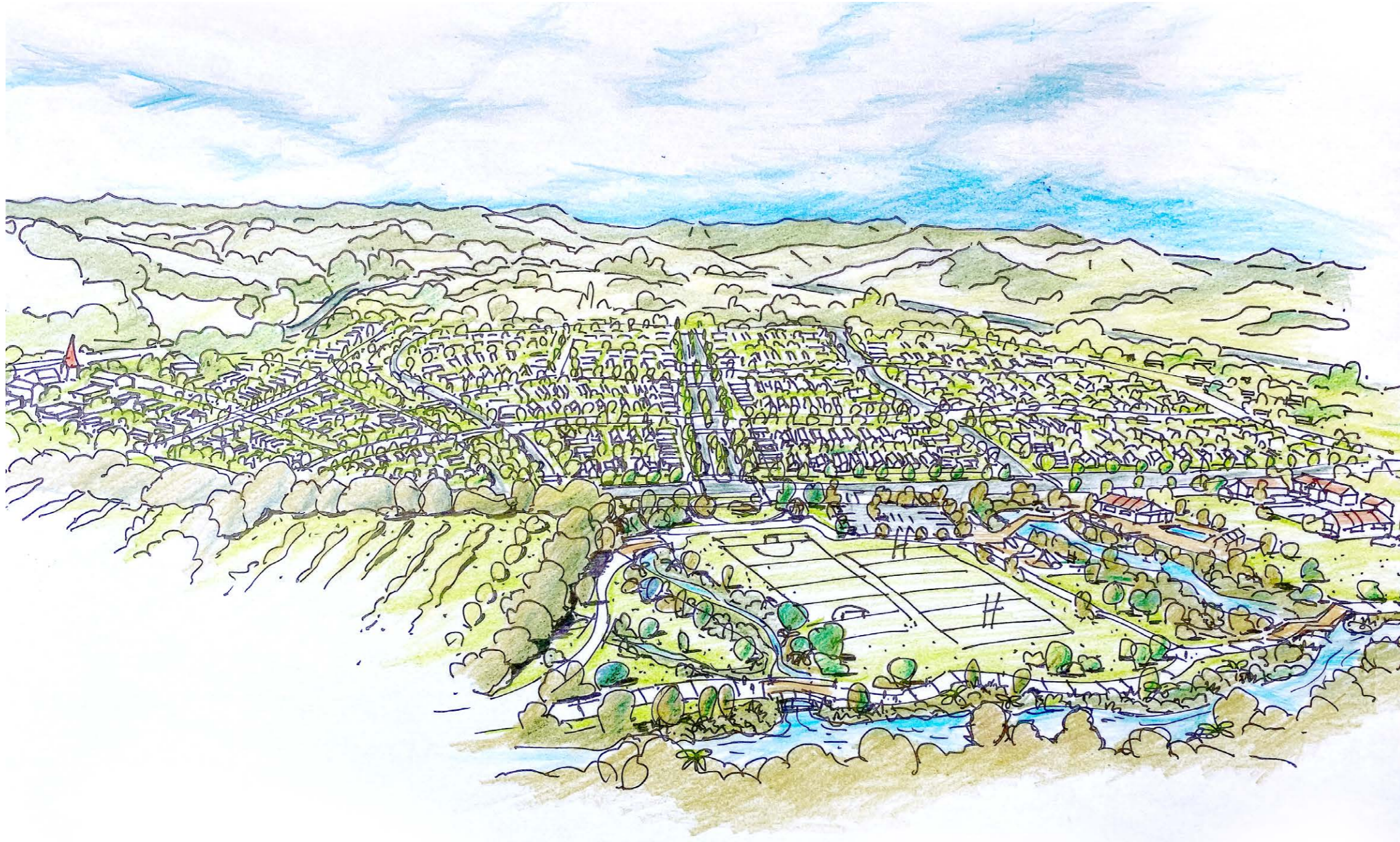


# WARKWORTH SOUTH PLAN CHANGE - WAIMANAWA URBAN DESIGN REPORT

On behalf of KA-Waimanawa Limited Partnership & Stepping Towards Far Limited

May 2023



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# 1. INTRODUCTION

## 1.1 Overall

Reset Urban Design has been engaged by KA-Waimanawa Limited Partnership and Stepping Towards Far Limited to provide a masterplan for a proposed Private Plan Change for the site known as Waimanawa in Warkworth. The site comprises a number of properties on the southern side of the township of Warkworth. Together with Osbornehay, Tattico, Maven Associates, Traffic Planning Consultants and other expert consultants, our multi-discipline team has been working collaboratively to develop a comprehensive masterplan that demonstrates the feasibility of the proposed urban development.

Preliminary consultation meetings have been held over a 18 month period with Auckland Council, Supporting Growth, Ngati Manuhiri - the Mana Whenua, the local community board and the adjoining landowners as part of the consultation process.

## 1.2 Scope and Report Structure

The purpose of this document is to provide a thorough design process and an indicative masterplan layout for the site. It is intended to outline the design rationale and demonstrate a possible subdivision layout to assist in demonstrating the suitability of zoning for the site and the urban structure proposed.

A comprehensive approach is undertaken to conduct masterplanning process throughout the Plan Change area. Building on the vision of being site responsive, this report sets out the relevant planning and strategic context from an urban design perspective. Followed by a series of site analyses, Section 4 sets out the vision and overarching goals, with Section 5 providing an urban design framework for Waimanawa including key design principles, structure of the masterplan and an overall masterplan.

The masterplan has been illustrated through two separate sections that provides key design rationale and details on masterplan layout.

## 1.3 Masterplan Area

The masterplan area ('the site') incorporates all the land identified as 'Waimanawa' subject to the Private Plan Change. The site comprises two main parts, being 'Waimanawa Valley' to the west of State Highway 1 and 'Waimanawa Hills' to the east of State Highway 1. (Figure 2 shows the area subject to the plan change request)

Waimanawa Valley comprises approximately 99.5 hectare of land stretching along the upper reaches of Mahurangi River (right branch) between State Highway 1 and Valerie Close. Morrison Heritage Orchard is identified as part of Waimanawa Valley for the purpose of this report and is not to be subject to any form of urban development in respect of this masterplan.

Waimanawa Hills incorporates 65.5 hectare of land between SH1 and Avic Miller Reserve. For the purpose of this report, Waimanawa Hills is further referred as Waimanawa Hills(a), Waimanawa Hills(b) and Waimanawa Hills(c). (Refer to Figure 3)

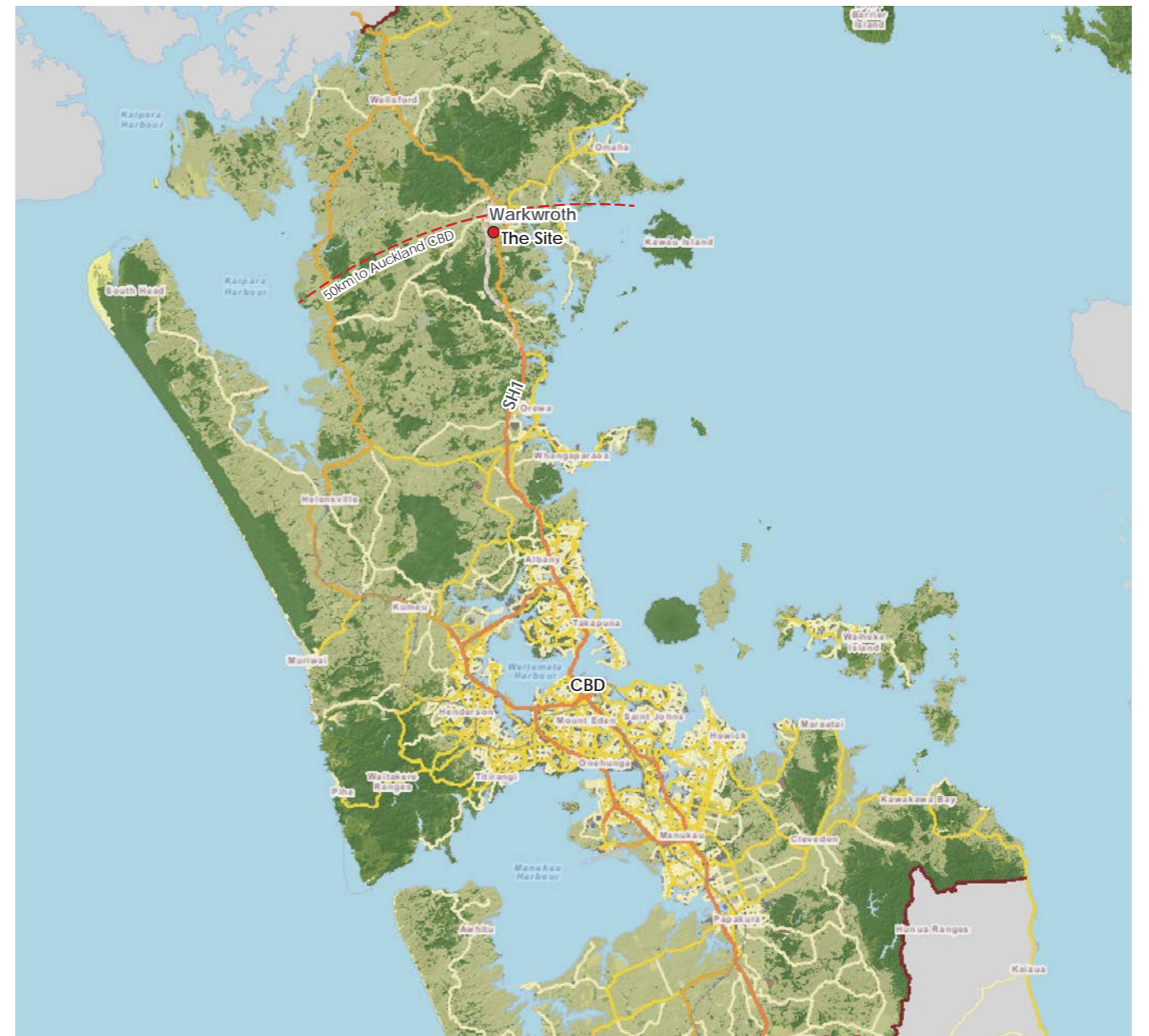


Figure 1 - Plan Change Site Location

Land Subject to the Proposed Plan Change

- Waimanawa Hills(a)
- Waimanawa Hills(b)
- Waimanawa Hills(c)

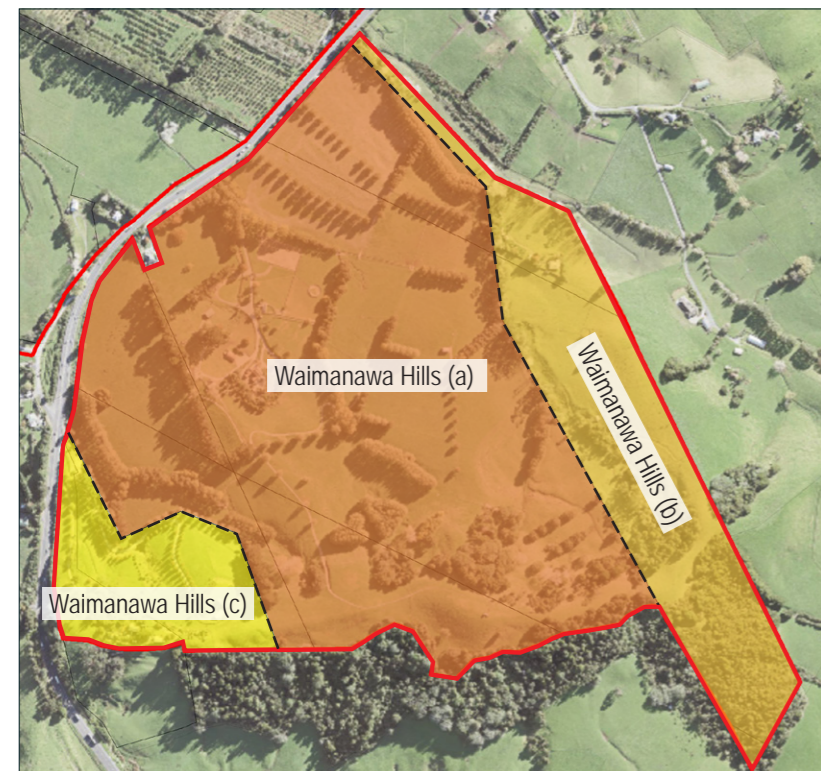


Figure 3 - Waimanawa Hills Areas



Figure 2 - Plan Change Extent

Properties included in the Proposed Plan Change



Figure 4 - Properties included in Warkworth South Plan Change (by Parallax Surveyors and Planners)

# 2. CONTEXT INFORMATION

## 2.1 Strategic context

### The Auckland Plan 2050

The Auckland Plan 2050 (June 2018) sets the long-term strategic directions and spatial planning for Auckland to grow over the next 30 years.

Most of Auckland’s planned urban growth will have occurred within existing and future urban areas to limit expansion into the rural hinterland. The planned future urban areas will take a quality compact approach to growth and development to ensure these areas are developed in an efficient, cost-effective and sustainable way.

Warkworth, a town in the north of Auckland, will act as a satellite township to provide a range of services to its surrounding rural communities, and also support significant business and residential growth.

With 1100 hectares of land identified for future urban development in Warkworth, significant residential and employment growth is expected in the area. This has the potential to accommodate approximately 7,500 new dwellings.

Figure 7 (below) from the Auckland Plan provides an indicative sequencing for development in Warkworth. The proposed timing for the future urban area in Warkworth South to be development ready is sequenced on the first half of Decade Two (2028-2032), while Warkworth North will be development ready from 2022.

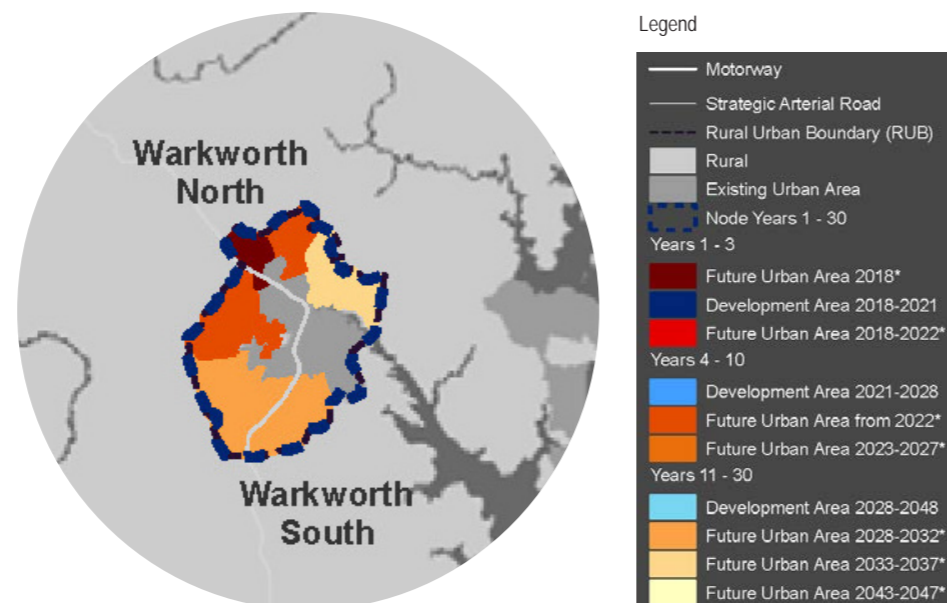


Figure 5 - Sequencing of Future Urban Areas in Warkworth (Source: The Auckland Plan 2050)

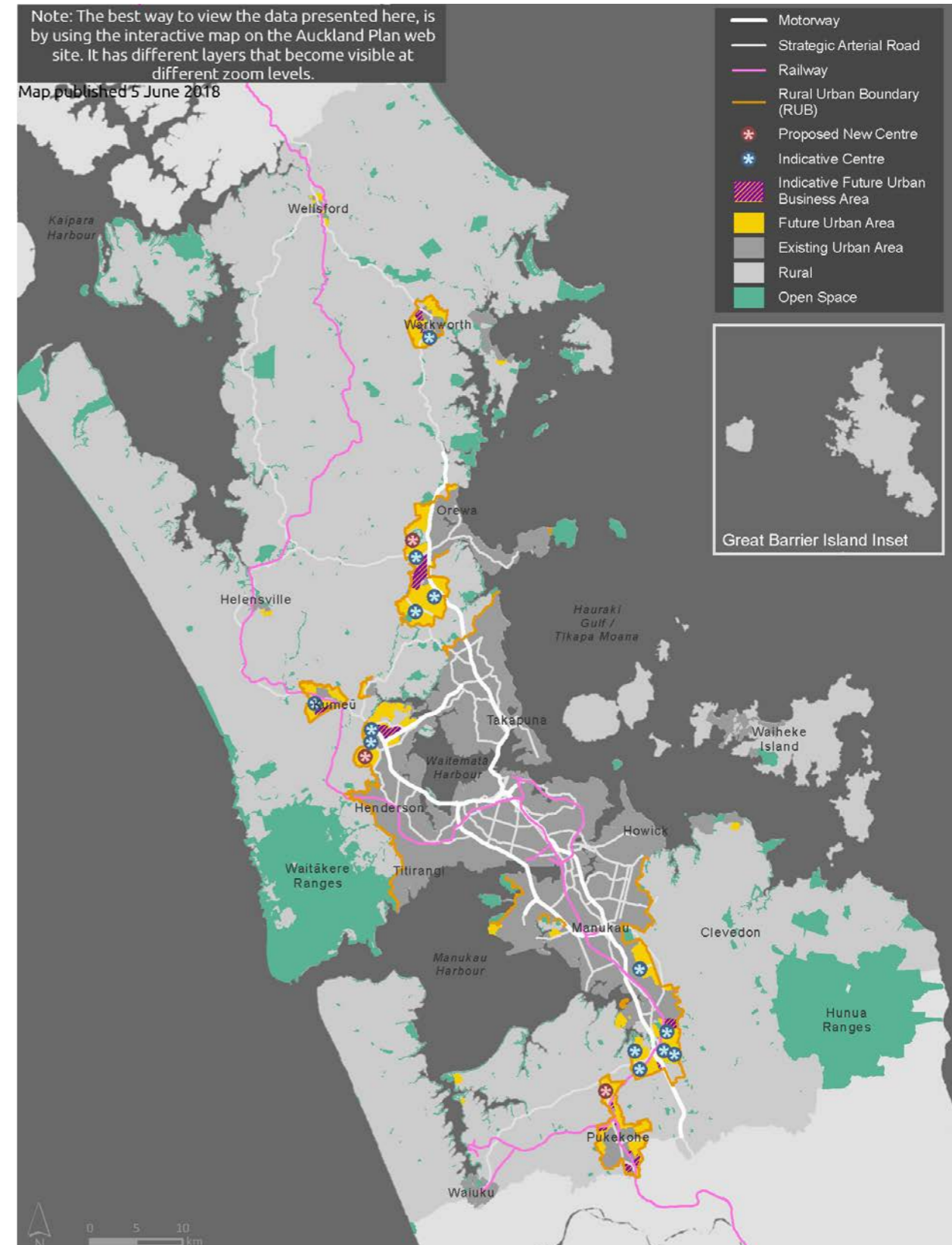


Figure 6 - Auckland Future Urban Areas (Source: The Auckland Plan 2050)

## 2.2 Planning Context

### Auckland Unitary Plan Operative in part (AUP)

#### Regional Policy Statement

Chapter B2 of the AUP sets out a number of objectives and policies in relation to urban growth and form seeking to achieve a quality compact urban form and provide for a quality built environment.

In particular, the provisions in section B2.2, B2.3, B2.4 and B2.7 are relevant to this plan change in urban design terms.

Policy B2.2.2.(7) sets out that the rezoning of future urban land need to: (a) support a quality compact urban form; (b) provide for a range of housing types and employment choices for the area; (c) integrate with the provision of infrastructure.

In terms of residential growth, the objectives and policies in section B2.4 set out the overarching goal and high-level guide to the residential development within the plan change area. These are summarised below:

- Provide for residential intensification as a primary focus where it is in close proximity to centres, public transport corridors, key social facilities, open spaces and employment opportunities.
- Provide for a range of built forms and housing types and to meet the diverse demands.
- Residential developments respond to the existing natural and physical environment and is in keeping with the planned neighbourhood characters.

#### Zoning & Overlays

Under the AUP, the area within the Rural Urban Boundary is currently zoned Future Urban Zone with a small section adjacent to the stream identified as Open Space - Conservation. The portion of land beyond the RUB is zoned Rural - Rural Production Zone. (Refer to zoning map below)

The site is not subject to any outstanding natural features, landscapes or character layers. There are no scheduled trees within the site.

