60º recession plane. This standard does not apply to: boundary with a road, existing or proposed internal boundaries within a site, site boundary where there is an existing common wall between 2 buildings on adjacent sites or where a common wall is proposed	predominant pattern of single-storey buildings and the generous lot size. Existing Pattern v/s Operative Provisions it is assumed that the majority of proposed dwellings comply with the existing provision. Height in relation to boundary provision determines the distance of the building to the relevant boundary based on its height. For example, an 8m tall building volume, which complies with the recession plane under the operative provisions, will need to be setback approximately 6m from the relevant boundary. This ensures a generous separation distance between permitted 8m tall/2-storey building volumes built on adjacent sites.	site boundaries compared to both the existing building character and that permitted under the existing provisions. As a general observation, an 8m tall building, which complies with the recession plane under the draft provisions, will need to be setback from the relevant side or rear boundary approximately 2.5m compared to a building of the same height under the current provisions. Similarly, a building volume with the maximum permitted height of 11m under the draft provisions, will require a setback of approximately 4m from the relevant side or rear boundary. The resultant effect will be an increased building bulk and reduced separation distances between adjacent buildings. This, as noted under 'building height' above, will change the visual image and character of precinct by replacing a landscaped-dominated streetscape character with a building-dominated environment.	separation distance between adjacent buildings on neighbouring sites if they all are built to the maximum building height limit. ▪ The proposed height in relation to boundary provision - the proposed provision together with the increased height will allow taller/bulkier buildings located closer to the site boundaries compared to the permitted buildings under the existing provisions and/or those comprising the current environment. This will change the visual image/character of precinct by replacing a landscaped - dominated streetscape with a building-dominated environment.

SETBACKS

Operative Provisions	**Draft Provisions**	**Analysis/Observations Existing Pattern v/s Operative Provisions**	**Analysis/Observations Existing Pattern v/s Draft Provisions**	**Summary Findings**
3m setback from the road boundary 4.5m setback from the road boundary for garages 3m setback from side and rear boundaries for residential units 1m setback from side/rear	1.5m front yard 1m side/rear yard no yard where there is a common wall between 2 buildings	Existing Pattern - the precinct is characterised by generally deep frontage setbacks with a predominant pattern of front yards greater than 5m. Rear yards are generally generous in the range of 8-20m for most properties and in some cases over 25m. Separation distances between adjacent buildings (based on side yards) are variable but for most dwellings they tend to be 6m or more. Existing Pattern v/s Operative Provisions - the operative provisions for front and rear yards do not align with the predominant pattern. This can potentially impact significantly on the primary character attribute, given that the density of	Existing Pattern v/s Draft Provisions - the draft provisions clearly depart from the predominant pattern. By allowing building location close to the site's boundaries the draft provisions can significantly impact directly on the primary character attribute through loss of vegetation. Note that the pattern of tall trees intensifies within front and rear yards.	▪ The operative provisions re front and rear yards do not align with the predominant pattern. While this does not seem to have affected widely or significantly the primary character attribute under the current rate/type of development, the current provisions have not been tested in the context of redeveloping / subdividing the large sites. ▪ The draft provisions, which are markedly different from the predominant setback patterns and much shallower compared to the existing provisions, have the potential to severely compromise the primary character attribute given that the density of vegetation cover of tall trees which is greatest/most intense within the front and

boundaries for accessory buildings		vegetation cover of tall trees tends to be greatest within the front and rear yards. The analysis of the current situation shows that this does not seem to have happened widely across the precinct. This is due to the low rate of new development of its nature - stand-alone housing units on individual lots - which provides a greater flexibility of building location. However, the impact of large - scale subdivision/development of larger sites has not been tested.		rear yards.

MINIMUM ALLOTMENT SIZE

Operative Provisions	**Draft Provisions**	**Analysis/Observations** **Existing Pattern v/s Operative Provisions**	**Analysis/Observations** **Existing Pattern v/s Draft Provisions**	**Summary Findings**
Minimum allotment size 700m², lots required to accommodate an 18m diameter circle Subdivision as a Restricted Discretionary Activity	No minimum lot size, shape or other size-related requirements for the following subdivision types of subdivision: Subdivision where there is an existing residential unit, if the subdivision does not increase the degree of non-compliance with building standards; Subdivision where residential units are provided under a land use consent and no vacant allotments are created. Subdivision as a	Existing Pattern - the predominant pattern is based on large lots above 700m², with the vast majority of lots (86%) being between 700m² and 1200m² and above. Most of the lots below 700 m² appear to be a result of subsequent subdivision of original sites with many of those located within the eastern-most part of the study area (generally within the identified zone within 800m from the Waikanae Railway Station). Existing Pattern v/s Operative Provisions - the operative provisions of a minimum lot size of 700m² is aligned with and intended to maintain the predominant lot size pattern. The additional requirement for each lot to accommodate an 18m diameter circle manages the minimum lot dimension and provides flexibility in terms of building location. The Restricted Discretionary Activity status of subdivision proposals provides an additional layer of control re subdivision outcomes.	Existing Pattern v/s Draft Provisions - the draft provisions do not include a minimum lot size or any shape or other size-related provisions. Under the draft provisions the notional minimum lot size would be largely determined by the bulk/location provisions. The draft provisions are markedly different from the predominant pattern of lots above 700m². This could impact significantly on the precinct's primary attribute, which has been largely enabled/supported by the consistent pattern of generous lot size by allowing the original vegetation cover to be established and retained in subsequent subdivision/development. The Controlled Activity Status of subdivision provides a degree of control over the arrangement of allotments, but no ability to manage or limit the size of allotments.	▪ The operative lot size provisions are aligned with and intended to maintain the predominant lot size pattern, which facilitates the retention of existing vegetation cover. This is further supported by the Restricted Discretionary Activity status of subdivision proposals. Note that the provision has not been tested for the subdivision of large lots into multiple smaller lots - a development scenario that has the potential to significantly affect the integrity of the vegetation pattern of tall trees. ▪ The proposed 'management' of lot size under the total package of draft provisions relies heavily on the proposed bulk/location provisions for site coverage, setbacks, building height/height in relation to boundary. Notwithstanding that the subdivision is a controlled activity, the draft provisions are markedly different from the predominant patterns. Therefore, the lack of minimum lot size provision, if implemented as proposed, will have significant impact on the precinct's primary attribute.

controlled
Activity.

5 CONCLUSIONS

Character

- The Waikanae Garden Precinct has a distinctive character based on a set of definable character attributes (primary, enabling and supporting attributes) that work together and reinforce each other. The precinct's primary attribute - the collective green pattern of extensive and contiguous vegetation cover of tall 8+m trees - has been enabled by the existing patterns of low site coverage, deep setbacks and large lot size, and further supported by the low rise/low density building form.

Operative and Draft Provisions

- The primary attribute has so far been managed reasonably well by the operative District Plan provisions, although there hasn't been sufficient new development to fully test those provisions.
- The draft provisions promote development with a density and building scale and character that would be markedly different from that allowed under the current District Plan provisions (which promote relatively low-density residential development) and in sharp contrast to the existing predominant patterns of the WGP. This suggests that the primary, most prominent and valued character attribute of the WGP - the significant tall trees vegetation cover - could potentially be severely compromised and in parts completely lost under a level of development enabled by the draft provisions. This in turn will adversely impact on the precinct's overall character and amenity value.

Parts of the WGP that are most sensitive to change /spatial extent

- The continuity of the existing green pattern throughout the precinct and the value/landscape significance of the existing tall trees and other mature vegetation/remnants of indigenous vegetation, makes the WGP as a whole generally sensitive to change and particularly sensitive to any increased level of intensification.
- The character value of the vegetation pattern was determined by the extent of vegetation cover of tall (i.e. 8m and above) trees within each site. On this basis, sites with tall tree cover above 30% and up to 80%+were identified as 'primary' or character defining sites; sites with tall tree cover between 20% and 30% as contributory sites (sites contributing to the character); and sites with tall tree cover of below or up to 20% as supporting or neutral.
- Primary and contributory sites are most sensitive to increased level of intensification (such as that enabled by the draft provisions) as the potential loss of vegetation there would be most significant. As those sites account for more than 80% of the sites within the precinct, the potential collective loss of vegetation resulting from intensification across the precent would have a significant impact on its primary attribute and considerably change its overall character. Even if only some of those sites are to be redeveloped, this would break up and affect the continuity of the existing vegetation pattern as those sites are spread throughout the area.
- In comparison, supporting/neutral sites are less sensitive to intensification as: (a) their vegetation cover, and most often the density of that cover, are lower; and (b) they account for only 2% of the sites and therefore impact on the continuity of the vegetation pattern resulting from their red0evelopment would be low.

Possible further investigation on vegetation cover

- Not all contributory sites (vegetation cover 20-30%) exhibit an equal density of cover. This can also be said about some of the sites with vegetation cover between 30-40%. To establish in more detail the sensitivity of such sites to change further investigation re density of vegetation cover could be considered for sites within the 20%-40% vegetation cover category.

6 APPENDIX 1: MAPS

Map 1: Context

Map 2: Contour

Map 3: Slope

Map 4: Average Slope

Map 5: Vegetation Coverage

Map 6: Vegetation (8m and above)

Map 7: Block Structure

Map 8: Street Network

Map 9: Street Width

Map 10: Subdivision Age

Map 11: Building Age

Map 12: Building Height

Map 13: Site Coverage

Map 14: Lot Size

Map 15: Frontage Setback

Map 16: Vegetation Character

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Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

- Railway station
- Railway
- 5m Contours (2017)
- Walkable catchment (800m from a rapid transit stop)
- Town Centre
- Building Outlines
- Property
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Context

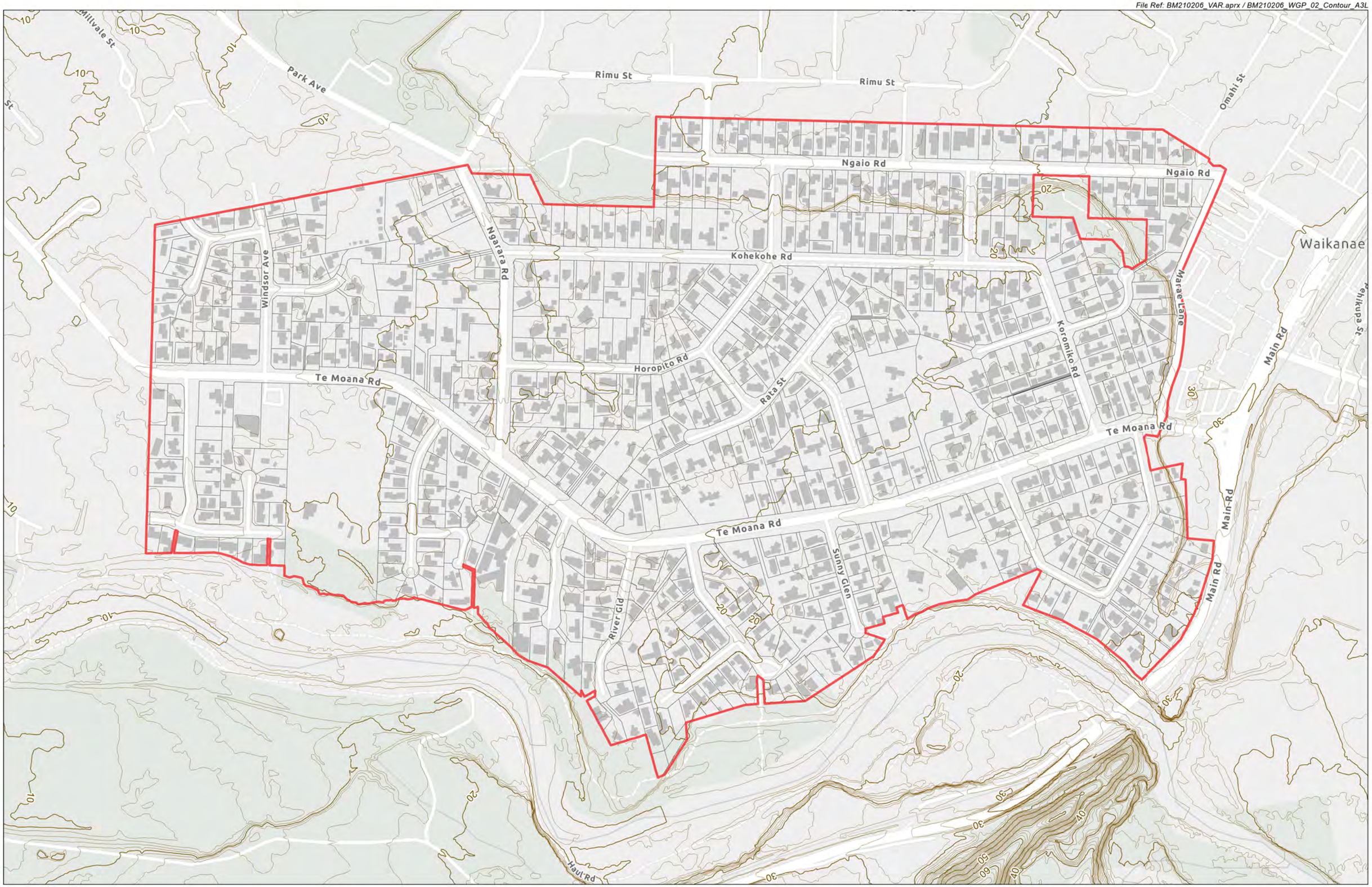
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 1

File Ref: BM210206_VAR.aprx / BM210206_WGP_02_Contour_A3L



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Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND
- 1m Contours (2017)
- 5m Contours (2017)
- Building Outlines
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