The designation of a new State Highway (Ara Tūhono - Pūhoi to Wellsford Road: Pūhoi to Warkworth Section) runs north south to the west of site along the Rural Urban Boundary.

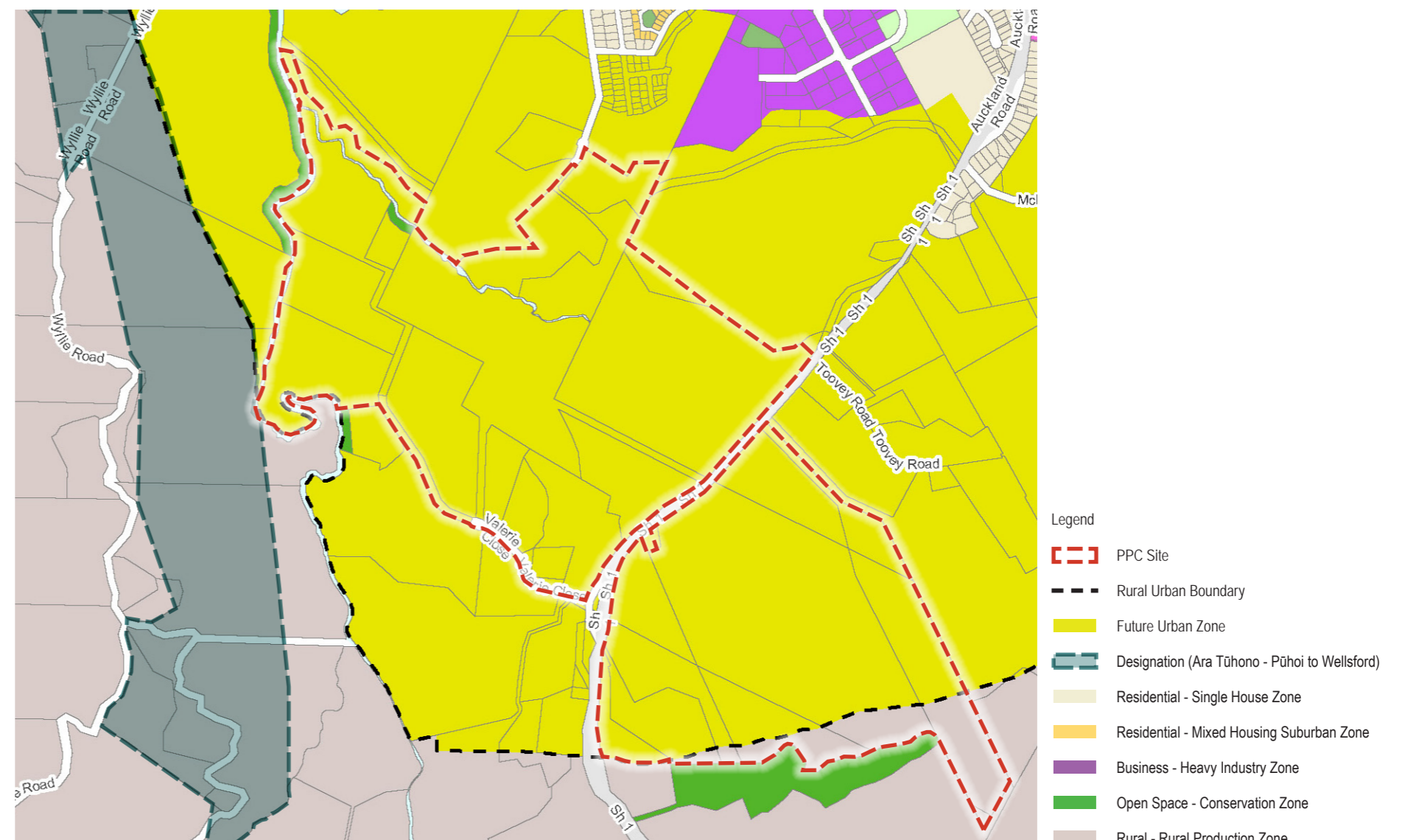


Figure 7 - Auckland Unitary Plan Zones & Designations (Information sourced from Auckland Unitary Plan - Operative in part)

## 2.3 Structure Plan

### Warkworth Structure Plan (June 2019)

The Warkworth Structure Plan ('WSP'), which was adopted in June 2019, sets out the pattern of land use and the supporting infrastructure network for the Future Urban areas in Warkworth. The WSP was produced by Auckland Council through a consultative process involving the public, landowners, Mana Whenua, Auckland Transport, Watercare and Waka Kotahi NZTA.

The vision proposed for Warkworth is :

*"Warkworth is a Satellite Town that retains its rural, natural, and cultural character. It is centred around the Mahurangi River and has easy walking and cycling access around the town. There are a variety of high-quality residential neighbourhoods. Warkworth is largely self-sufficient with plenty of employment, education, shopping and recreation opportunities. Transport and other infrastructure are sequenced to support Warkworth's planned growth."*

In terms of the masterplan site, some of the key findings identified in the WSP are summarised below:

- New residential areas for more intensive developments (terrace houses and low-rise apartments) are proposed in Warkworth South;
- A new arterial road (Wider Western Link 'WWL') is proposed to connect the existing Stage Highway 1 (SH1) with Woodcocks Road;
- Along with a public transport hub, a new Local Centre ('LC') in the south is located in the vicinity of the intersection of the existing SH1 and the new arterial road;
- Protection areas in Warkworth south primarily include esplanade reserves along the Mahurangi River or tributaries of the river, wetlands, Significant Ecological Areas and covenanted bush.
- Create 'green corridor' across the urban development to provide protection to the existing natural and ecological values, particularly alongside the Mahurangi River and its tributaries;
- Protect Morrison's Heritage Orchard from subdivision and remains as a rural feature of Warkworth.

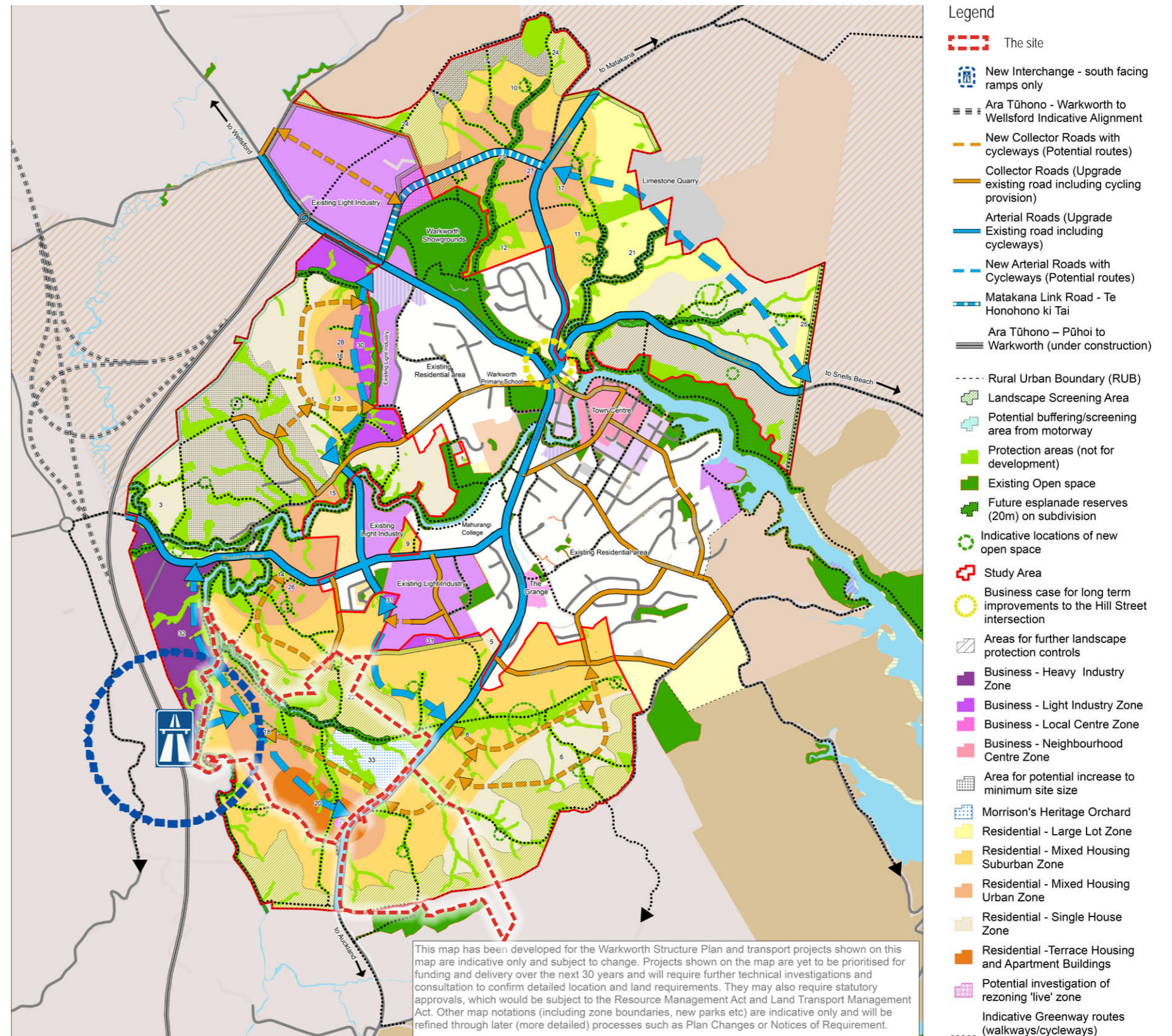


Figure 8 - Warkworth Structure Plan- Land use plan with PPC extent overlaid (Source: Warkworth Structure Plan)



# 3. SITE ANALYSIS

## 3.1 Site Location

The Masterplan Site is located near the southern end of Warkworth which is approximately 50km north of central Auckland. The site sits 3km from the Warkworth Town Centre and has convenient access to the existing State Highway 1 that is immediately adjacent.

The Warkworth town centre has been historically formed around the Mahurangi River which creates a unique natural and built form character of Warkworth.

The western site is currently accessed off Valerie Close from the existing State Highway 1 while the eastern site has direct access from SH1 through two separate driveways. Valerie Close together with Avice Miller Reserve defines the southern boundary of the site. A branch of Mahurangi River borders the site to the west with numerous minor tributaries across the entire site. The northernmost part of the site provides for a physical link to the existing urban fabric in the vicinity of Mason Heights.

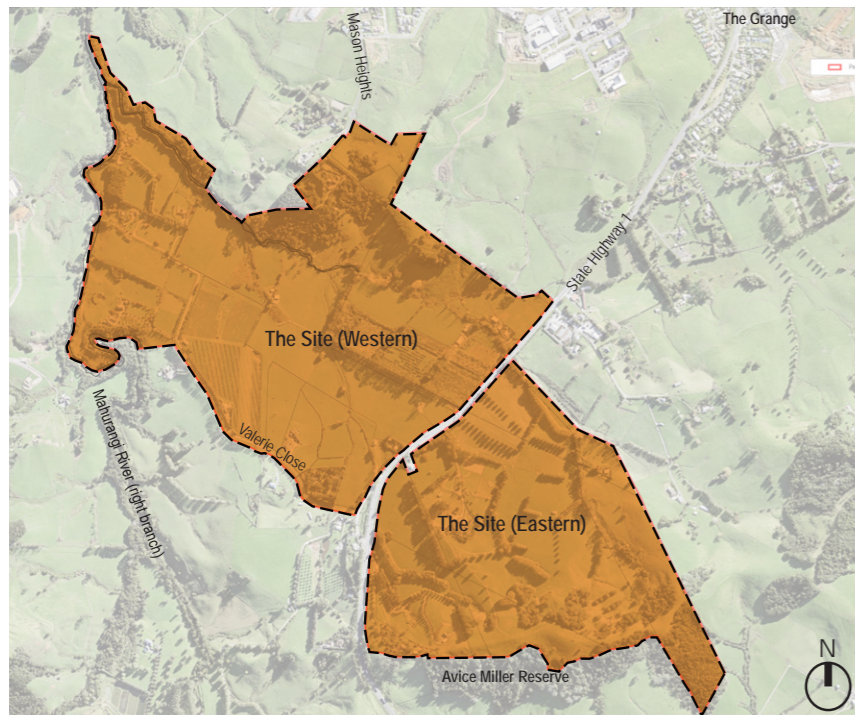


Figure 10 - Site Boundary

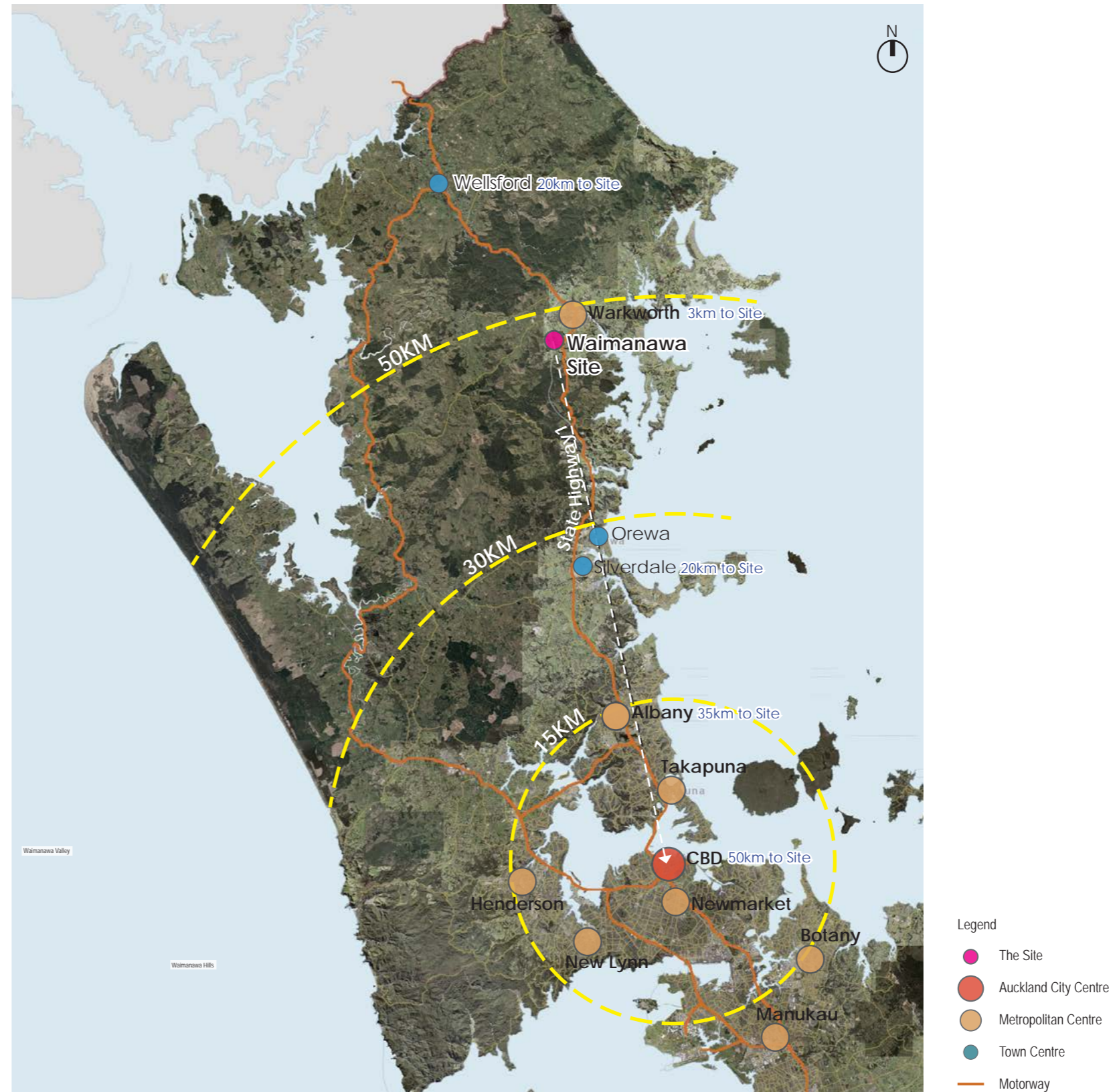


Figure 9 - Site Location Map

### 3.2 Wider Context

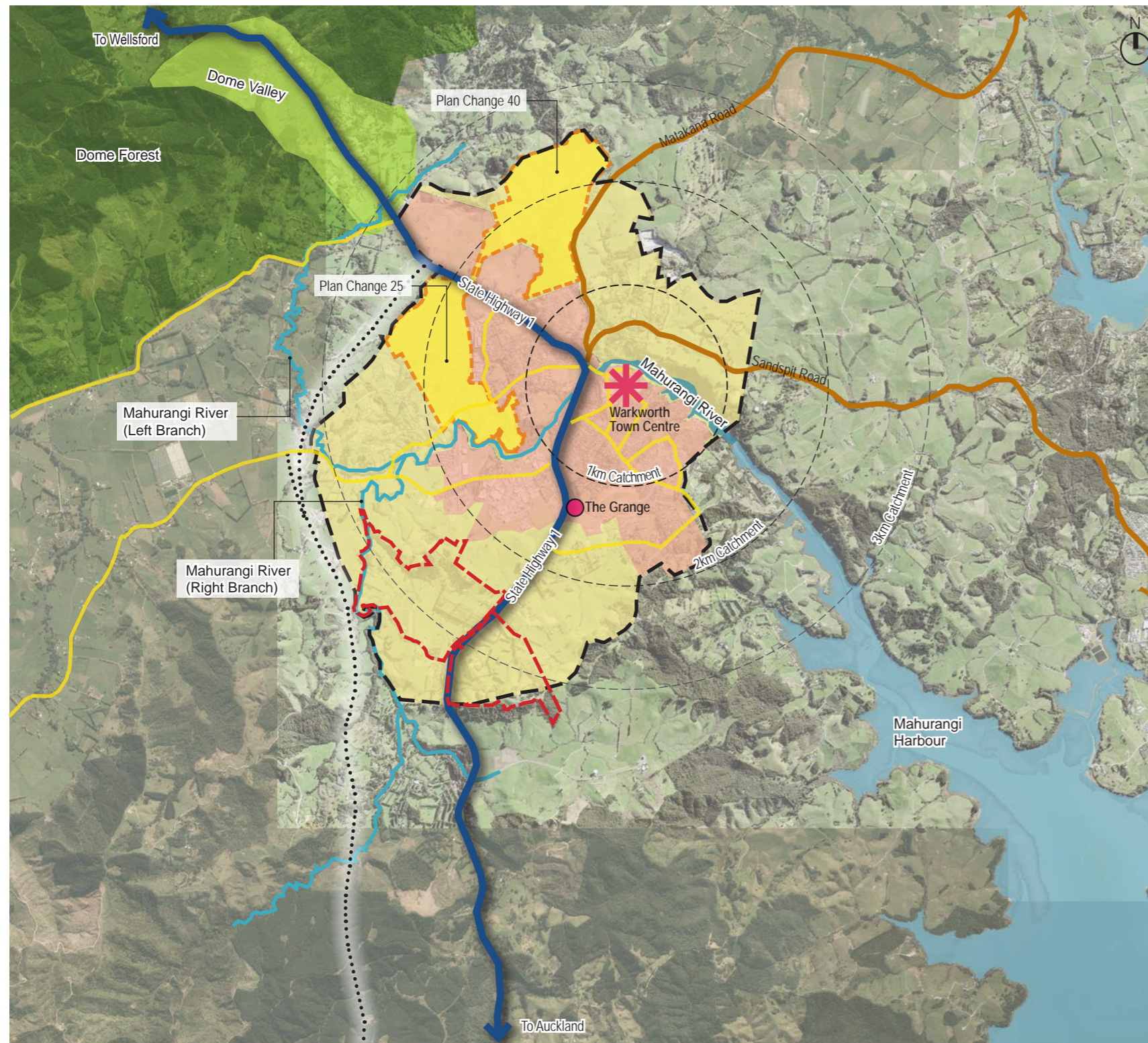


Figure 11 - Warkworth Context Plan

Currently, Warkworth is the largest rural town within the northern Auckland region, providing a wide range of services and employment opportunities to the surrounding small towns, rural hinterland and coastal areas. Warkworth also acts as a gateway to a number of small towns, particular to the east to the coastal settlements and tourist destinations such as Matakana, Snells Beach, Leigh and Omaha.

The Warkworth Town Centre sits on the edge of Mahurangi River estuary where it meets the northern reaches of Mahurangi Harbour. State Highway 1 traverses through Warkworth in a north-south direction and heads westwards to Dome Valley. The current urban area including the Town Centre is concentrated around the Mahurangi River and the State Highway corridor.