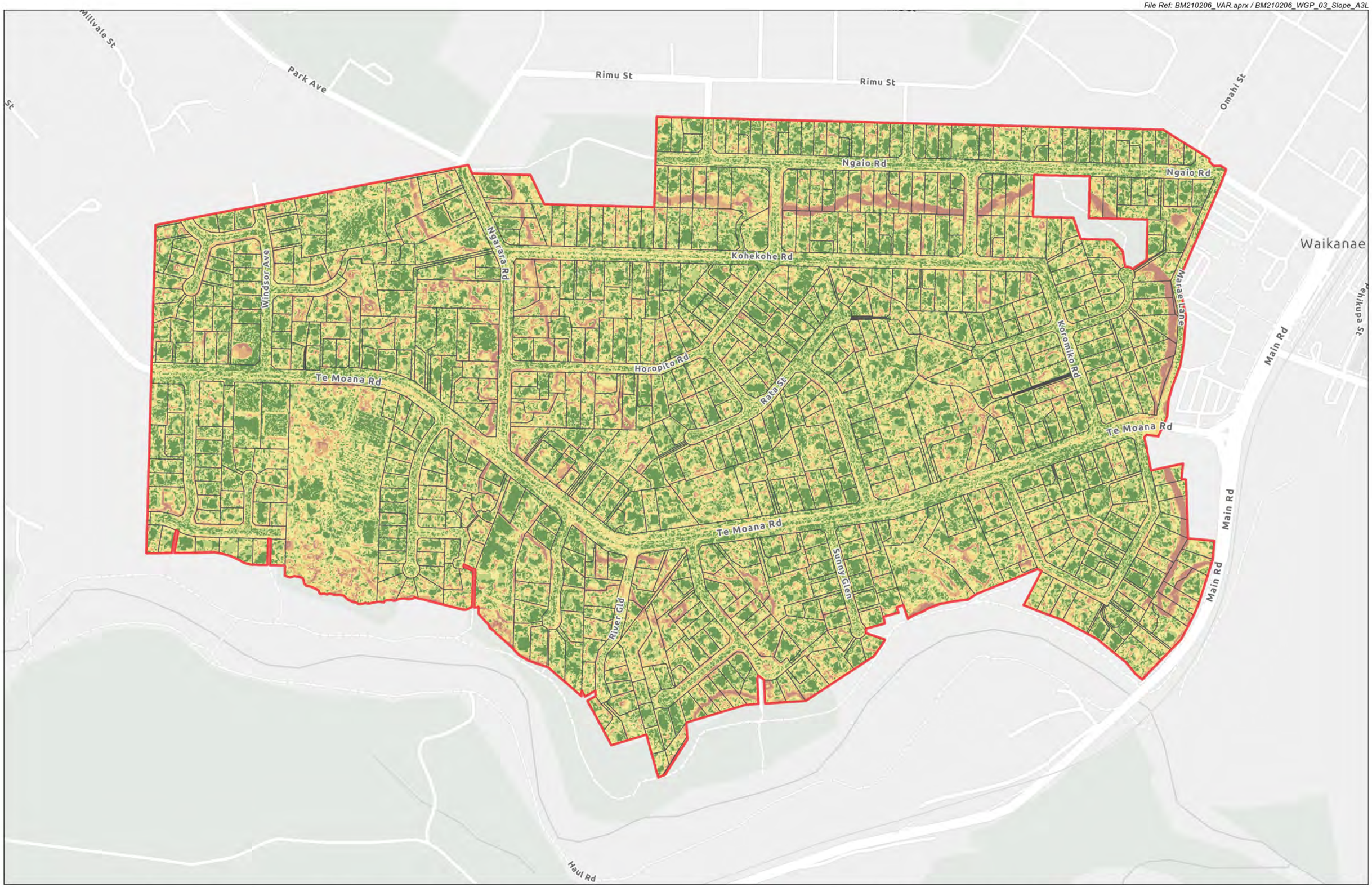
Waikanae Garden Precinct - Contour Map

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 2



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Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Slope
- Shallower than 1:20
- 1:12 : 1:20
- 1:8 - 1:12
- 1:5 - 1:8
- 1:3 - 1:5
- Steeper than 1:3

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Slope

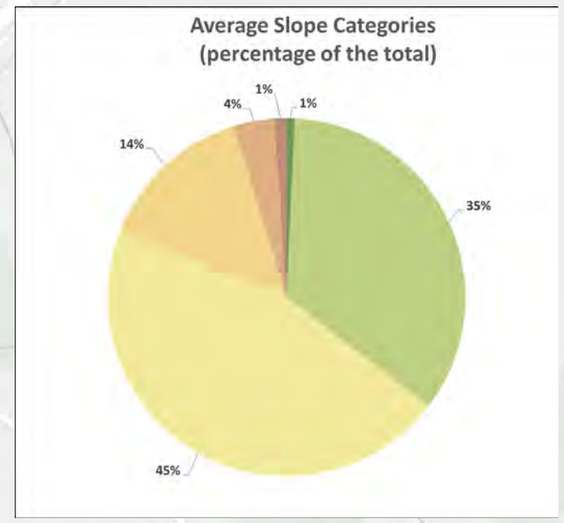
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 3

Ngaio Rd
Ngaio Rd
Kohekohe Rd
Ngarara Rd
Windsor Ave
Horopito Rd
Te Moana Rd
Rata St
Koromiko Rd
Te Moana Rd
Te Moana Rd
Sunny Glen
River Gld
Haul Rd
Old State Highway 1
Waikanae
Pehi Kupa St
Parkinson St
Main Rd
Elizabeth St
Main Rd
Main Rd



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0 100 m
1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Average Slope
- Shallower than 1:20
- 1:12 - 1:20
- 1:8 - 1:12
- 1:5 - 1:8
- 1:3 - 1:5
- Steeper than 1:3

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Average Slope

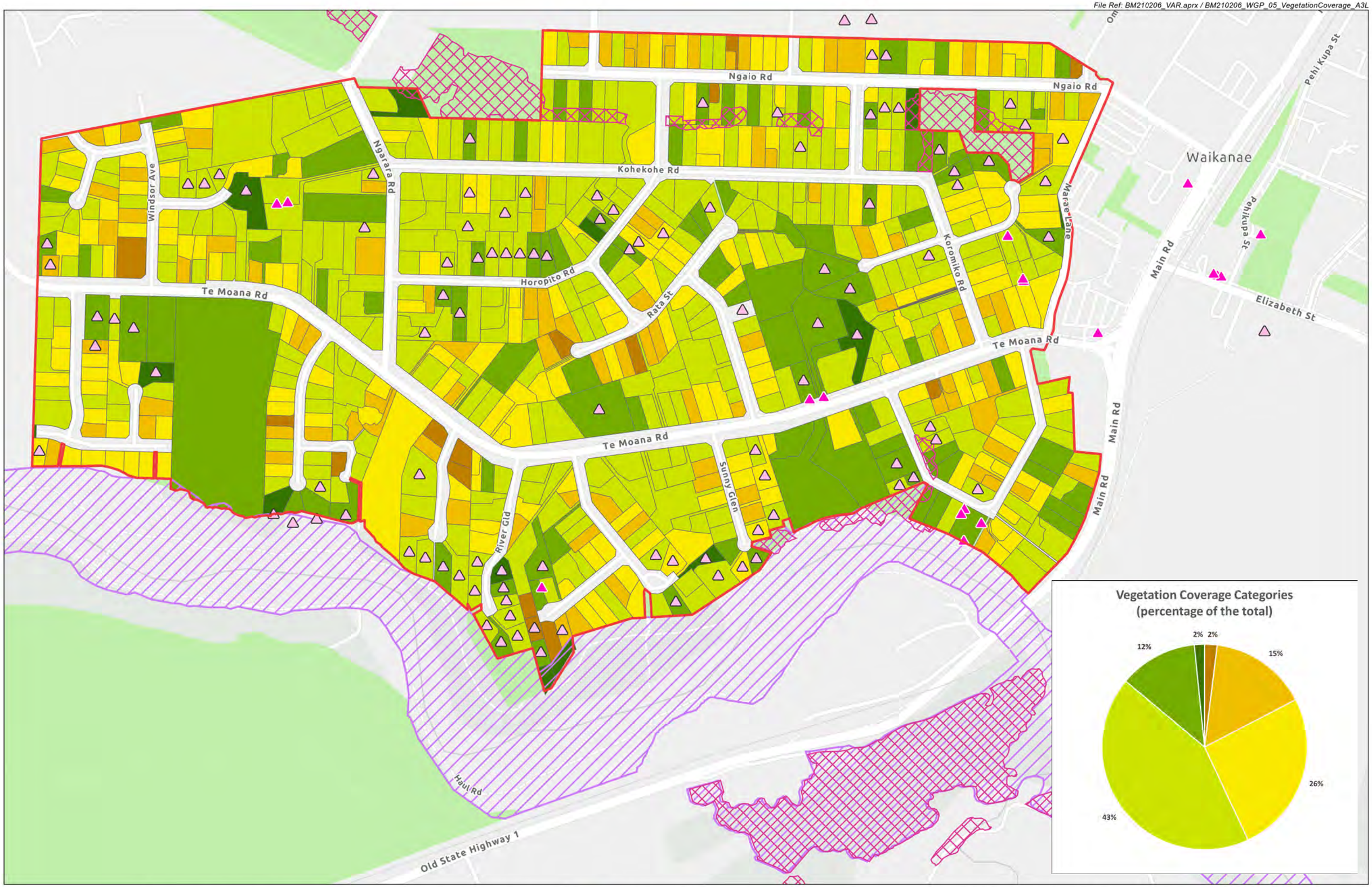
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 4

File Ref: BM210206_VAR.aprx / BM210206_WGP_05_VegetationCoverage_A3L



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Data Sources: LINZ, Eagle Technology, OpenTopography, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Vegetation Coverage (8m or above)
- up to 20%
- 20% - 30%
- 30% - 40%
- 40% - 60%
- 60% - 80%
- Above 80%

- Key Indigenous Trees
- Notable Trees
- Open Space
- Special Amenity Landscapes
- Ecological Sites
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Vegetation Coverage

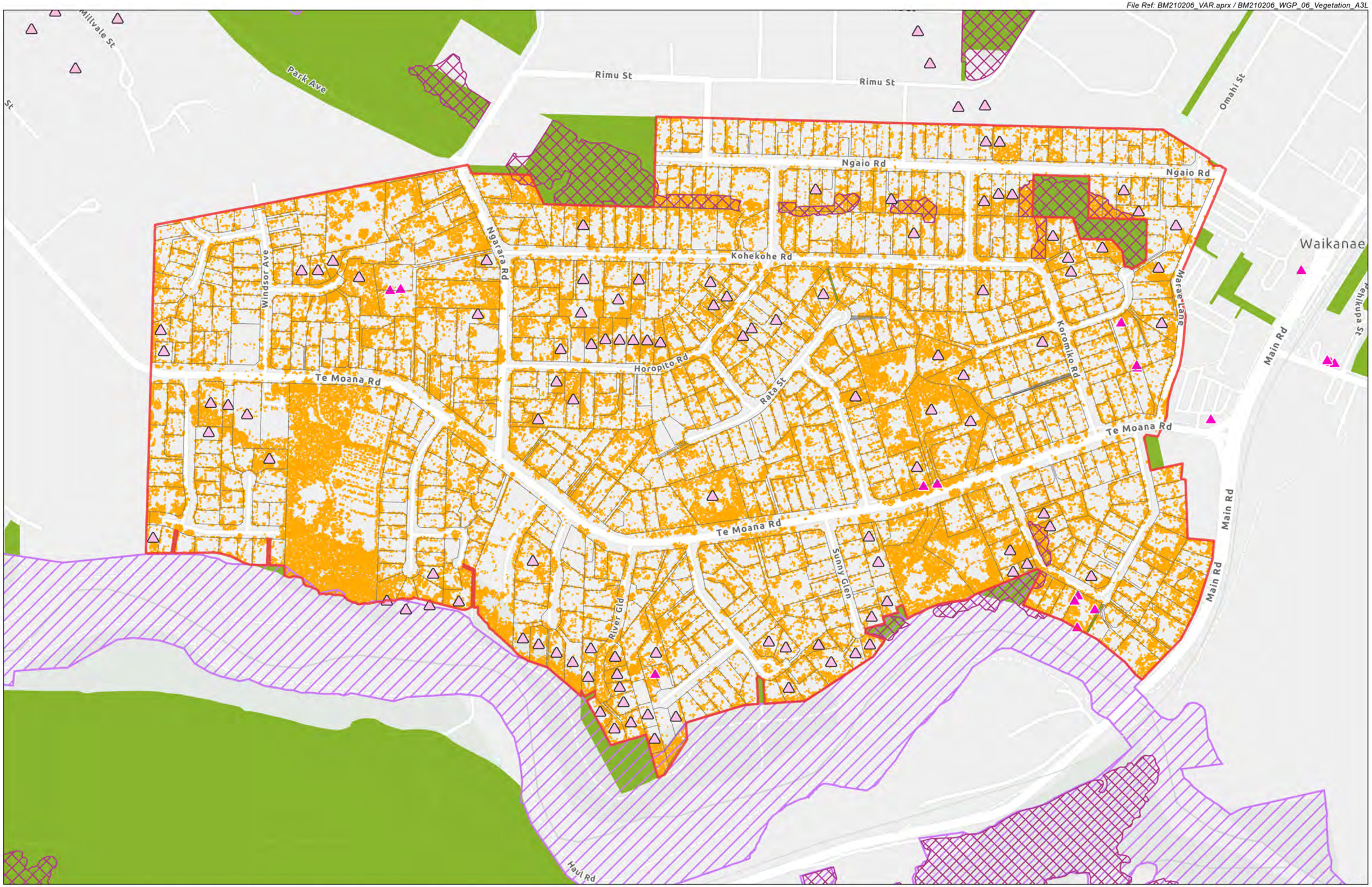
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 5

File Ref: BM210206_VAR.aprx / BM210206_WGP_06_Vegetation_A3L



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1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, OpenTopography, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

- Notable Trees
- Key Indigenous Trees
- Vegetation (8m or above)
- Open Space
- Ecological Sites
- Special Amenity Landscapes
- Property
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