Around 1,000 ha of currently rural land immediately surrounding Warkworth has been zoned Future Urban in the AUP. In particular, Warkworth South contains the largest area of Future Urban land due to its flat land, planned local centre, a public transport hub and the future connection to Ara Tuhono – Pūhoi to Warkworth. Comprising around 493 ha of land, Warkworth South will accommodate approximately 3,700 additional dwellings in the future.

- Legend
- The Site
  - ✳ Warkworth Town Centre
  - Local Centre
  - State Highway 1
  - Ara Tuhono – Pūhoi to Warkworth Motorway
  - Arterial Road
  - Collector Road
  - Rural Urban Boundary
  - Existing Urban Area
  - Future Urban Zone
  - Mahurangi River
  - Dome Forest
  - Dome Valley
  - PC 25 & PC 40 Site

### 3.3 Warkworth Context

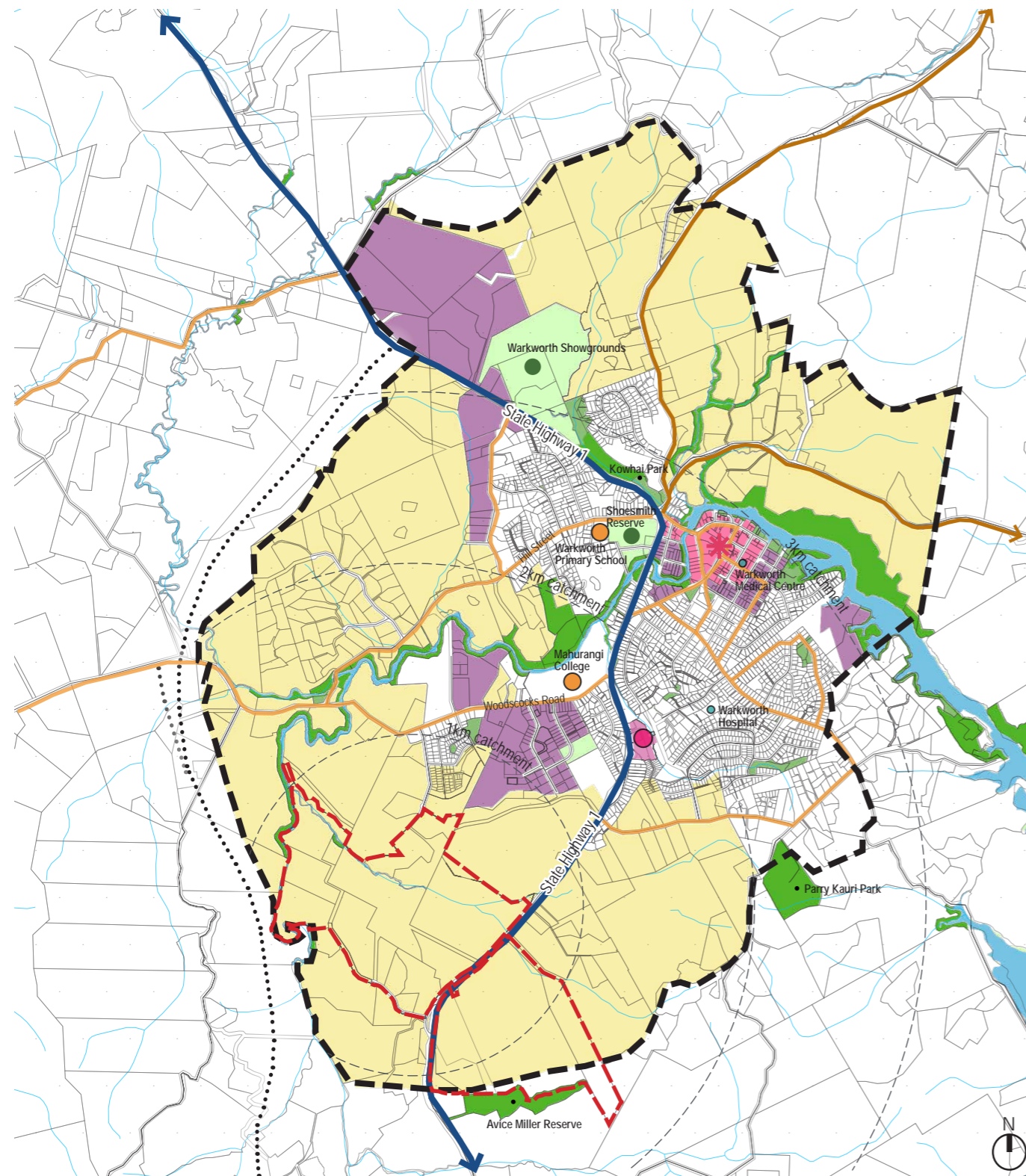


Figure 12 - Local Context Plan

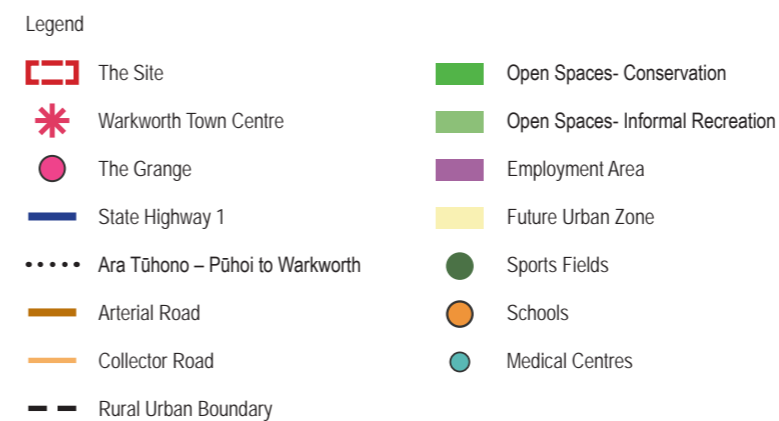
The site sits strategically on a generally low to gentle-contoured valley within the wider Future Urban area in South Warkworth, with the surrounding area currently dominated by pastoral and rural lifestyle activities.

Within the existing urban footprint, residential uses are predominant around the town centre and along the SH1 corridor. In terms of built form, low density 1-2 storey detached residential dwellings are laid out relatively evenly amongst a mixture of basins and stream valleys. Pockets of light industrial land are present in the outskirts of the existing urban areas. The light industrial area along Woodcocks Road 1.5km north of the site provides both industrial uses and large format retail.

A series of esplanade reserves and riparian margins are provided along the main branches of Mahurangi River and some of its tributaries. The nearest conservation reserve is the Avice Miller Reserve located beyond the Rural Urban Boundary to the east of SH1. Within the entire Warkworth, majority of the open spaces are associated with esplanade, native bush reserves, sports fields and community green infrastructure. However, Warkworth is lack of park or open spaces for recreational purposes.

Mahurangi College is located 1.5km north of the site on Woodcocks Road and Warkworth Primary School is 2.5km to the north on Hill Street. As noted in the WSP, two further primary schools and a secondary school are liked to be required in the medium to long term, however, the location of these schools are still under investigation by the Ministry of Education.

The Kowhai Surgery and the Warkworth Medical Centre are located in Town Centre providing general practitioner services for Warkworth. The privately funded Rodney Surgical Centre is located 1km north of the site.



### 3.4 Surrounding Context

#### Uses

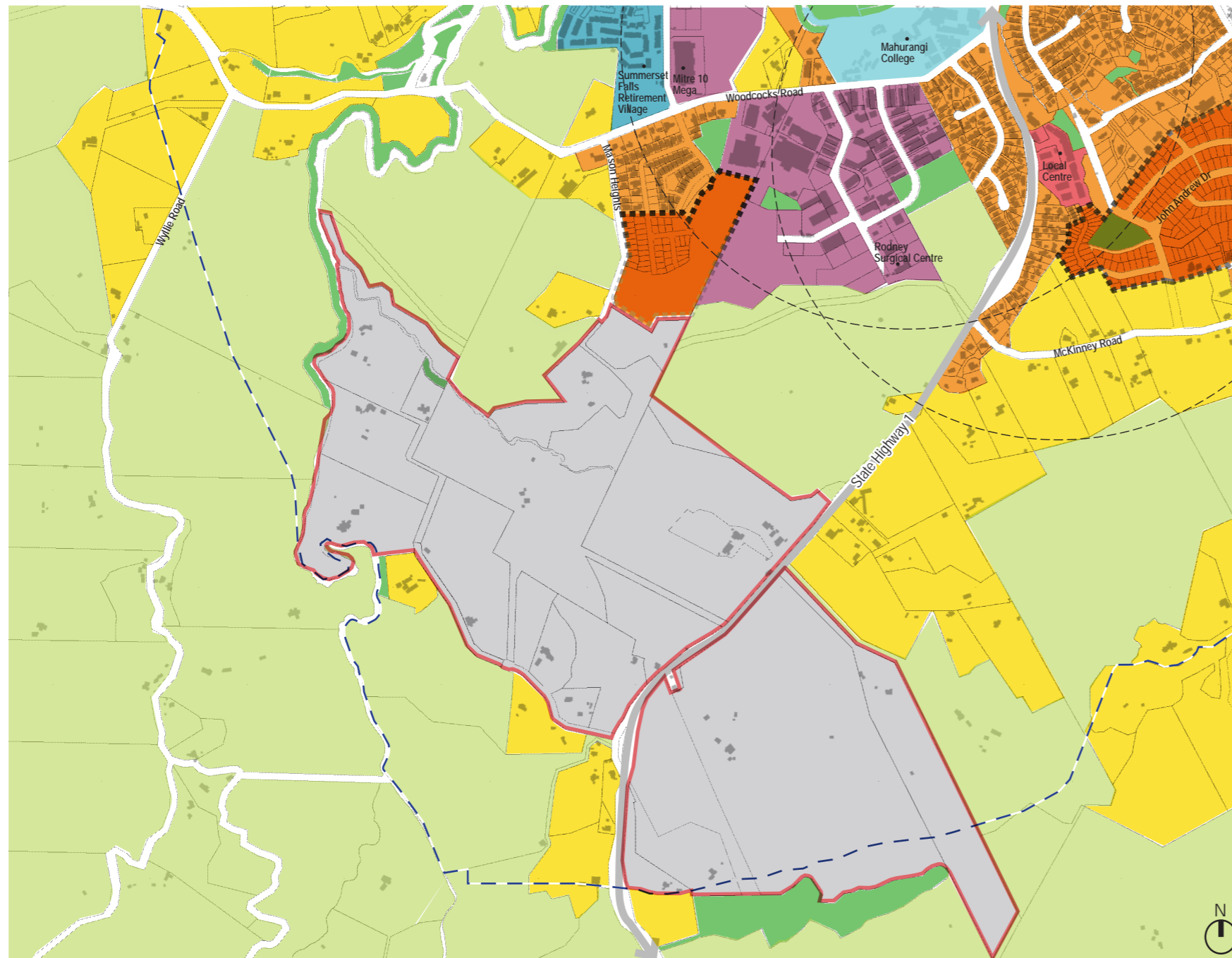


Figure 13 - Warkworth South Context - Uses

The Future Urban land within Warkworth South comprises a broad area of 493 ha of land with predominantly pastoral and rural lifestyle activities. The northern section of Warkworth South area has a strong connection with the adjoining urban activities as a number of recently built residential developments are emerging towards the fringe of urban areas and growing into the Future Urban land (Refer to diagram to the left).

- Legend
- The Site
  - Commercial
  - Retail / Light Industry
  - Residential
  - Retirement Village
  - Education
  - Rural Lifestyle Block
  - Open Space
  - Pasture Farm
  - Most Recent Subdivisions
  - 10-Min Walking Radius (800m)
  - Rural-Urban Boundary (Indicative)

Movement Network

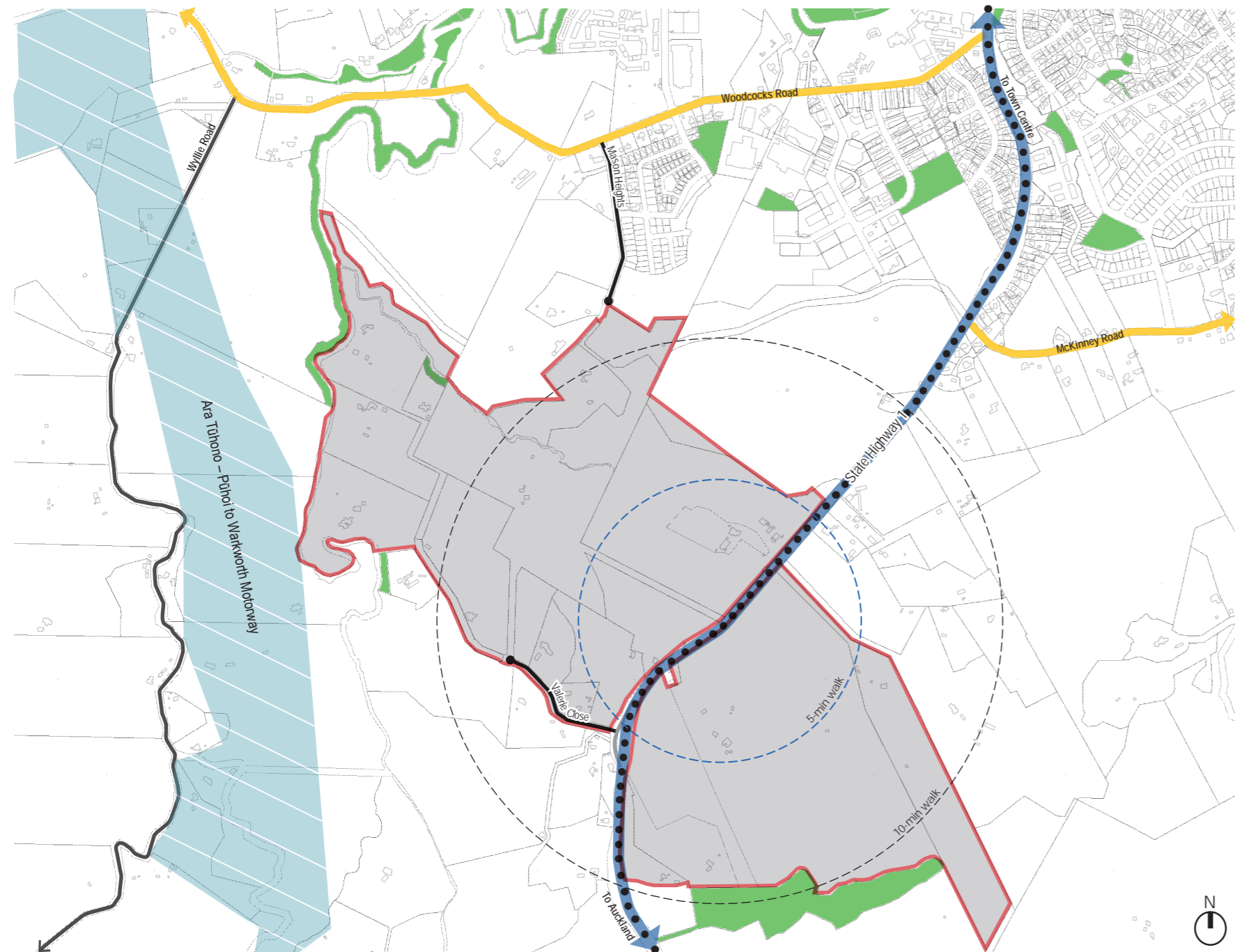


Figure 14 - Warkworth South Context - Movement Network

As with the bulk of the town, Warkworth South is currently split by the existing SH1 travelling north south. SH1 provides primary access to the sites alongside the motorway. Woodcocks Road is a main collector road accessed off SH1 which provides access to the existing urban areas and the future urban land to the west of SH1 in Warkworth South. The site can be accessed from the north through Mason Heights, a local road linked to Woodcocks Road.

The new Ara Tūhono – Pūhoi to Warkworth Motorway is currently under construction which traverses on the periphery of the Warkworth future urban area to the west. The new motorway is expected to open in late 2022 at which time the current State Highway 1 will become an arterial road under the control of Auckland Transport.

Legend

- The Site
- ← Existing Motorway
- Planned Motorway Corridor (under construction)
- Collector
- Local Road
- Bus Route
- 5-min Walking Radius (400m)
- 10-min Walking Radius (800m)

Natural Environment

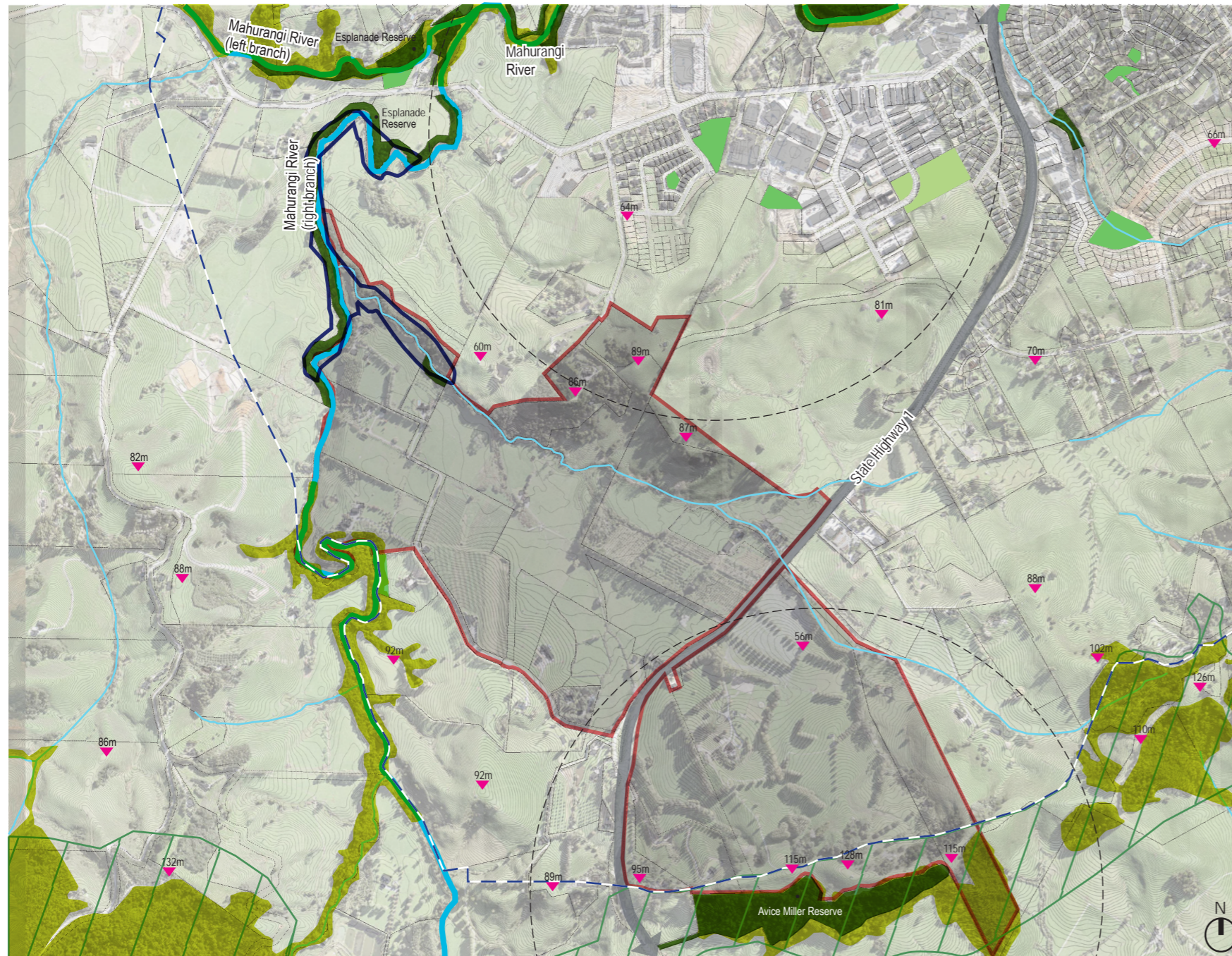


Figure 15 - Warkworth South Context - Natural Environment

In terms of natural land form, the Warkworth South area is broadly framed by a series of elevated ridges and hill slopes to the south which define the outer edges of the future urban area within the Warkworth 'basin'. Within this catchment basin, a mixture of major streams, tributaries and more localised watercourse form a series of stream valleys and flood plains which are intermixed with a rolling matrix of spurs and hill slopes.

Avic Miller Scenic Reserve defines the southern boundary of the eastern site which is covered by predominantly indigenous species including podocarp trees, kauri, rimu, tōtara and kahikatea. These forest remnants extend further eastwards to the Thompson Road ridge, all of which are identified as Significant Ecological Areas under the AUP and form a large ONL wrapping along the ridges framing the future urban land in Warkworth South. SEA are also located along the right arm of the Mahurangi River from the southwestern corner of the site towards a major stand of bush to the south.