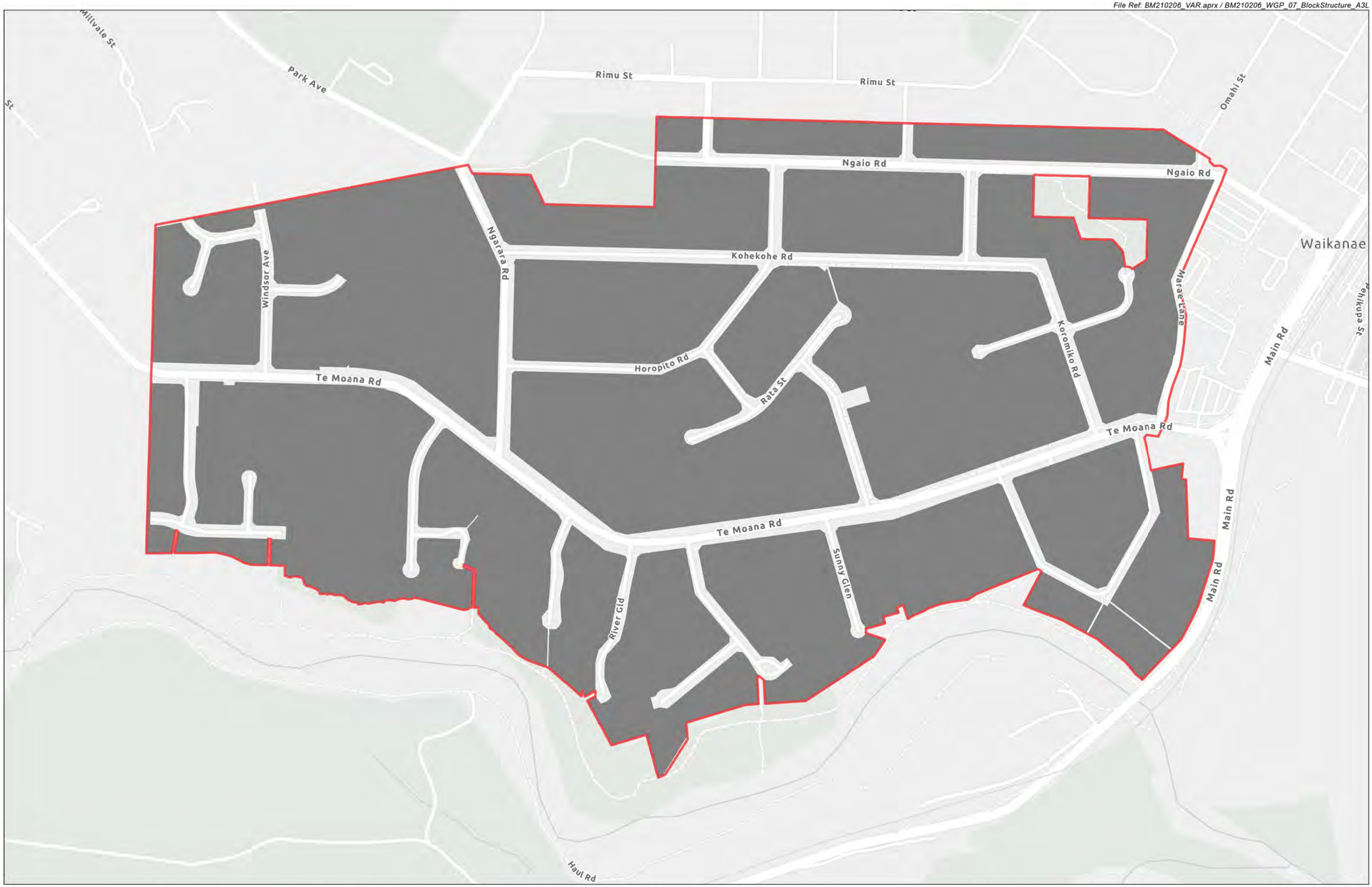
Waikanae Garden Precinct - Vegetation

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 6



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0 100 m

1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Street block

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Block Structure

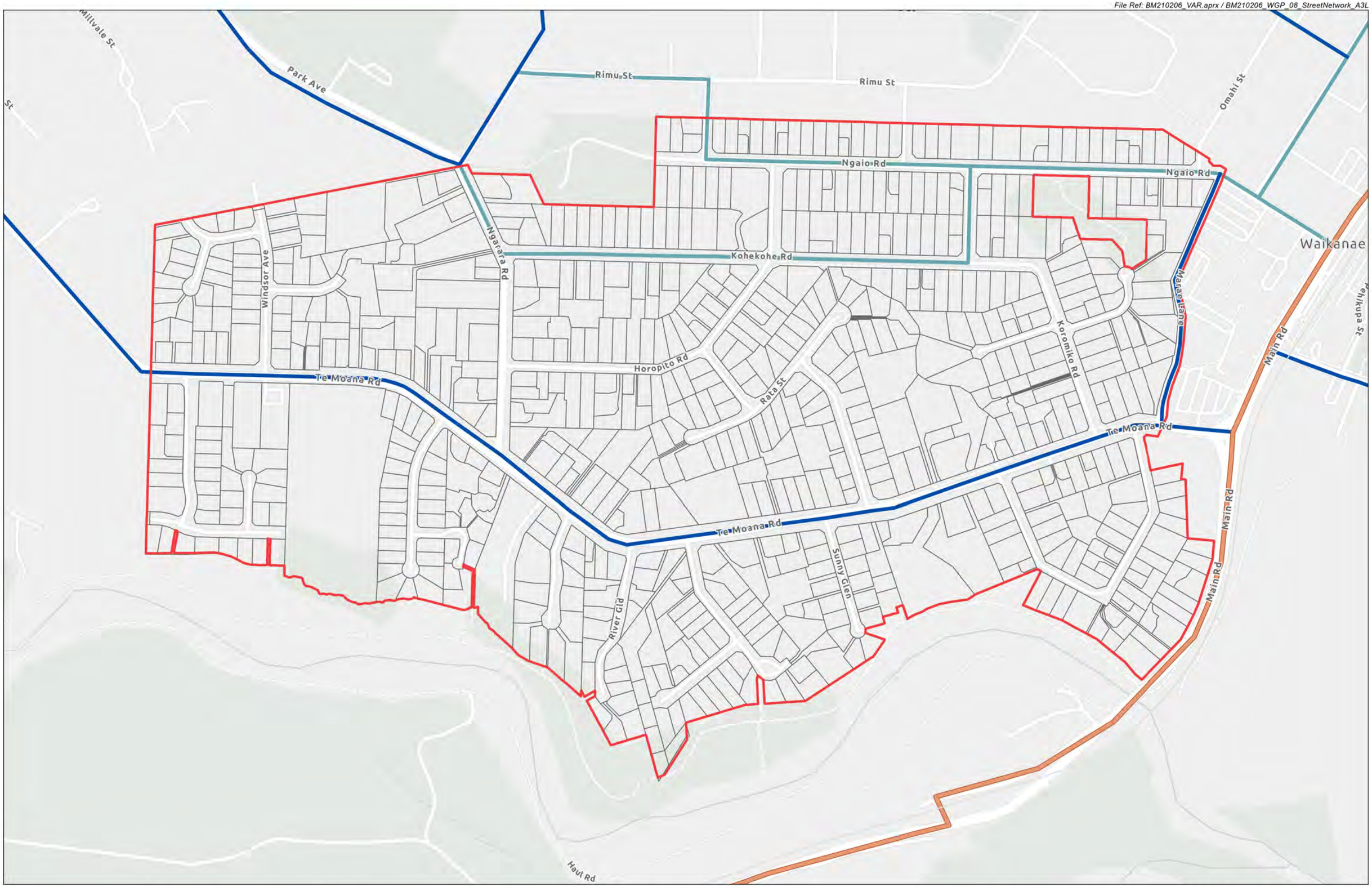
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 7

File Ref: BM210206_VAR.aprx / BM210206_WGP_08_StreetNetwork_A3L



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Data Sources: LINZ, Eagle Technology, KCDC, NZTA

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

- National / Major District Arterials
- Secondary Arterials
- Collector Road
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

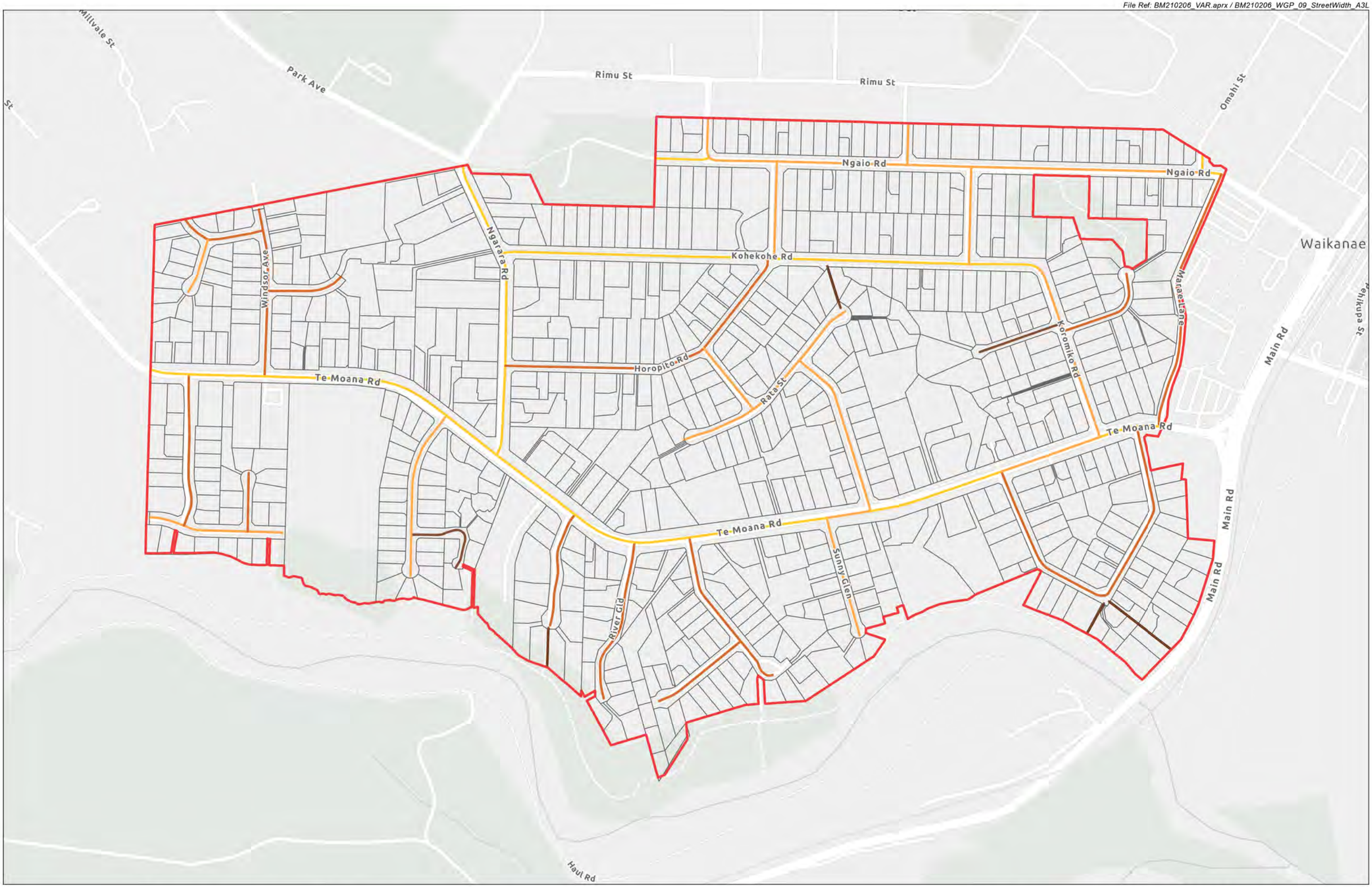
Waikanae Garden Precinct - Street Network

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 8



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Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Carriageway width
- Up to 6m
- 6m - 8m
- 8m - 10m
- 10m - 15m

Property

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

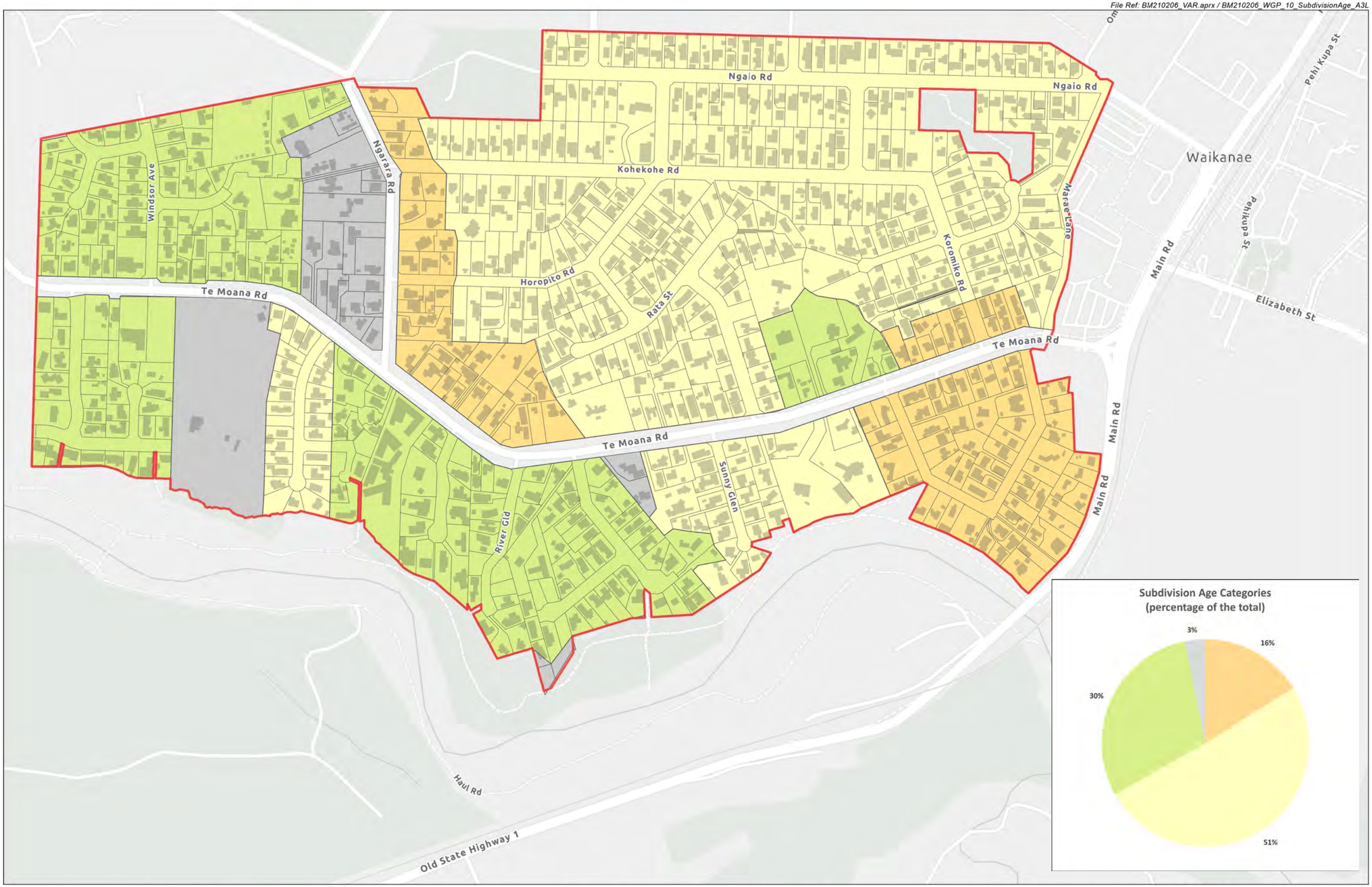
Waikanae Garden Precinct - Street Width

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 9



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Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Subdivision Age
- 1931-1950
- 1951-1970
- 1971-1990
- No Data

Building Outlines

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Subdivision Age

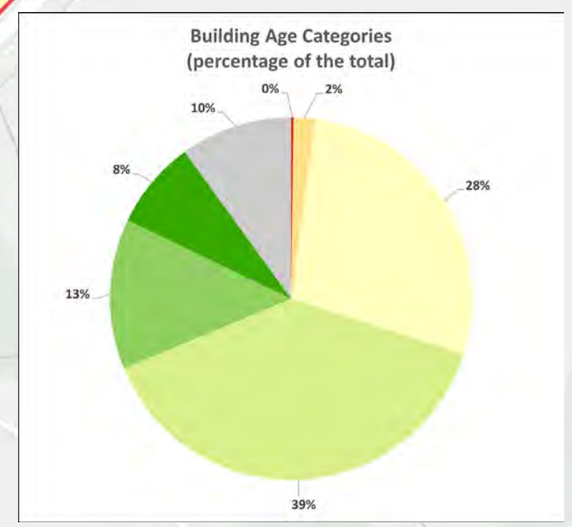
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 10

Ngaio Rd
Ngaio Rd
Kohekohe Rd
Ngarara Rd
Windsor Ave
Horopito Rd
Rata St
Te Moana Rd
Te Moana Rd
Te Moana Rd
Koromiko Rd
Marae Lane
Waikanae
Pehi Kupa St
Penkupa St
Main Rd
Elizabeth St
Main Rd
Main Rd
Sunny Glen
River Gld
Haul Rd
Old State Highway 1



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0 100 m
1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Building Age
- In or Before 1910
- 1931 - 1950
- 1951 - 1970
- 1971 - 1990
- 1991 - 2000
- After 2000
- No Data
- Building Outlines
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