Currently, there are few public recreational reserves provided in Warkworth South and those that are function as stormwater attenuation and lack local/community parks for active recreational activities. A number of reserves for stormwater purposes to the south of Woodcocks Road are within 10-min walking distance from the northern end of the site.

## 4. MASTERPLAN VISION

### 4.1 Vision

*Creating a welcoming residential community with a range of engaging facilities set upon a series of parks along the southern reaches of the Mahurangi River.*



Example of recreational walkway with riparian planting



Example of suburban residential frontage



Example of Local Centre



Example of stormwater park

## 4.2 Overarching Goals



Enhanced natural environment

Protect and enhance the distinctive existing environment including natural streams, wetlands, vegetation and ecological corridors.



Lightly fitted urban structure

Follow natural contours and integrate with surrounding neighbours, watercourses and transportation network.



Village like built form

Create a distinctive and self-contained community providing high quality residential development and parks with a focus on sustainability.



Walkable & cycle-friendly movement network

Create an integrated transport network with emphasis on walking and cycling access, pedestrian-oriented streets and greenways.



A Local Centre that fulfills local needs

Provide for retail, cafe, supermarket, gym, pharmacy, healthcare to meet the needs for local residents.



Extensive open spaces & facilities

Provide a series of quality open spaces and amenities easily accessible for all.



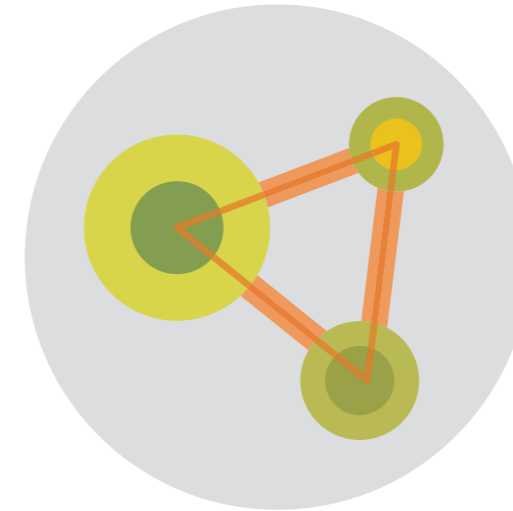
# 5. URBAN DESIGN STRUCTURE

## 5.1 Design Principles

To achieve the overarching vision and the goals, a set of high-level design principles and key design strategies has been developed to provide a meaning guide for the masterplan layout.



Enhance the existing ecosystem and natural landscape features



Create a high quality public realm that is connected and accessible to all



Create a healthy and sustainable community for people of all ages



Provide for a legible network of roads, local streets, lanes and walking and cycling routes



Promote efficient use of land

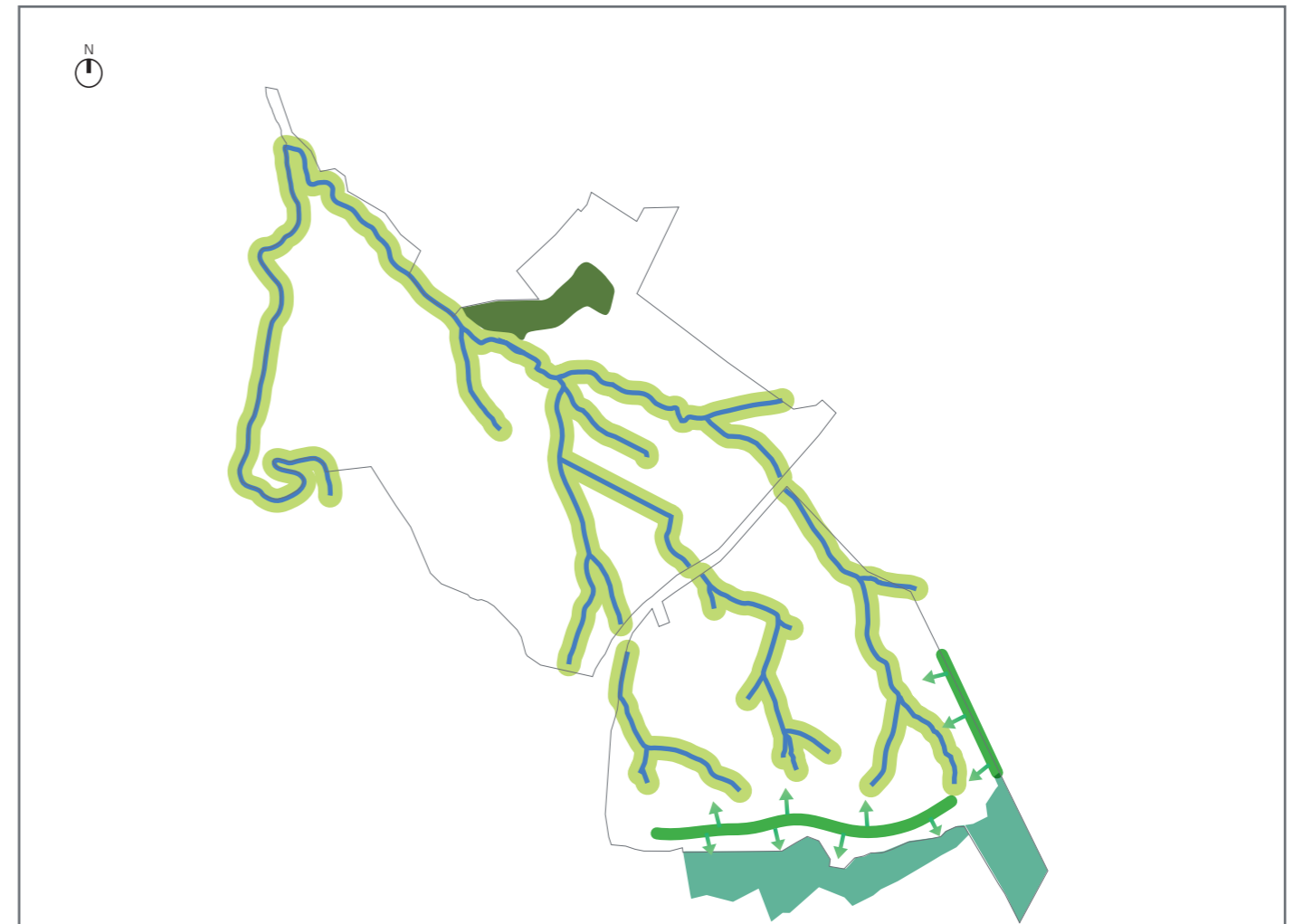


Celebrate the unique identity of Warkworth South and create a sense of place

## 5.2 Design Strategies

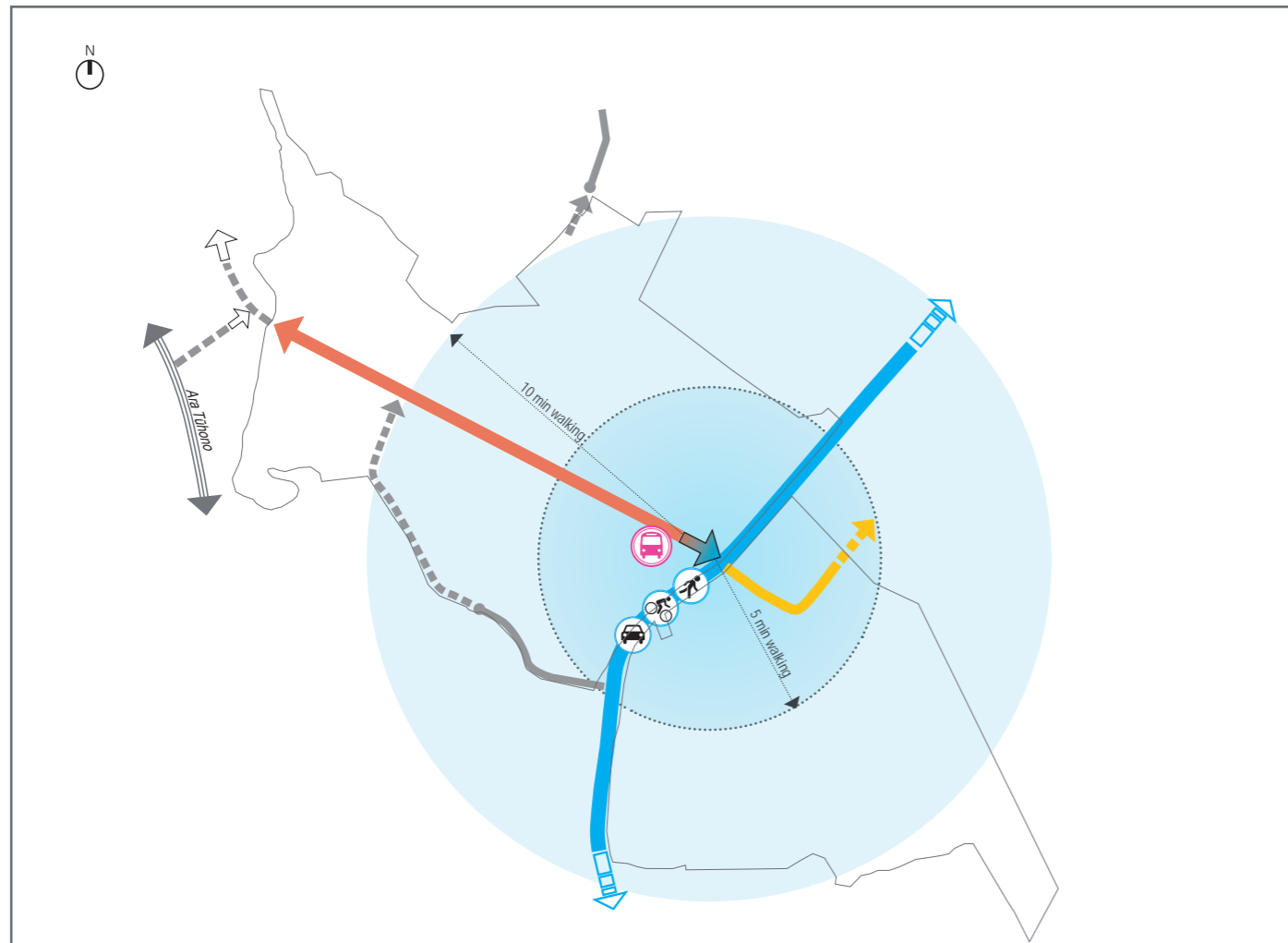
On the basis of the high-level principles, a series of site-responsive design strategies are developed to help establish a welcoming residential community with a high level of connectivity and quality amenity spaces.

### Ecology



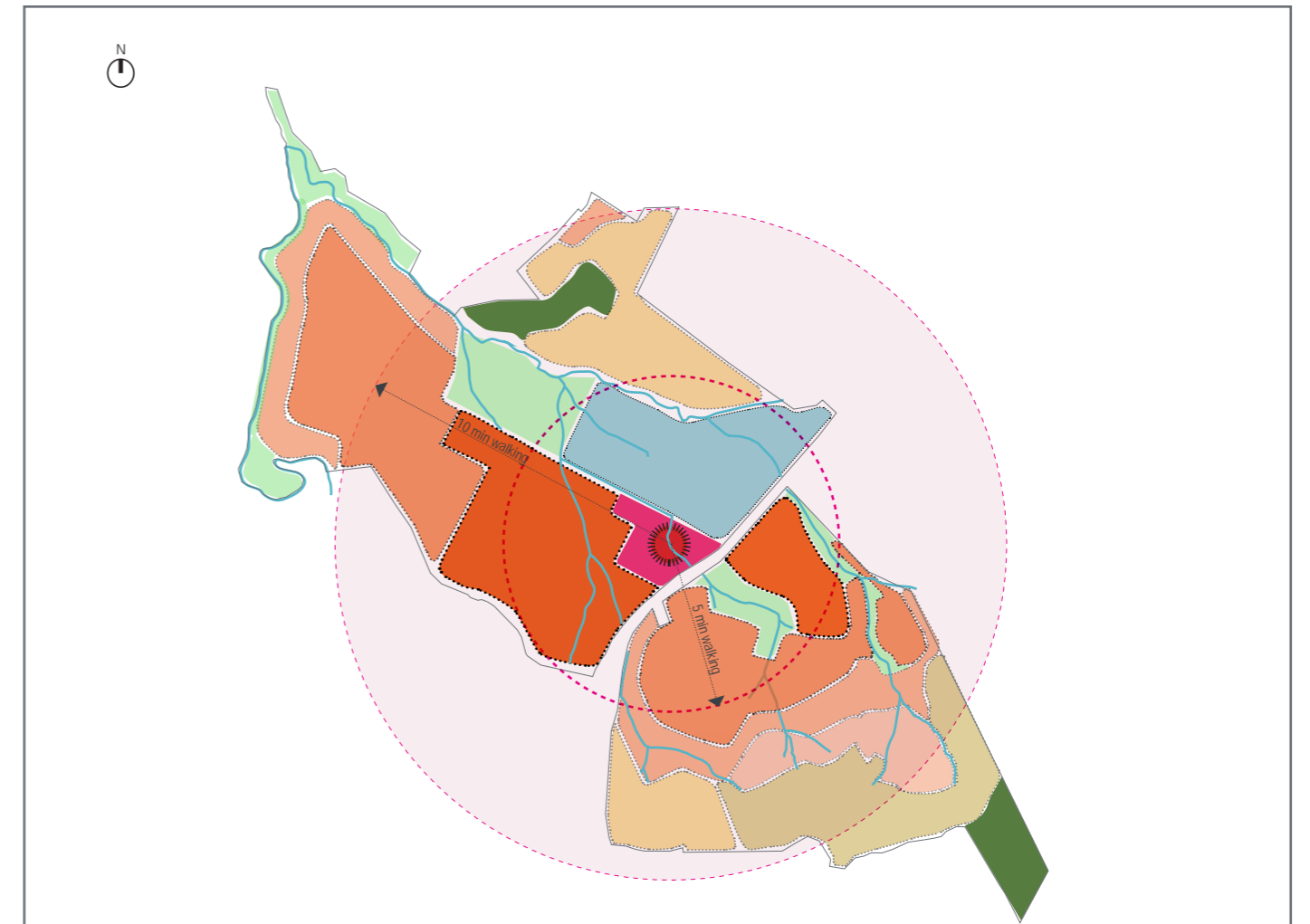
- Protect the existing natural watercourses and enhance ecological corridors
- Maintain and enhance significant indigenous forests and natural wetlands
- Protect the landscape character of Avice Miller Scenic Reserve and escarpments

## Transport



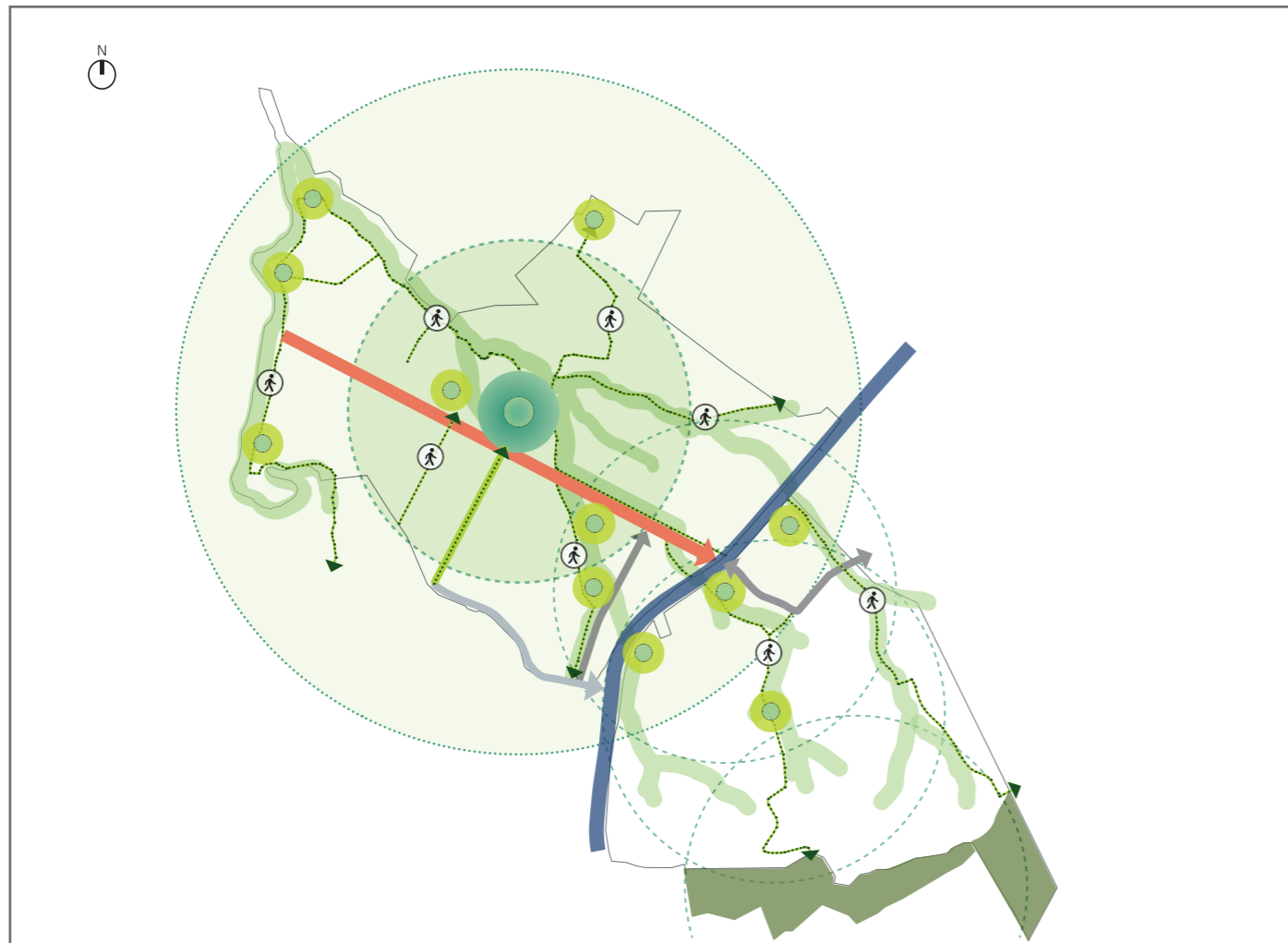
- Connect to the existing motorway and enhance the arterial connection to the Warkworth town centre
- Create a direct and efficient indicative route for Wider Western Link Road across the areas with gentle contours
- Locate future public transport interchange near the key intersection of urban arterial roads (SH1 & WWLR)

## Urban Form



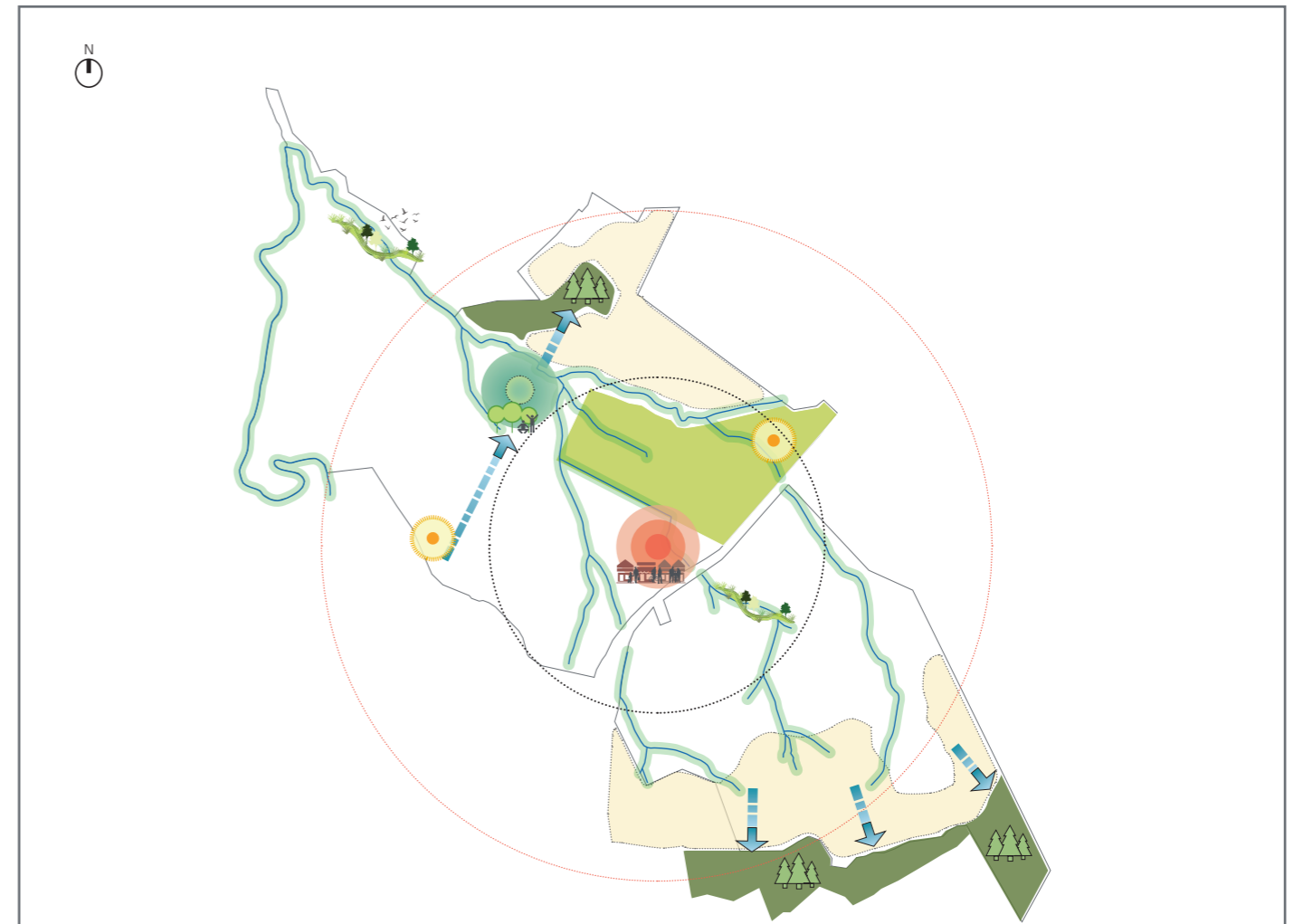
- Place a local centre that serves a wide catchment in south Warkworth area
- Fit in a sympathetic urban form following natural contours and provide for suitable residential uses and density transitions
- Locate higher density residential around the local centre and key transport corridors
- Provide reduced urban density transitions along the main stream corridors and local ridges at the perimeter of the site