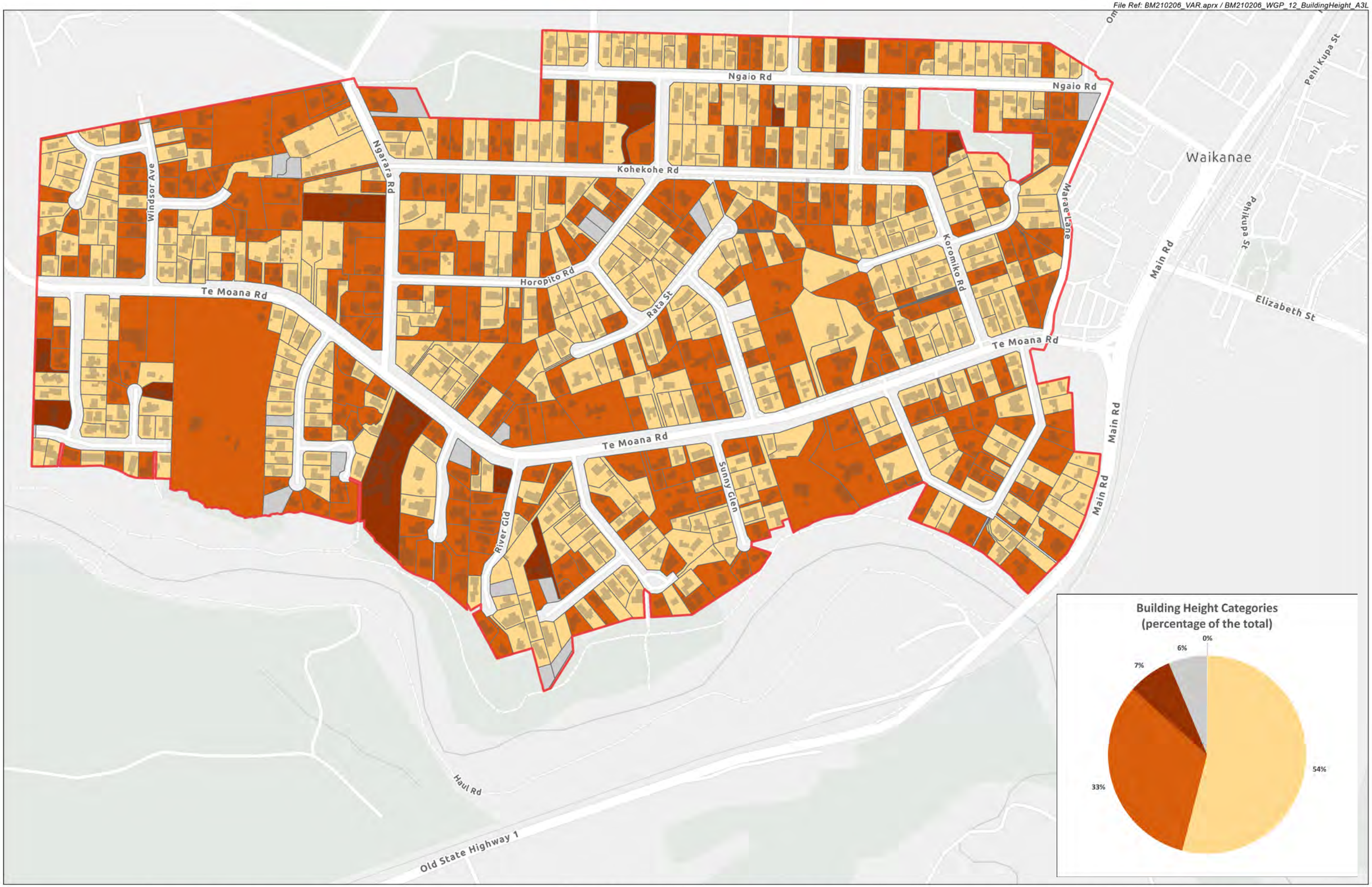
Waikanae Garden Precinct - Building Age

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 11



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0 100 m

1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Building Height
- 3m - 6m
- 6m - 9m
- Above 9m
- N/A

Building Outlines

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

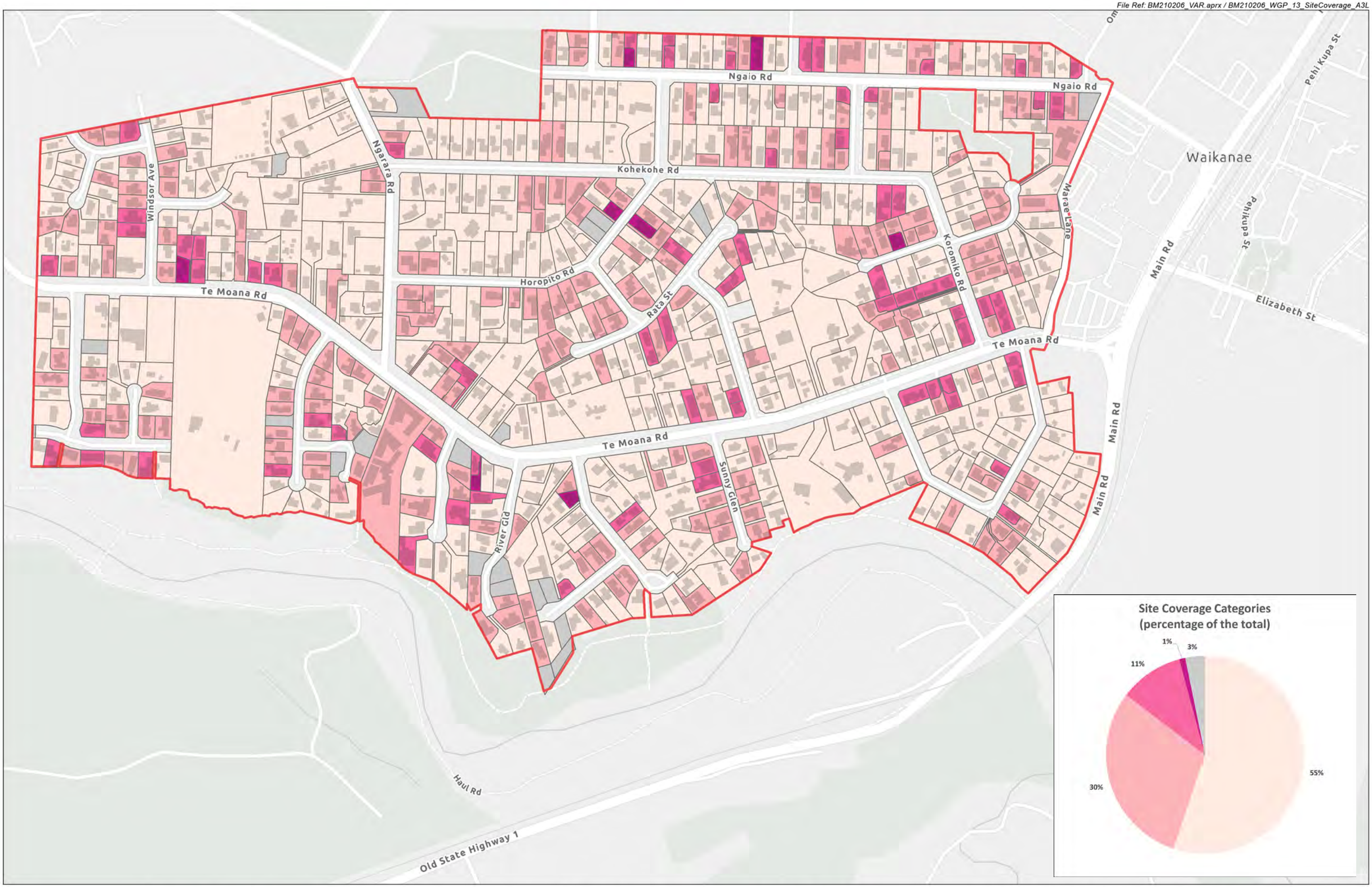
Waikanae Garden Precinct - Building Height

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 12



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0 100 m

1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Site Coverage
- up to 30%
- 31 - 40%
- 41% - 50%
- 51% - 60%
- N/A

Building Outlines

Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

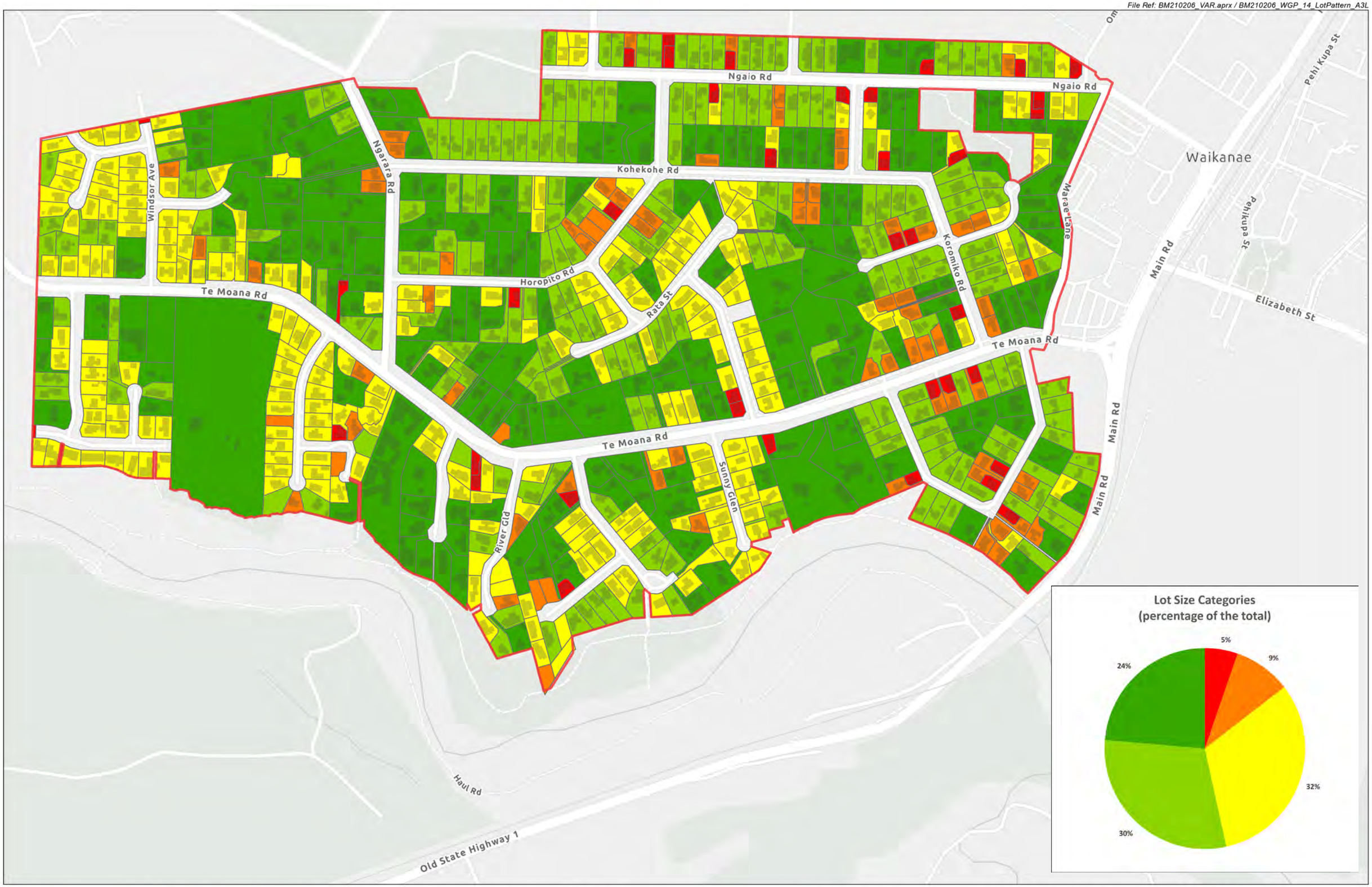
Waikanae Garden Precinct - Site Coverage

Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 13



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0 100 m
1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Lot size
- Less than 500m²
- 500-699(m²)
- 700-899(m²)
- 900-1200(m²)
- Above 1200(m²)

Building Outlines
Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Lot size

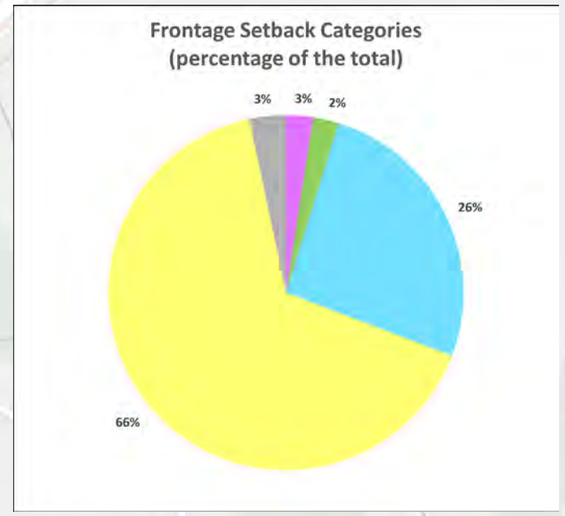
Date: 21 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 14

Ngaio Rd
Ngaio Rd
Kohekohe Rd
Ngarara Rd
Windsor Ave
Horopito Rd
Te Moana Rd
Rata St
Koromiko Rd
Marae Lane
Te Moana Rd
Te Moana Rd
Sunny Glen
River Gld
Waikanae
Pehi Kupa St
Penkupa St
Main Rd
Elizabeth St
Main Rd
Main Rd
Haul Rd
Old State Highway 1



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0 100 m
1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND

Frontage setback
- Within 1.5m
- 1.5m - 2.5m
- 2.5m - 5m
- Above 5m
- N/A

Building Outlines
Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikanae Garden Precinct - Frontage setback

Date: 21 March 2022 | Revision: 0

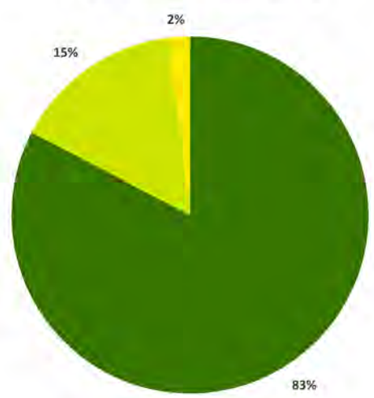
Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 15

Russell Reserve
Ngaio Rd
Ngaio Rd
Nikau Rd
Motuiti Scenic Reserve
Kohekohe Rd
Kohekohe Rd
Windsor Ave
Horopito Rd
Rata St
Te Moana Rd
Richmond Ave
Kowhai Grv
Koromiko Rd
Te Moana Rd
Karu Cres
River Glade
Koru Reserve
Edgewater Park
Waikanae
Main Rd
Main Rd
Elizabeth St
Pehi Kupa St
Pehi Kupa St
Main Rd

Vegetation Character Categories (percentage of the total)



0 100 m
1:5,000 @ A3

Data Sources: LINZ, Eagle Technology, KCDC

Projection: NZGD 2000 New Zealand Transverse Mercator

LEGEND
- Vegetation coverage (8m or above)
- Primary sites (30% - 80% and more)
- Contributory sites (20% - 30%)
- Supporting/neutral sites (Up to 20%)
- Waikanae Garden Precinct

NPS-UD IMPLICATIONS: CHARACTER AREA REVIEW

Waikane Garden Precinct - Vegetation Character

Date: 22 March 2022 | Revision: 0

Plan prepared for KCDC by Boffa Miskell Limited

Project Manager: Hamish.Wesney@boffamiskell.co.nz | Drawn: KMa | Checked: HHu

Map 16

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