## Open Space



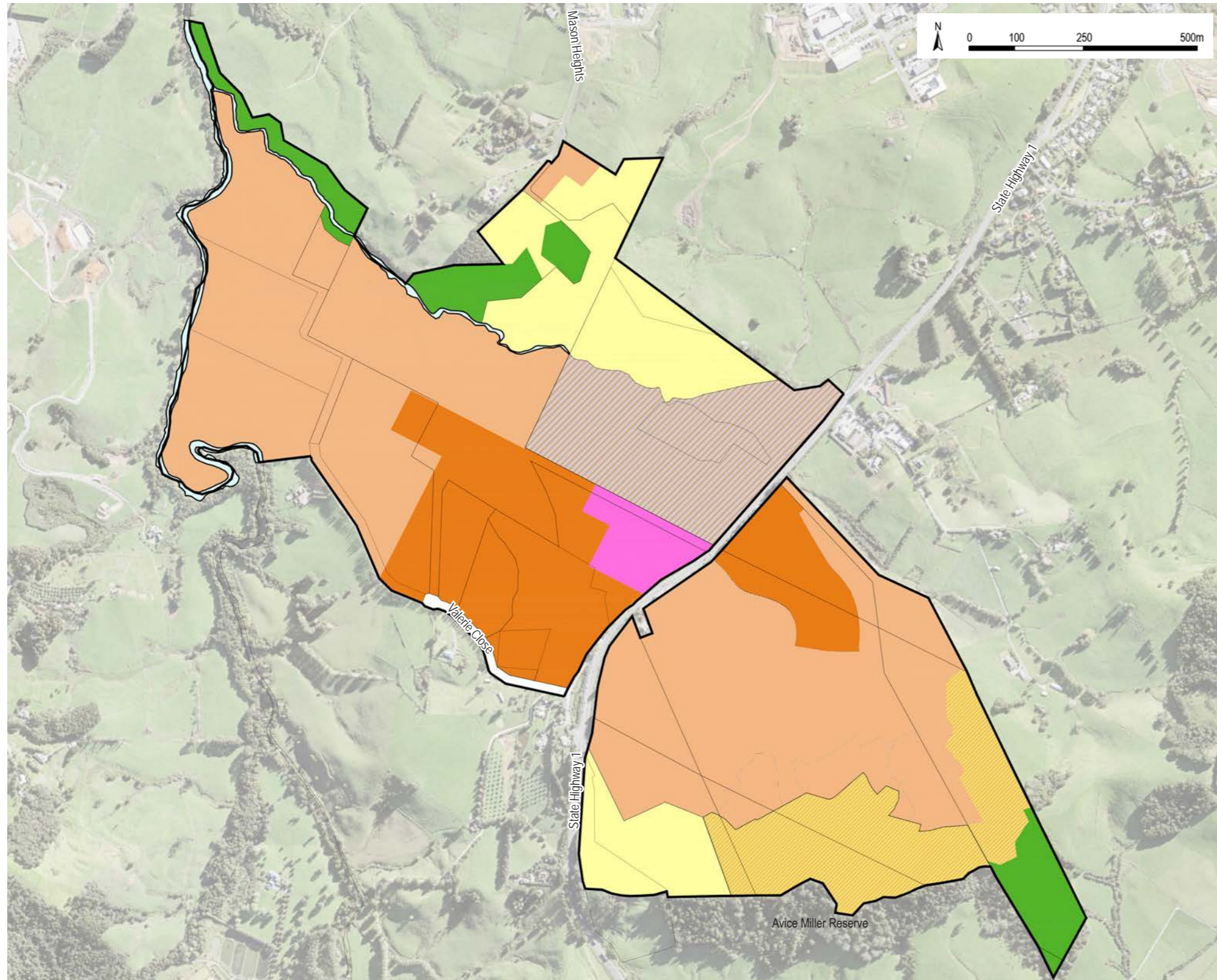
- Create a generously-sized suburb park as a key open space for the entire community
- Establish a series of open spaces along the stream corridors to provide both amenity and infrastructure
- Provide green links for pedestrians and cyclists across the site and to wider areas

## Identity



- Morrison Heritage Orchard retains its rural character contributing to the local identity
- Enhance the ecological values along the natural streams through riparian planting
- Provide key physical and visual connections to the patches of indigenous forest and promote native re-vegetation across the local ridges adjacent to Avic Miller Scenic Reserve to strengthen the landscape character in Warkworth south

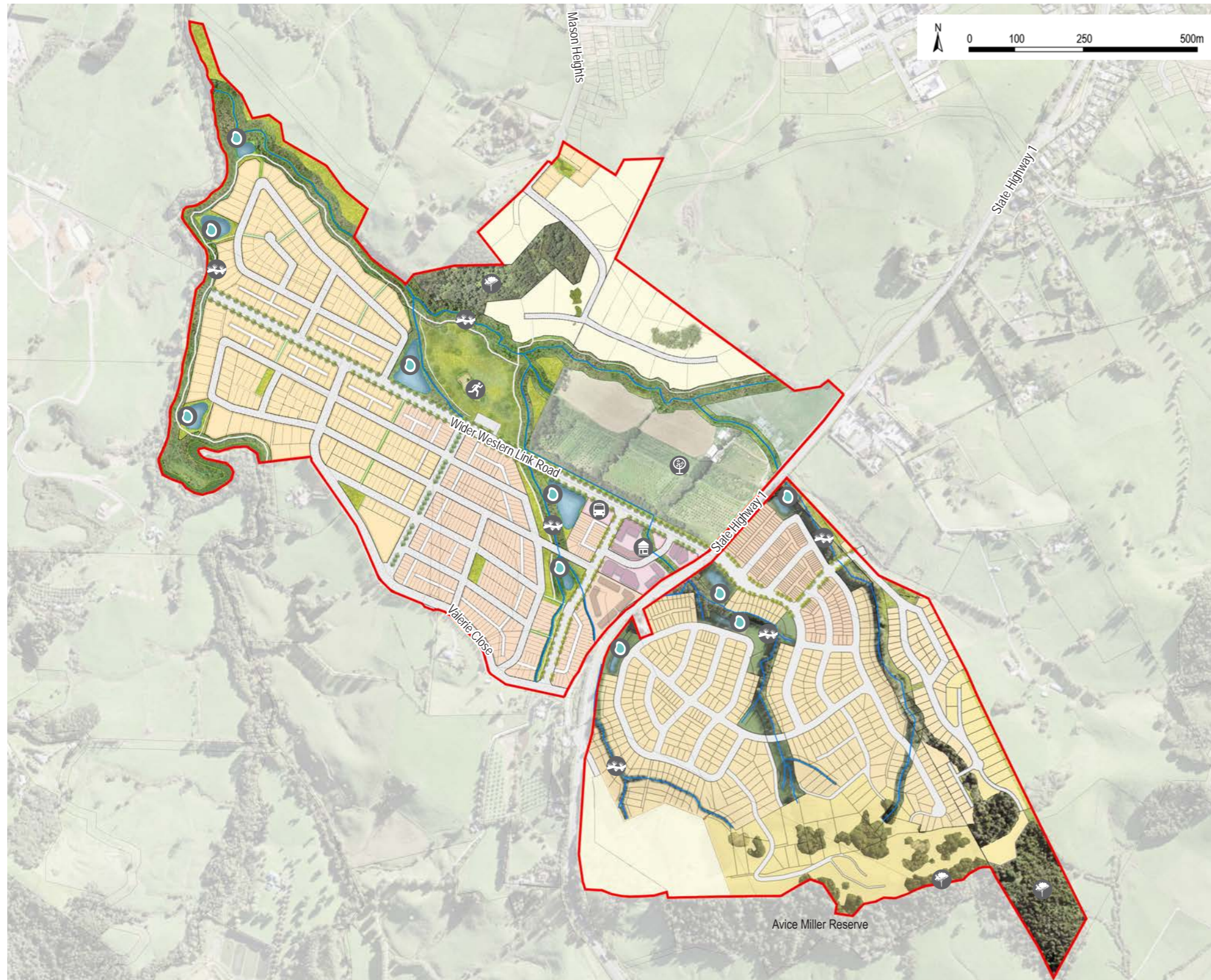
### 5.3 Zoning Concept Plan










- Legend
- Plan Change Extent
  - Residential- Large Lot Zone
  - Residential- Low Density Residential Zone (minimum lot size 1,000m<sup>2</sup>)
  - Residential- Mixed Housing Urban Zone
  - Residential- Terrace Housing and Apartment Building Zone
  - Business- Local Centre Zone
  - Open Space- Conservation Zone
  - Rural-Mixed Rural Zone

Figure 16 - Warkworth South Zoning Concept Plan

## 5.4 Indicative Masterplan



### Key Features

-  Local Centre
-  Public Transport Interchange (Indicative)
-  Morrison Heritage Orchard
-  Recreational Park
-  Stream Corridor
-  Bush Reserve
-  Stormwater Pond (Indicative)

### Residential

-  Terrace Housing & Apartment Buildings
-  Mixed Housing Urban
-  Low Density Residential
-  Large Lot
-  Plan Change Boundary

Figure 17 - Warkworth South Indicative Masterplan

## 5.4 Residential Yield

The proposed masterplan identifies a logical land use pattern which supports efficiency, appropriate balance of land use distribution and diversity of residential opportunities. The key land use and yield metrics identified by the indicative masterplan are outlined in the chart below.

The proposed masterplan will provide approximately 1433 residential lots and 173 apartment units with 82% of the site area being zoned residential. The location and extent of THAB zones respond to the natural topography and the walkable catchment relative to the local centre and public transport hub. Mixed Housing Urban zones are predominantly provided across the gentle valley floor and the lower slopes in the east. Low Density Residential zoned land with spatial control is provided across the eastern escarpment and the local ridgeline in the northeast to minimise the impacts on the immediate and wider landscape. Large lot areas are located in the vicinity of the northern escarpment to help enhance a portion of Warkworth's rural character which is largely retained within the Morrison Heritage Orchard. To the east, the southwestern corner of Waimanawa Hills site will provide for large lot development to respond to the limited access from SH1 and provide further protection to Avicé Miller Scenic Reserve and Outstanding Natural Landscape to the south.

Zoning		Waimanawa Valley (Land West of SH1)			Waimanawa Hills (Land East of SH1)			Entire Plan Change Site			
		Land Area (Hectare)	Percentage of Total Site Area	Residential Yield	Land Area (Hectare)	Percentage of Total Site Area	Residential Yield	Land Area (Hectare)	Percentage of Total Site Area	Residential Yield	Indicative Open Space Provisions (Hectare)
Residential	Terrace housing and Apartment Buildings	19.600	11.88%	367 lots + 105 Apartments	5.778	3.50%	183 lots	25.378	15.38%	550 lots + 105 Apartments	1.171
	Mixed Housing Urban	38.393	23.27%	352 lots	35.847	21.73%	455 lots	74.240	45.00%	807 lots	15.093
	Low Density Residential	0.000	0.00%	-	14.476	22.10%	41 lots	14.476	8.77%	41 lots	0
	Large Lot	14.654	8.88%	23 lots	6.015	9.18%	12 lots	20.669	12.53%	35 lots	0
	Sub-total	72.647	44.03%	742 lots + 105 Apartments	62.116	37.65%	691 lots	134.763	81.68%	1433 lots + 105 Apartments	16.264
Business	Local Centre	3.415	2.07%	68 Apartments	0.000	0.00%	-	3.415	2.07%	68 Apartments	0
	Sub-total	3.415	2.07%	68 Apartments	0.000	0.00%	-	3.415	2.07%	68 Apartments	0
Open Space	Open Space - Conservation	5.718	3.47%	-	3.378	2.05%	-	9.096	5.51%	-	9.096
	Sub-total	5.718	3.47%	-	3.378	2.05%	-	9.096	5.51%	-	9.096
Rural	Rural-Mixed Rural	15.233	9.23%	-	0.000	0.00%	-	15.233	9.23%	-	0
	Sub-total	15.233	9.23%	-	0.000	0.00%	-	15.233	9.23%	-	0
	Others (Existing road/streams/watercourses/possible landtake)	2.480	1.50%	-	0.000	0.00%	-	2.480	1.50%	-	0
<b>Total</b>		<b>99.49</b>	<b>60.31%</b>	<b>742 lots + 173 Apartments</b>	<b>65.49</b>	<b>39.70%</b>	<b>691 lots</b>	<b>164.98</b>	<b>100.00%</b>	<b>1433 lots + 173 Apartments</b>	<b>25.36</b>

Figure 18 - Warkworth South Land Use Metrics & Yield Chart

## 5.5 Open Space Provisions



Figure 19 - Indicative Location & Extent of Key Open Spaces

Open spaces are generously provided within the Plan Change area and primarily include the following:

- A large suburb park functions as a key open space providing a range of recreational activities for the entire community
- A series of smaller open spaces including neighbourhood and pocket parks are provided along the stream corridors
- Existing bush reserves and covenanted areas will be retained
- All protected streams will be enhanced by various provisions of riparian yard

The indicative open spaces identified in the proposed masterplan align with the Green Network Plan of Warkworth Structure Plan (WSP) for the following reasons:

- The large open space shown in the WSP is enabled by the proposed suburb park with a proximate location
- 20m Riparian yards are provided in alignment with the 'future esplanade reserve(20m) on subdivision' identified in the WSP
- The proposed masterplan indicates more open spaces on both western and eastern sites than that is proposed by the WSP.

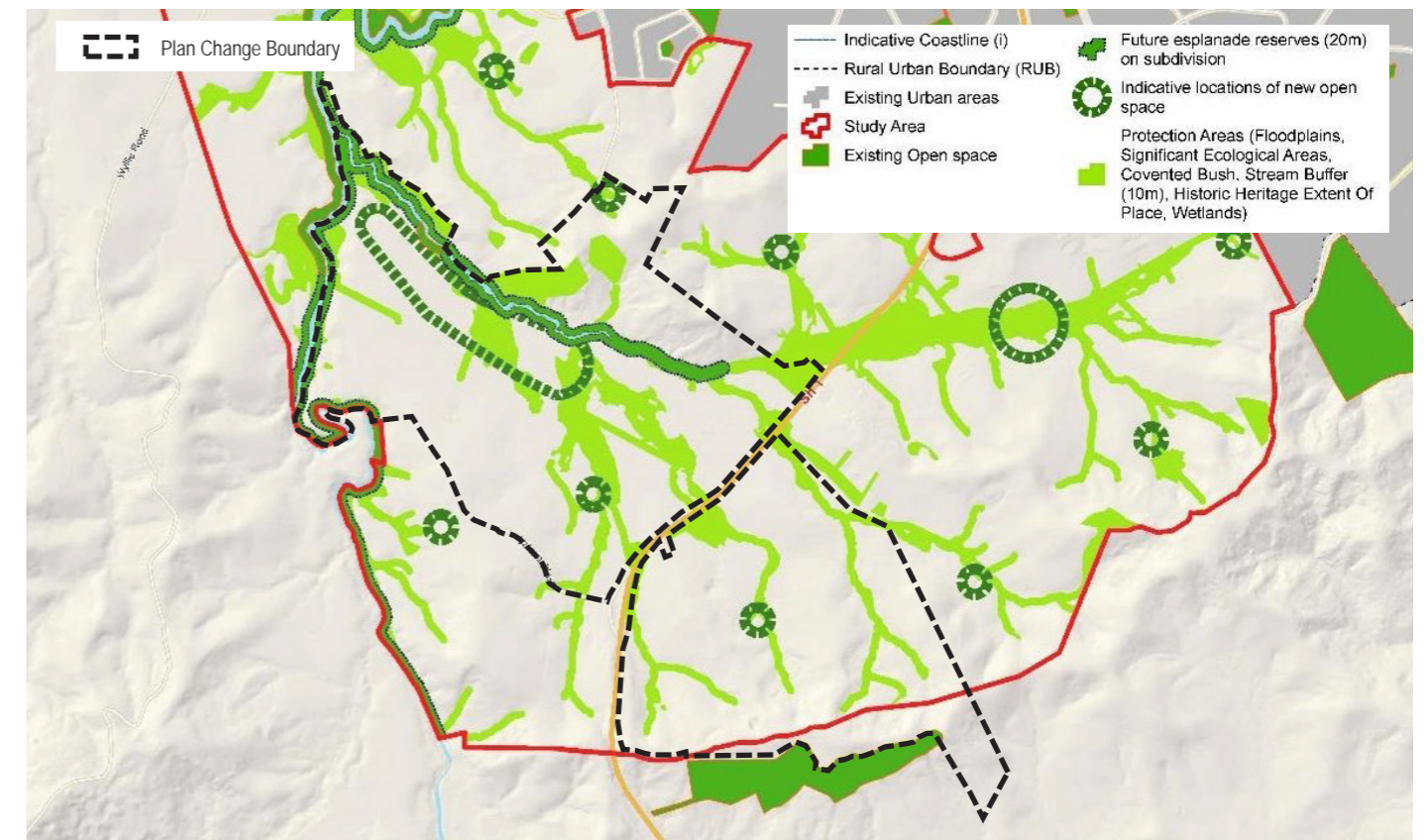


Figure 20 - Warkworth Structure Plan - Green Network Plan



## 5.6 Street Network



Figure 21 - Indicative Street Network

The street network will provide a legible pattern for all users within the Plan Change area, including

- Create the Wider Western Link Road in the most direct and efficient way that links SH1 with the south-western growth area and the Southern Interchange
- The proposed intersection of SH1 and WWLR will enable key vehicular, pedestrian and cyclist access to both Waimanawa Valley and Waimanawa Hills
- The proposed green avenue and the road between WWLR and Valerie Close through the new local centre will provide good north-south connectivity from/onto the arterial routes within the Waimanawa Valley and these streets will be constructed to collector road standards
- The proposed collector road within Waimanawa Hills enables key access from SH1 and provides a linkage to the future developments north of the site
- A safe crossing point for pedestrians and cyclists between the western and eastern sites is proposed at the intersection of SH1 & WWLR
- The arrangement of load roads considers the natural topography and supports functional connectivity and efficient land-use
- Separate cycle lanes will be provided along WWLR, the green avenue and new collector road
- Pedestrian paths are essentially provided within the street network
- Off-road recreational pedestrian and cycling links are broadly provided throughout the site with good connectivity to reserves, parks and open spaces associated with the stream corridors
- Park edge roads are provided in practical locations where the adjoining stream edges are not subject to Bat Flight Corridor/ sections of multiple small ownerships and result in improved public amenity than those open spaces(riparian yards) suitably integrated into subdivision
- Roading connections constructed to local road standards through the developments across northern and eastern escarpment areas are limited so as to achieve roading efficiency and practical gradients and avoid creating high retaining walls on either side of the road



## 6. WAIMANAWA VALLEY MASTERPLAN

## 6.1 Existing Site Features

### Topography and Landform

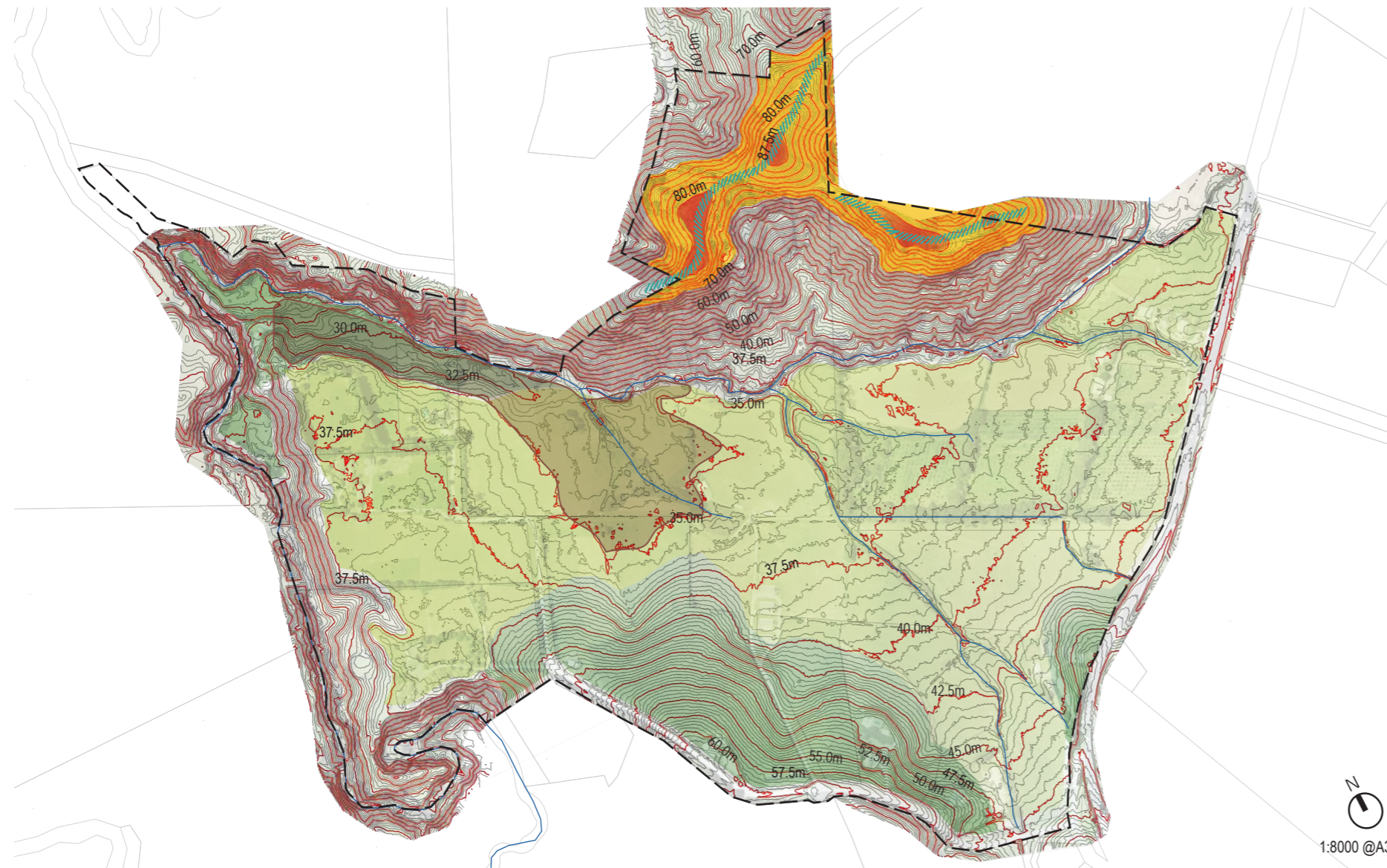


Figure 22 - Existing Site Features- Natural Features



View of flat valley floor towards south



View from southeastern corner towards northern escarpments



View of gently sloped land towards Valerie Close

The site is topographically characterised by a gently-contoured valley in the south and a primary ridgeline with several spurs extending along the northernmost portion of the site. The ridge in the north runs in a southwest-northeast direction and ascends to a high point of 87.5m near the northeast corner. Extended off the ridge to the east, is a spur running toward the SH1 which defines the eastern part of the northern boundary. The ridgeline together with the associated spurs visually contains the site from the north.

Within the valley floor, the site generally falls towards the north and west from Valerie Close and SH1. Extending centrally from Valerie Close is a gentle slope with 20m fall (approx.) that forms an elevated feature along the southern boundary.

The land adjacent to the western boundary has a more undulated contour as it intermixes with riparian margins of Mahurangi River.

#### Legend

- Major Contour (2.5m)
- Intermediate Contour (0.5m)
- ▨▨▨▨ Ridge
- Area above RL 70.0m
- Hill Tops
- Flat Area (slope < 1 in 20)
- Easy-Contour Area (slope between 1 in 20 to 1 in 9.5)
- Alluvial Lowlands

Natural Features



Figure 23 - Existing Site Features- Natural Features

The right arm of the Mahurangi River runs in a north-south direction along the site’s western boundary. A primary tributary of this river extends across the site in the middle following a west-east direction which provides a physical separation between the stream valley and the northern hill feature. Within the eastern portion of the site, a number of minor tributaries collect the complex drainage patterns falling from the south and the east as well as those further beyond the site on the other side of Valerie Close and SH1. These minor tributaries cut through the stream valley in a incised manner. A short watercourse exists in the central area of the site where it drains a pocket of constructed wetland.

The southwestern corner of the site features a corridor of indigenous vegetation consisting predominantly of mature native trees including kānuka (*Kunzea ericoides*) and pōhutukawa (*Metrosideros excelsa*). Along the north-western and northern boundaries of the site following the streams, the riparian margin is dominated by kānuka forest which extends uphill to cover 3.3ha(approx.) of land. A smaller stand of mature vegetation sits 150m east of the extensive kānuka forest and features a mixture of native podocarp and broadleaved trees, some of which are in poor health condition. A small patch of natural wetland exists at the base of a gully between the ridges and is dominated by mercer grass.

Legend

- Permanent Stream
- Intermittent Stream
- Ephemeral Flow Path
- Artificial Watercourse
- Natural Wetland
- Constructed Wetland
- Indigenous Vegetation - Kānuka Forest
- Indigenous Vegetation - Pūriri Forest
- Other Significant Vegetation - Mixed Native and Exotic
- Shelter Belt
- Amenity Planting
- Plan Change Area
- Morrison's Heritage Orchard



Mahurangi River



Kānuka Forest



Riparian Planting



Constructed Wetland

Built Environment



Figure 24 - Existing Site Features- Natural Features

The site's built environment is characterised by rural residential and pastoral grazing activities. Residential dwellings are dispersed along the existing SH1, Valerie Close and streams corridors to the west. Complemented by a series of concrete/gravel lanes, Valerie Close provides primary access to the properties in the southern part of the site. The previous Ransom Winery buildings sits on a relatively high point west to the end of Valerie Close.

A number of temporary workers accommodation sheds are located adjacent to SH1 and the former Ransom Winery building.

Access to the Morrison's Heritage Orchard is via SH1. The properties in the northern portion of the site are accessed off Mason Heights.

Overall, the site's built environment has an unremarkable pattern featuring scattered residential dwellings, farm buildings and temporary structures connected by loose roading network, which is a reflection of the typical hinterland of rural settlements within the Auckland region.



State Highway 1



Valerie Close



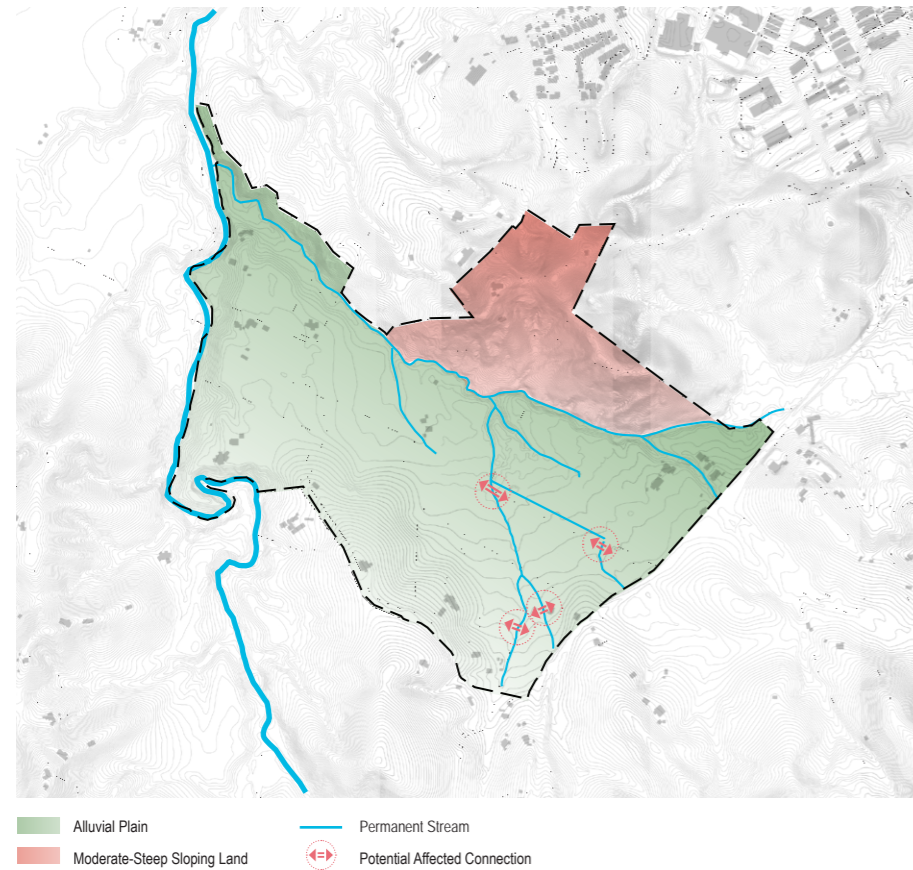
Existing Vineyard

Legend

- Residential Building
- Ransom Winery Building
- Farm Building/ Structure
- Temporary Workers Accommodation
- Vineyard
- State Highway 1
- Driveway
- Formed Path/ Track
- Plan Change Site
- Property Boundary
- Public Road

## 6.2 Site Constraints & Opportunities

### Watercourses & Landforms



- The site lies to the south of a main tributary of the Mahurangi River and is largely flat with gentle slopes towards Valerie Close which makes this area well suited for medium to high density development.
- A number of minor tributaries that run through the alluvial plain in the southeastern part of the site may require additional engineering in terms of providing continuous road connections.
- The steeply-contoured bush clad in the northern part of the site is less suitable for intensive urban subdivision and provides a visual break to the developments in the south.

### Uses



- The northern area of the site's proximity to the most recent subdivision development on Mason Heights suggests a logical connection to the existing urban fabric in Warkworth.
- The site's strategic location and direct access from motorway indicate its strong ability to provide local services, various urban uses and open spaces to a wide catchment in Warkworth South
- Morrison's Heritage Orchard and its potential complementary activities enables the opportunity to act as a key destination in Warkworth South whilst continuing to contribute to the local rural character.

### Open Spaces & Ecology

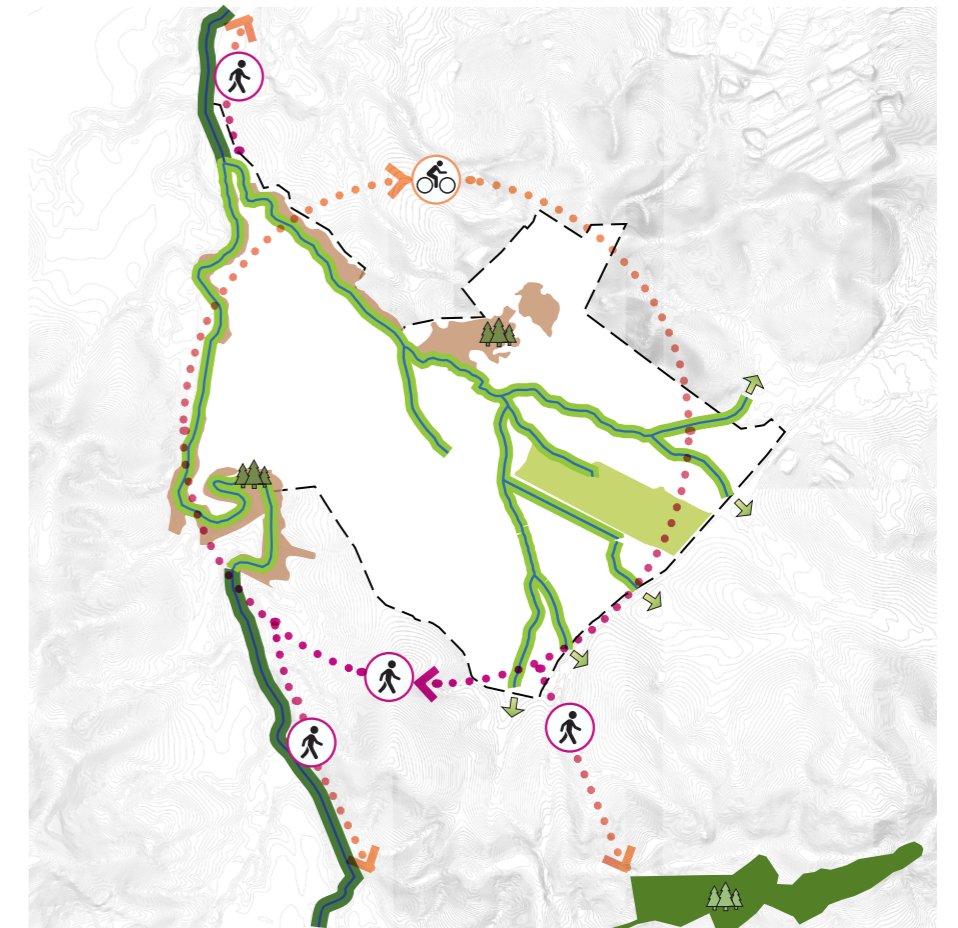
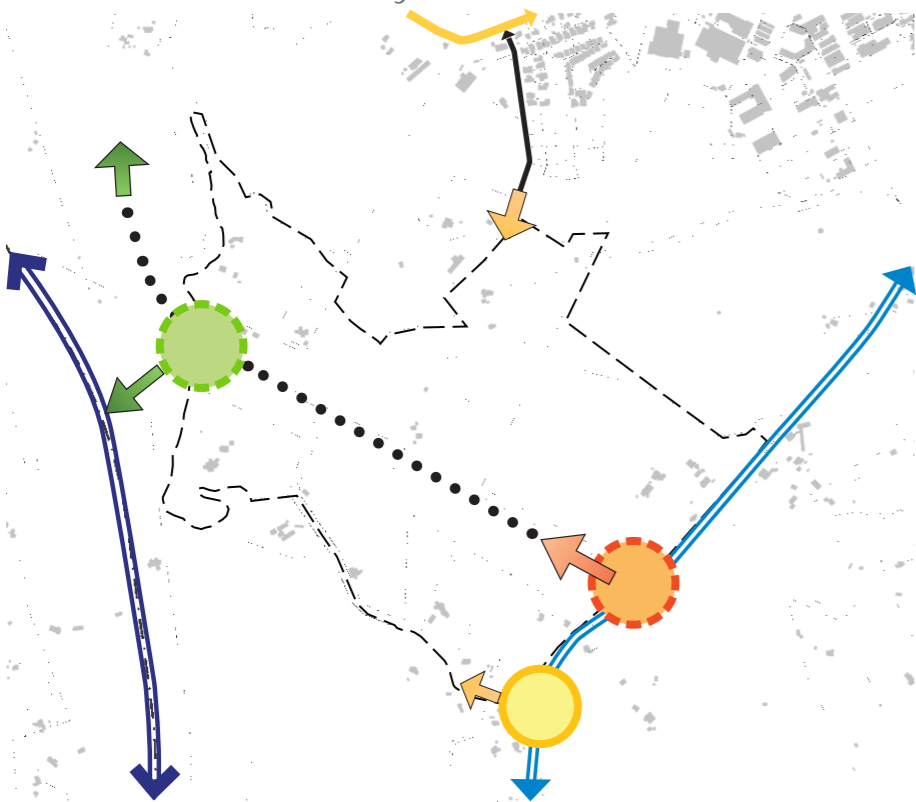


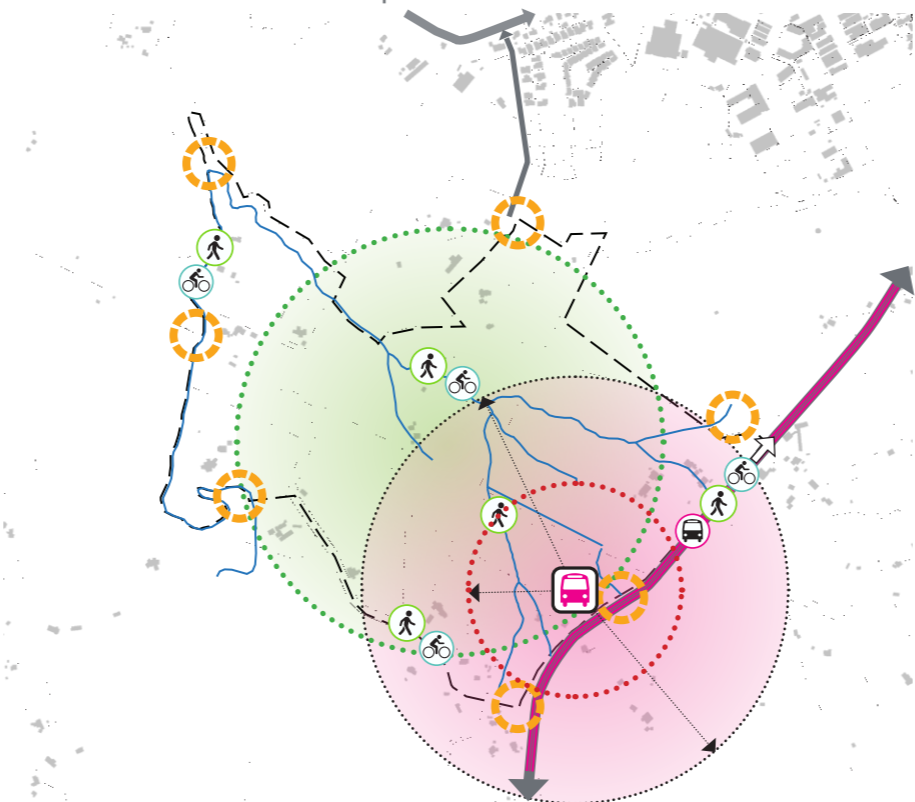
Figure 25 - Constraints & Opportunities Diagrams A

- The right arm of the Mahurangi River and its tributaries offer opportunity for natural amenity and highly-connected open spaces which form an integral part of the ecological system in Warkworth South
- The existing Kānuka forest along the north-western boundary of the site presents a natural landscape feature on the hill slopes which contributes to the broader landscape in Warkworth

Access & Connectivity



Active & Public Transport



Heritage & Culture

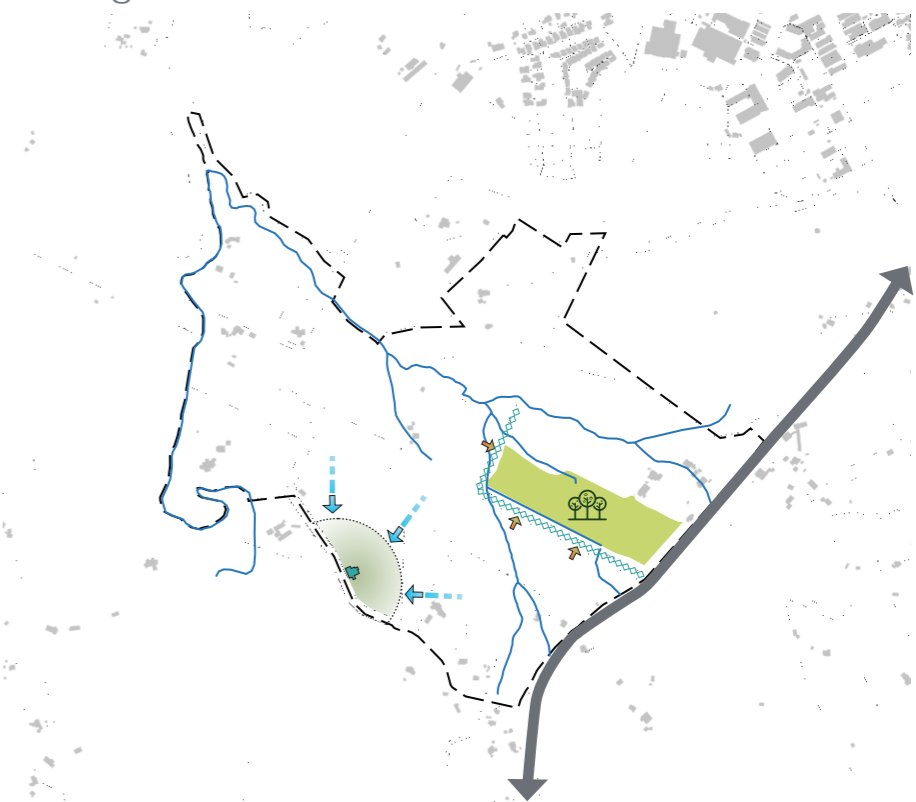


Figure 26 - Constraints & Opportunities Diagrams B

- The site is in close proximity to the existing SH1 along its eastern boundary
- With future connections from its western boundary, the site has convenient access to the new motorway and the proposed Wider Western Link Road
- Currently, Valerie Close and Mason Heights provide direct access to the site from SH1 and Woodcocks road respectively which offers easy access to the Warkworth town centre and the employment area in the vicinity of Woodcocks Road
- The proposed Wider Western Link Road that traverses through the site is an urban arterial road with limited access points from both sides of this route

- The proposed public transport interchange within the site supports a walkable neighbourhood and caters for an extensive walking and cycling network.
- The riparian margins of the permanent streams offer opportunity for off-road pedestrian and cyclist routes .

- The site contains no archaeological site of significance or other historic heritage sites that may raise constraints to the proposed urban developments.
- Morrison's Heritage Orchard will continue acting as a destination with rural characters that reinforces the historic and cultural values within the site.
- The existing Ransom Winery building sits on an elevated location that overlooks the flat alluvial plain and the northern slopes. There is an opportunity to create enhanced visual and physical connections to these site features.

### 6.3 Key Moves

On the basis of the high-level principles, a series of specific and site-responsive moves are developed to help establish a welcoming residential community with good connections and quality amenity spaces.

The key moves are:

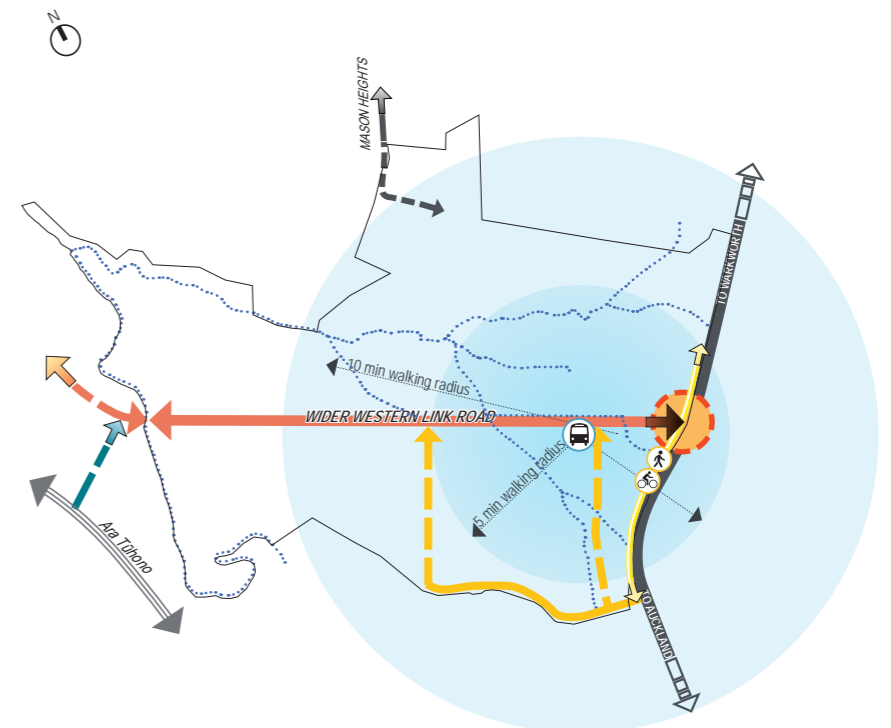
- Maintain and enhance the existing streams, forests and wetlands
- Connect to the larger arterial network
- Fit a sympathetic urban form onto the site
- Provide generous open spaces and infrastructure as the focus for the development
- Provide a local centre as a key destination for wider area in Warkworth South
- Maintain and enhance the landscape, historical and cultural values
- Provide for a dynamic mix of activities, densities and housing options

Move 1  
Maintain and enhance the existing streams, forests and wetlands



- Maintain all permanent streams and natural wetland
- Protect and enhance bush reserves along the ridges to the north
- Protect and restore the existing indigenous riparian vegetation within the south-western corner of the site
- Leverage the existing constructed wetland to integrate with stormwater management facilities
- Set development back from the natural interfaces of

Move 2  
Connect to the larger arterial network

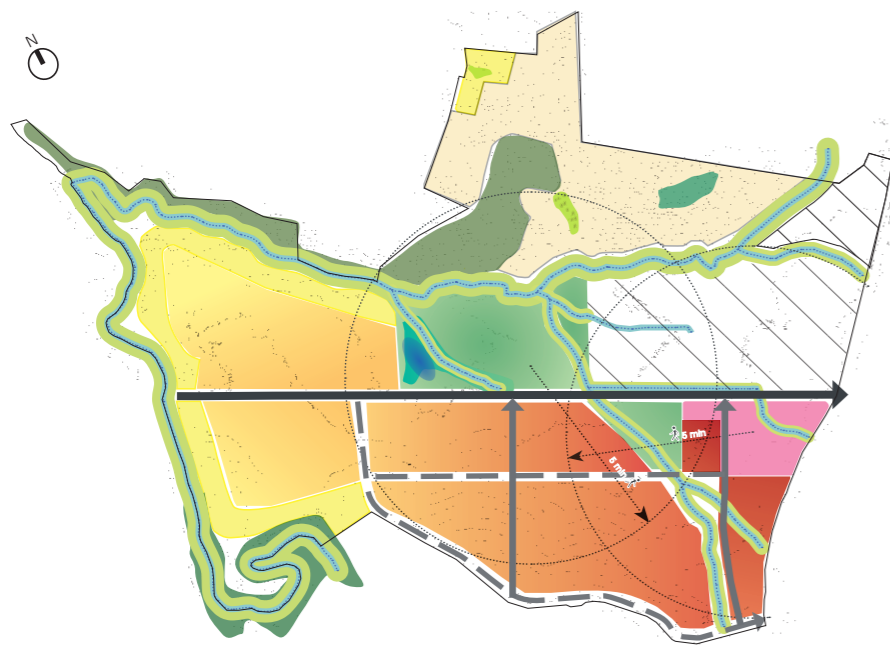


- Create the Wider Western Link Road in a most direct way which links SH1 with the south-western growth area and the Southern Interchange
- Locate the public transport interchange on the Wider Western Link road adjacent to SH1
- Provide the pedestrian and cycle linkage along SH1
- Provide key north-south connections between WWLR and Valerie Close
- Provide a key crossing for pedestrian and cyclist between the western and eastern sites at the intersection of SH1 & WWLR



Move 3

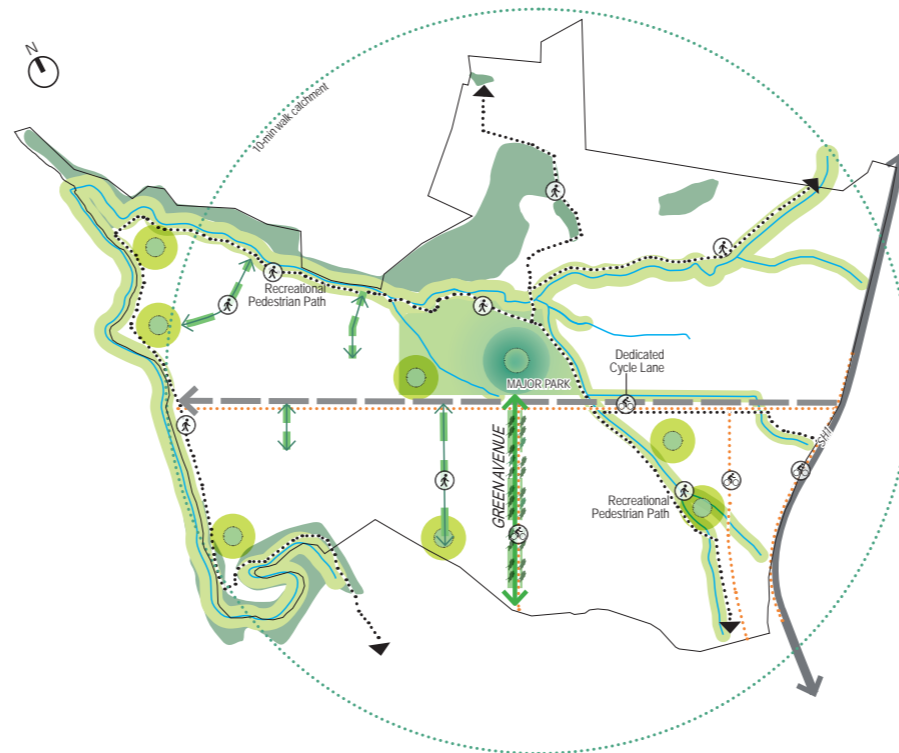
Fit a sympathetic urban form onto the site



- Create street and subdivision patterns in a compact manner that fit comfortably with the existing contours
- Locate a mixed-use local centre along the Wider Western Link Road with good access to SH1 and the proposed Ara Tūhono
- Encourage greater housing density within the 5-min walk catchment of the proposed local centre and major park

Move 4

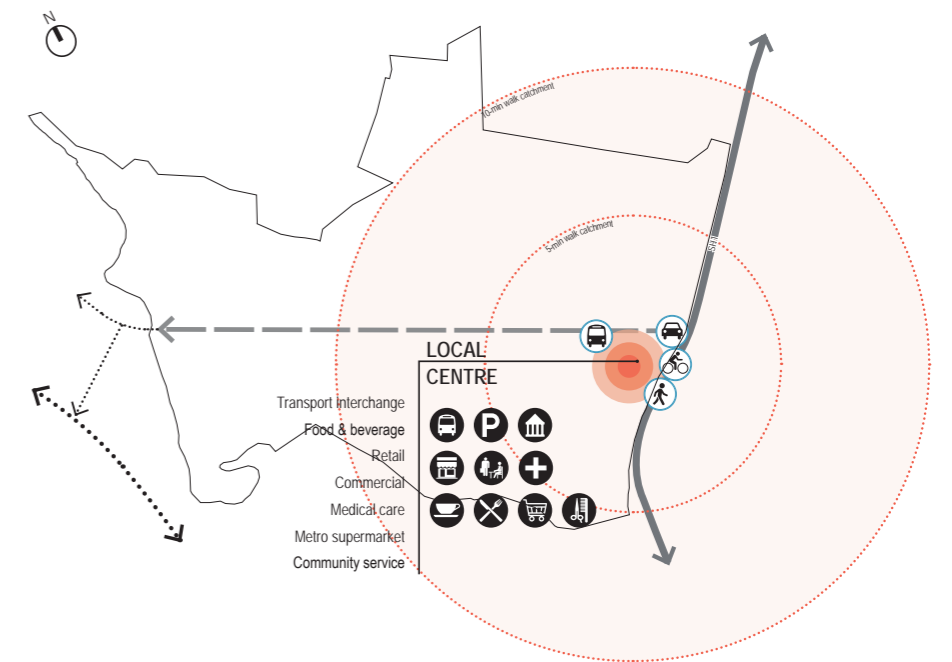
Provide generous open spaces and infrastructure as the focus for the development



- Provide a generously-sized community park at a strategic location
- Create a linear series of parks alongside valley floor, the river and forest
- Link all reserves, parks and wetlands with recreational paths
- Provide pedestrian and cycle links across the entire site
- Integrate stormwater management areas with open spaces to provide for additional on-site amenity

Move 5

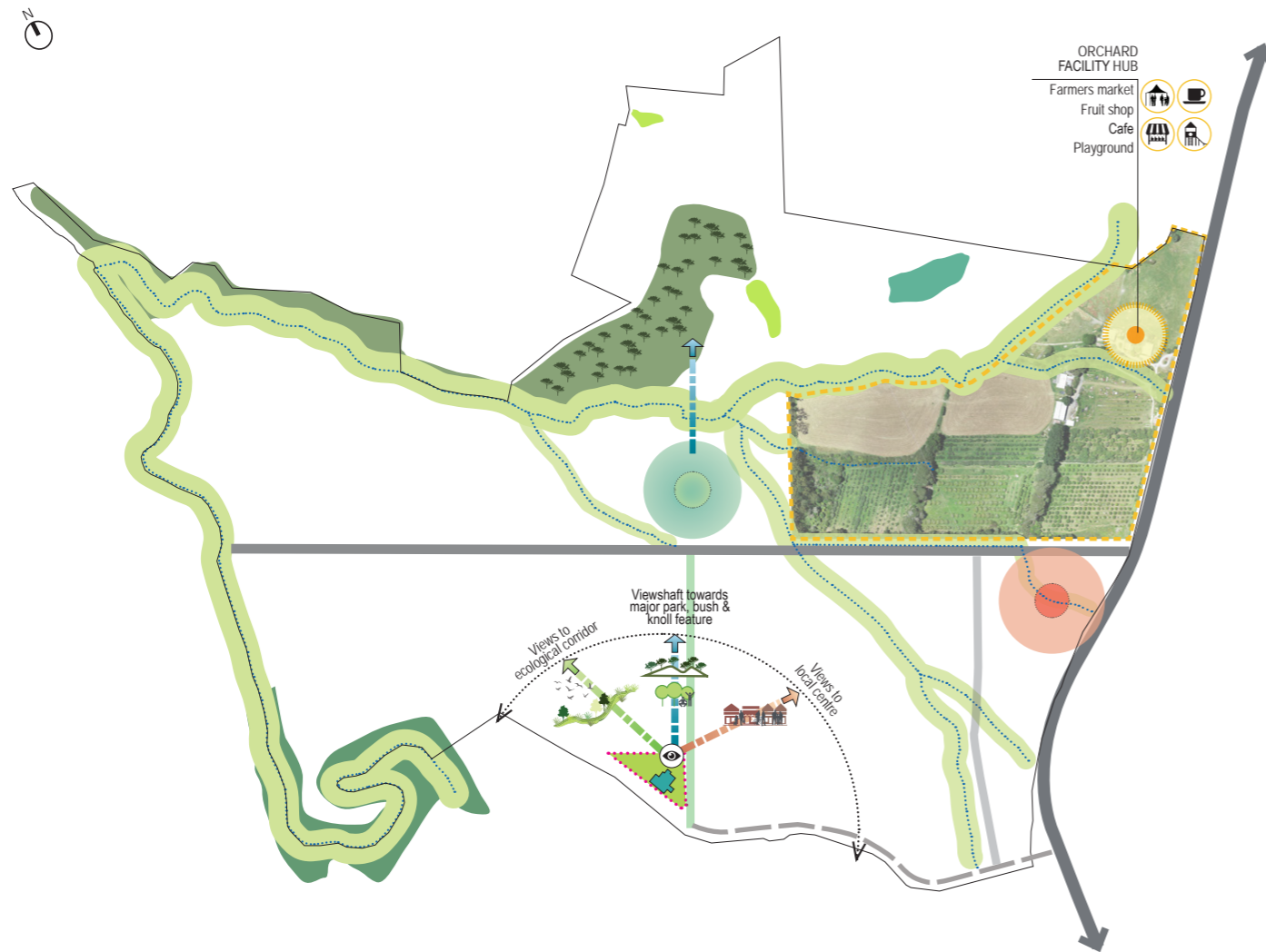
Provide a local centre as a key destination for wider area in Warkworth South



- Provide for a local centre with presence and which supports a range of activities to meet the needs of local and broader community
- Integrate public transport interchange with the local centre
- Provide easy access to the local centre from the immediate neighbourhood, Warkworth Town Centre, wider Warkworth area and the planned transport corridor via various transport modes

Move 6

Maintain and enhance the landscape, historical and cultural values



- Retain the Morrison's Heritage Orchard as a rural feature for Warkworth and enable additional complementary activities
- Orientate localised street views towards the remnant bush along the northern slopes

Move 7

Provide for a dynamic mix of activities, densities and housing options



- Provide for the greatest residential density in close proximity to both local centre and transport interchange
- Create a dynamic mix of urban residential developments on the gently terraced slopes
- Provide reduced density of residential developments towards key stream corridors on the periphery
- Locate the low density large lot development over the local knoll feature in the north

### 6.4 Indicative Masterplan

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- Key Features**
- Local Centre
  - Public Transport Interchange(Indicative)
  - Morrison Heritage Orchard
  - Recreational Park
  - Stream Corridor
  - Bush Reserve
  - Stormwater Pond(Indicative)
- Residential**
- Terrace Housing & Apartment Buildings
  - Mixed Housing Urban
  - Large Lot
  - Plan Change Boundary

Figure 27 - Waimanawa Valley Illustrative Masterplan

The masterplan on the left demonstrates an indicative layout of the future development of the Waimanawa site. The illustrative plan sets out the urban design framework for the site which is intended to guide the subsequent subdivision development. The key urban design considerations that the masterplan highlights are:

- Locate an appropriately-sized local centre at the intersection of the existing SH1 and the proposed Wider Western Link Road
- Enable increased residential density around the local centre, the proposed public interchange and adjacent to the major park
- Enhance the Mahurangi River and its tributaries with a series of linear open spaces as a core structural element of the development
- Create a large park centrally-positioned within the site providing for sports fields and informal recreational activities
- Establish a clear visual corridor from Valerie Close to the central park to maintain the views towards the landscape on the northern slopes
- Provide a legible and efficient roading network with a clear hierarchy of arterial roads, secondary links, local accessway and private lanes
- Enable continuous walking and cycling links both within the road reserves and “off-road” alongside the riparian margins and through mid-blocks
- Propose lower density residential development with large section sizes over the knoll and elevated hills within the northern portion of the site
- Protect the existing pūriri and kānuka forests and ensure weed management and additional infill vegetation



Example of residential development



Example of mixed use local centre



Example of riparian margin

## 6.5 Land Uses

Building on the site’s opportunities and constraints and the key design considerations, the configuration of the land use aims to optimise opportunities for high quality urban residential, create extensive open spaces, aid maintenance of landscape features and ecological values.

The proposed land uses respond to the land use plan set out in the Warkworth Structure Plan which provides for predominantly residential uses, a local centre and a series of open spaces associated with natural streams and local landscape features.

The Local Centre zone is located immediately adjoining the SH1 and the Wider Western Link Road to ensure that the new centre serves a wider catchment area within Warkworth South.

The area in close proximity to the local centre provides for the greatest residential density- Terrace Housing and Apartment Zone. This high density residential area aims to efficiently utilise the land that has convenient access to local services, retail, public transport and key open spaces.

Radiating from the local centre and the high density residential area, Mixed Housing Urban Zone extends across the low lying lands on the valley floor. To the west, the residential density of MHU transits down to address the stream edge of the right arm of Mahurangi River. This transition of residential density supports a compact urban form around the growth node in Warkworth South whilst enabling a mix of medium-density residential uses with high amenities.

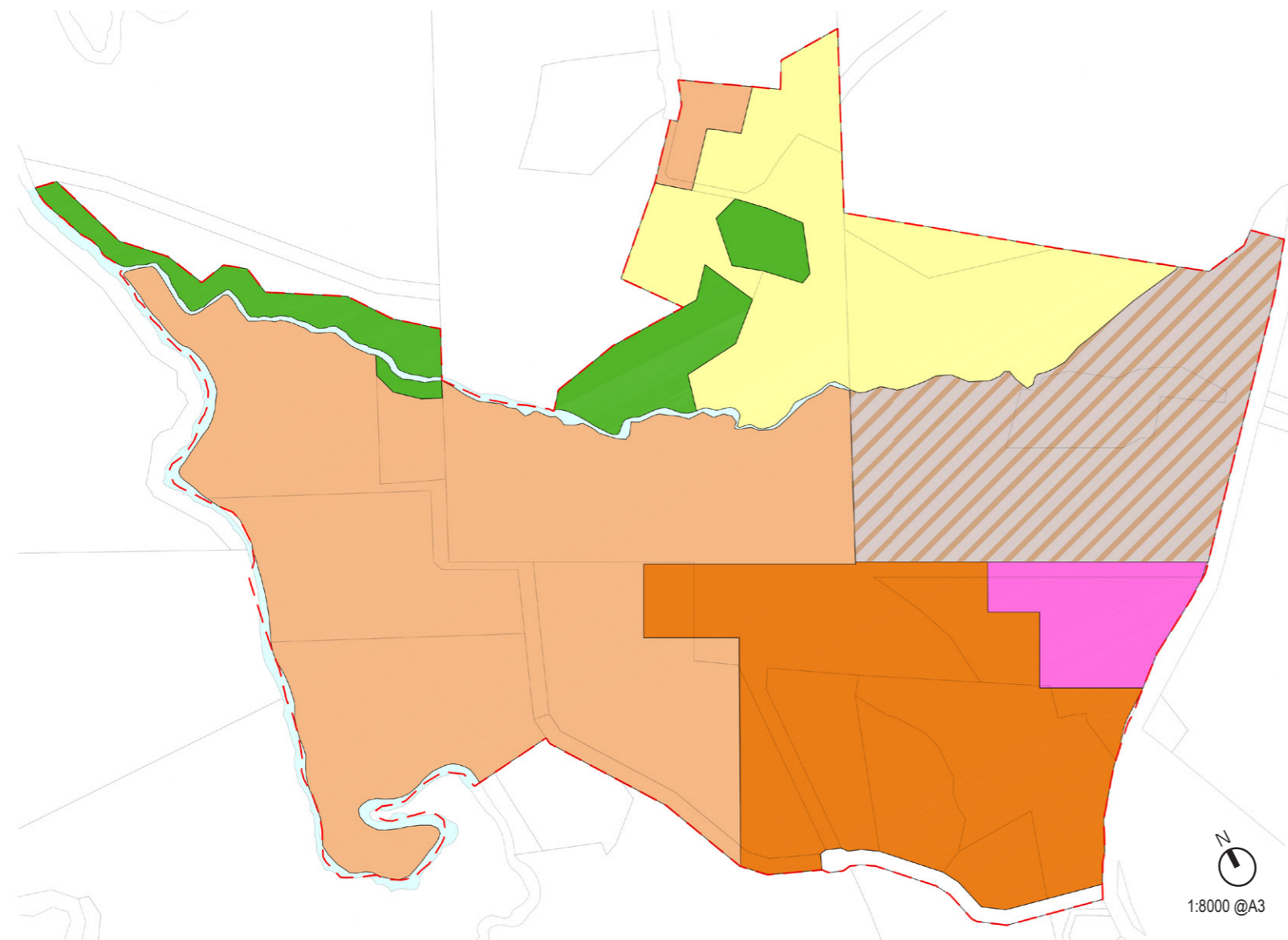


Figure 28 - Zoning Plan

Legend

--- Plan Change Boundary

Residential

- Residential - Large Lot Zone
- Residential - Mixed Housing Urban Zone
- Residential - Terrace Housing & Apartment Buildings Zone

Business

- Business - Local Centre Zone

Open Space

- Open Space - Conservation Zone

Rural

- Rural-Mixed Rural Zone

### Land Use Metrics & Yield

The proposed masterplan identifies a logic land use pattern which supports efficiency, appropriate balance of land use distribution and diversity of residential opportunities.

The key land use and yield metrics identified by the indicative masterplan are outlined in the chart on the right. As such the land use pattern:

- Contributes to the residential needs and supports a compact urban form
- The appropriate mix of residential zones enables the ability to provide for a wide range of housing choices
- Supports a functional local centre to provide for convenience needs for the residential areas of the site and the wider community within the southern growth area in Warkworth
- Allows the retention of significant ecological areas, remnant bush and more localised landscape features to be integral part of the development
- Ensure high amenity open spaces are generously provided throughout the development

Zoning		Land Area (Hectare)	Percentage of Total Site Area	Residential Yield	Indicative Open Space Provisions (Hectare)
Residential	Terrace housing and Apartment Buildings	19.600	19.70%	367 lots +105 Apartments	1.171
	Mixed Housing Urban	38.393	38.59%	352 lots	9.781
	Large Lot	14.654	14.73%	23 lots	0
	Sub-total	72.647	73.02%	742 lots +105 Apartments	10.952
Business	Local Centre	3.415	3.43%	68 Apartments	0
	Sub-total	3.415	3.43%	68 Apartments	0
Open Space	Open Space - Conservation	5.718	5.75%		5.718
	Sub-total	5.718	5.75%		5.718
Rural	Rural-Mixed Rural	15.233	15.31%		
	Sub-total	15.233	15.31%		
	Others (Existing road/streams/ watercourses/ possible landtake)	2.480	2.49%		
<b>Total</b>		<b>99.49</b>	<b>100.00%</b>	<b>742 lots +173 Apartments</b>	<b>16.67</b>

Figure 29 - Land Use Metrics and Yields

## 6.6 Open Space Strategy

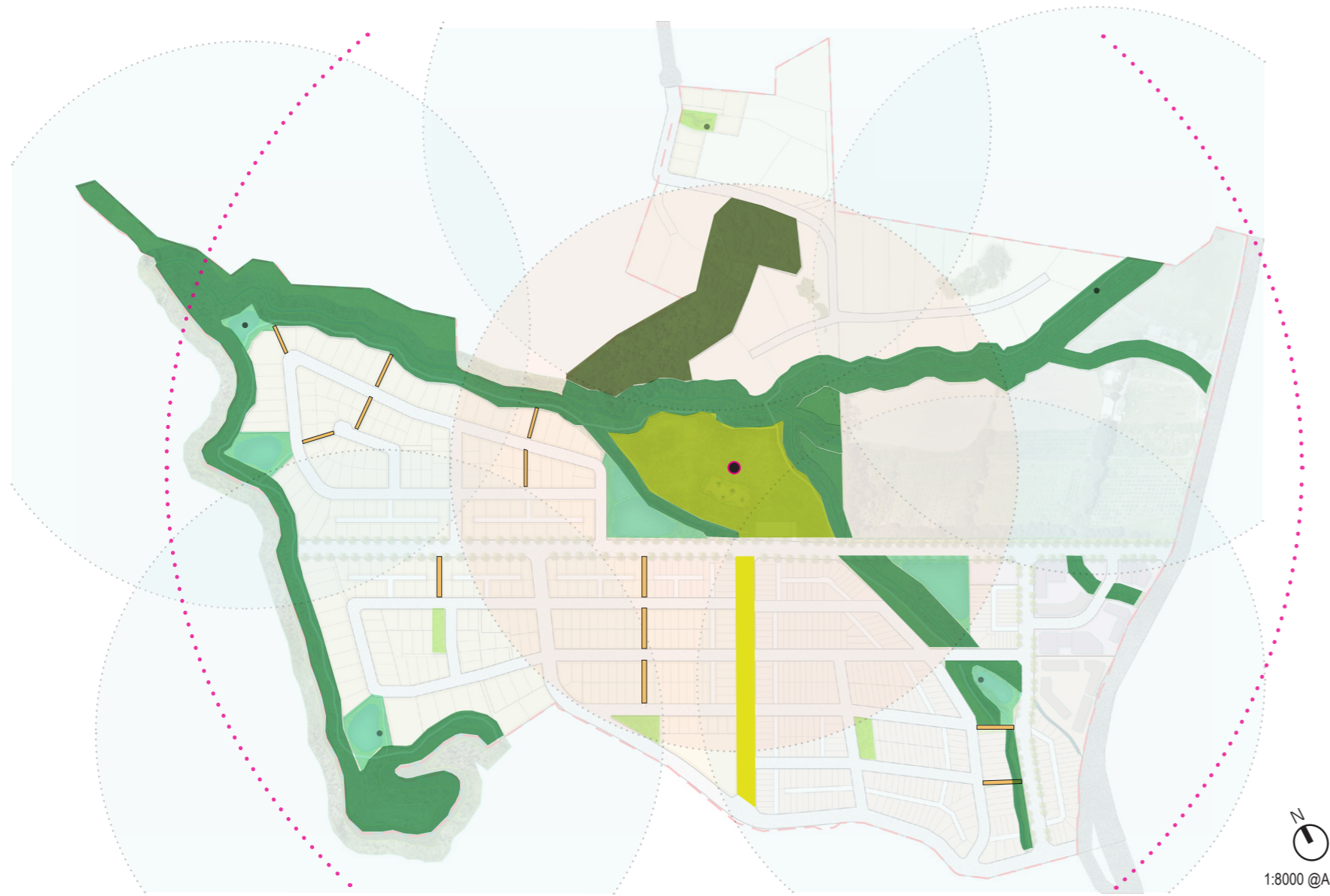


Figure 30 - Open Space Network

The proposed masterplan is based on providing for a variety of generous open spaces across the site to create an integrated network of parks and green links. The open space strategies aim to :

- Enhance the existing ecological corridors along the upper reaches of Mahurangi River and its primary tributaries through generally 20m wide riparian margins
- Create a significant suburb park that provides a variety of high amenity public spaces
- Create a central green avenue to connect Valerie Close with the major park and strengthen the key visual connections to the landscape on the northern hills
- Provide for a series of pocket parks within the urban grain of the residential areas
- Create linear green spaces that connects to the riparian corridors and parks
- Offer continuous, interlinked and safe routes for pedestrians and cyclists to all open spaces
- Integrate stormwater management facilities with public open spaces to enhance the ecological and amenity values of the development
- Protect and enhance the existing forest areas and Morrison’s Heritage Orchard

Legend

- Riparian Corridor
- Suburb Park
- Stormwater Park
- Pocket Parks
- Green Avenue
- Linear Links
- Bush Reserves

- 400m Radius - 5-min Walk
- 800m Radius-10-min Walk

Examples of Open Spaces



Community Park



Stormwater Park

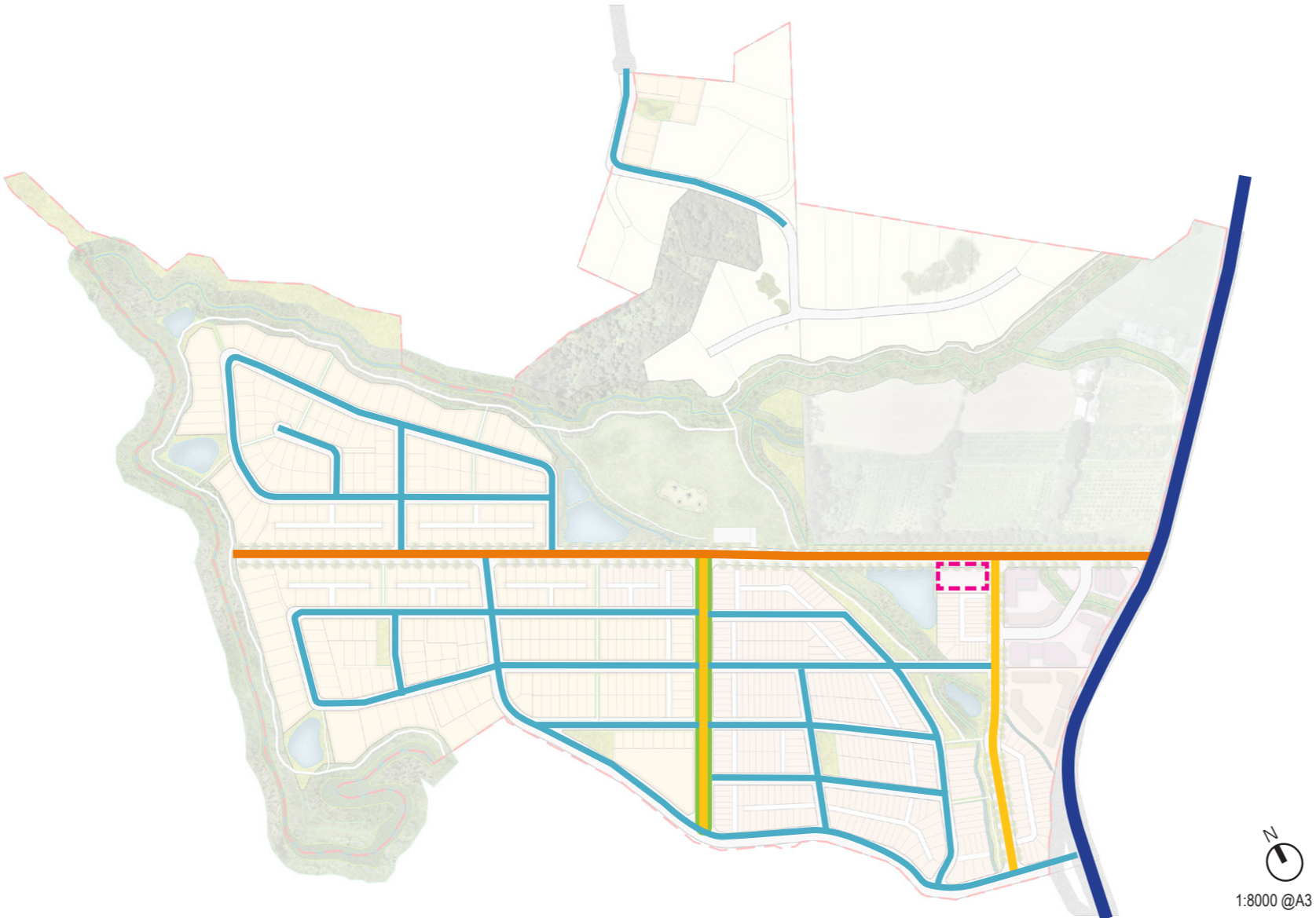


Pocket Park



Riparian Corridor

6.7 Street Network



- Legend
- State Highway 1
  - Arterial Road (24m)
  - Collector Road
  - Green Avenue
  - Local Road
  - Proposed Public Transport Interchange

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Figure 31 - Street Network

Examples of streets

Collector Road



Boulevard



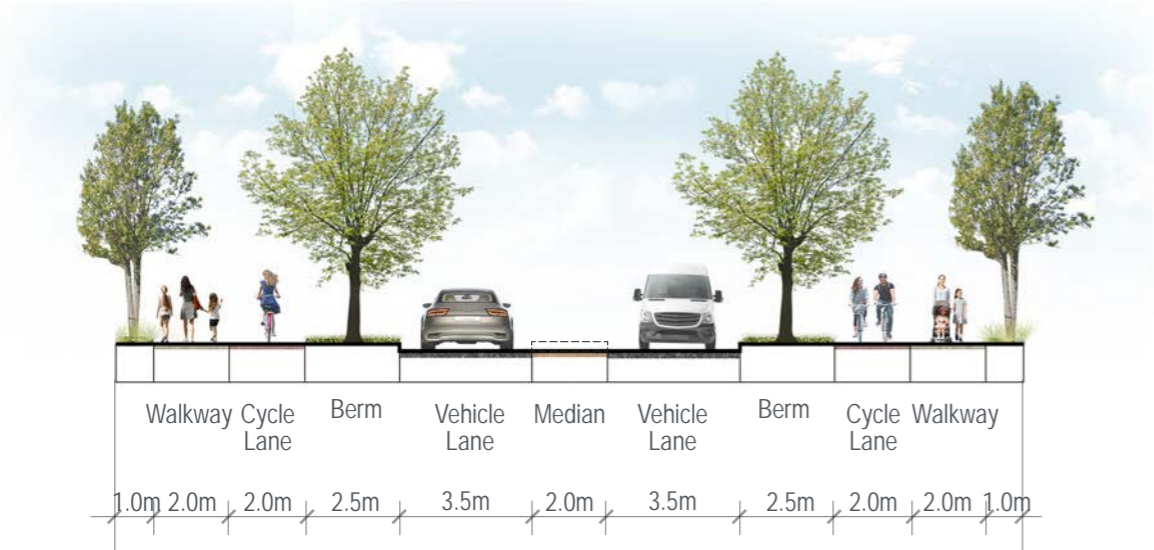
Local Road



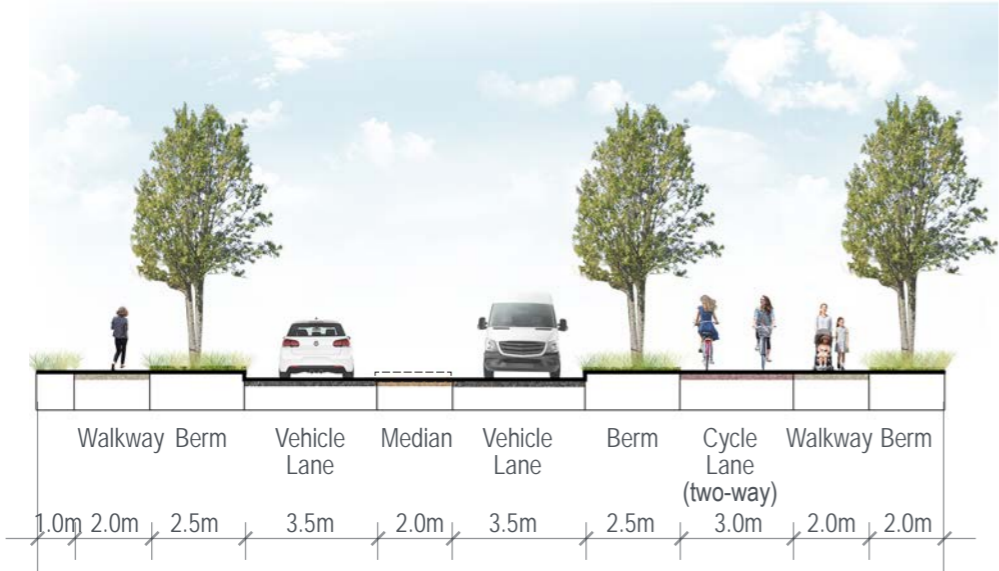


Indicative Road Cross-sections

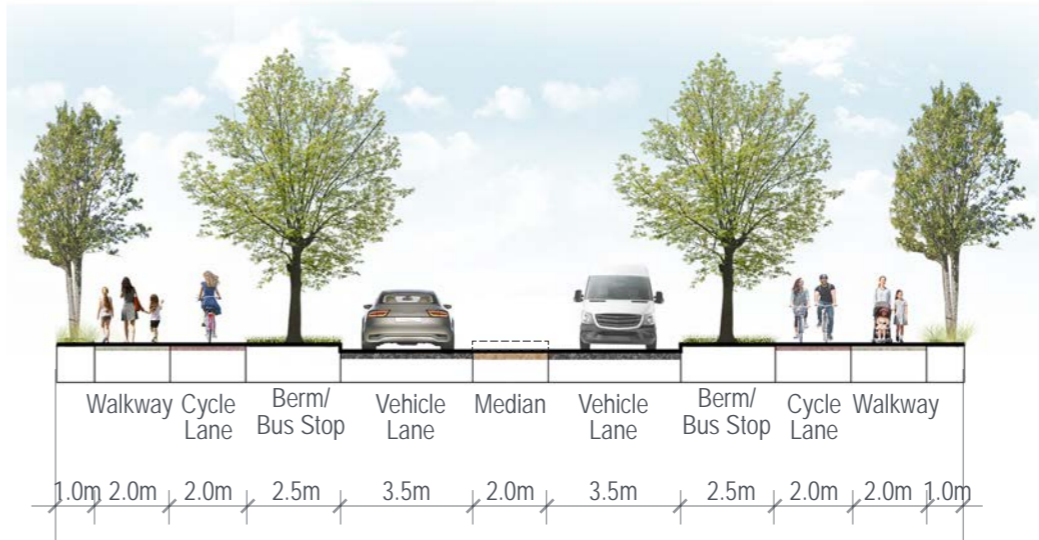
State Highway 1 (24m-2 Lanes)



Wider Western Link Road (24m) -Morrison Orchard Section

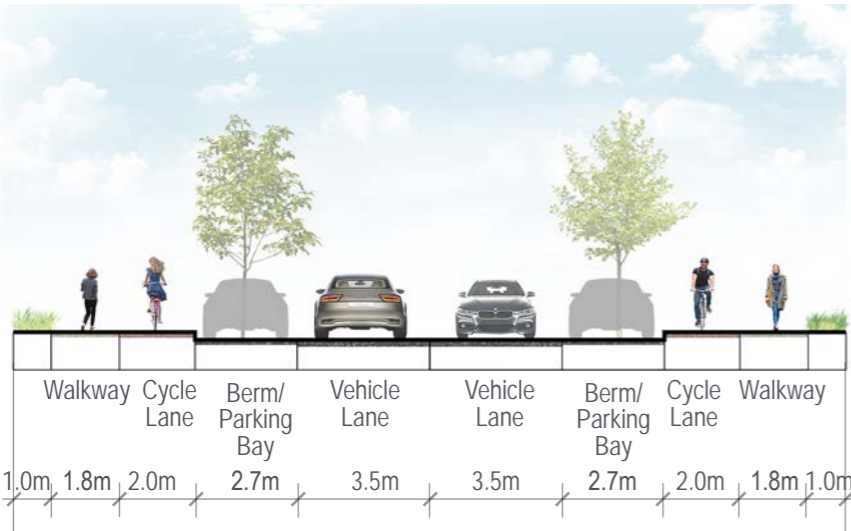


Wider Western Link Road (24m) -Western Section

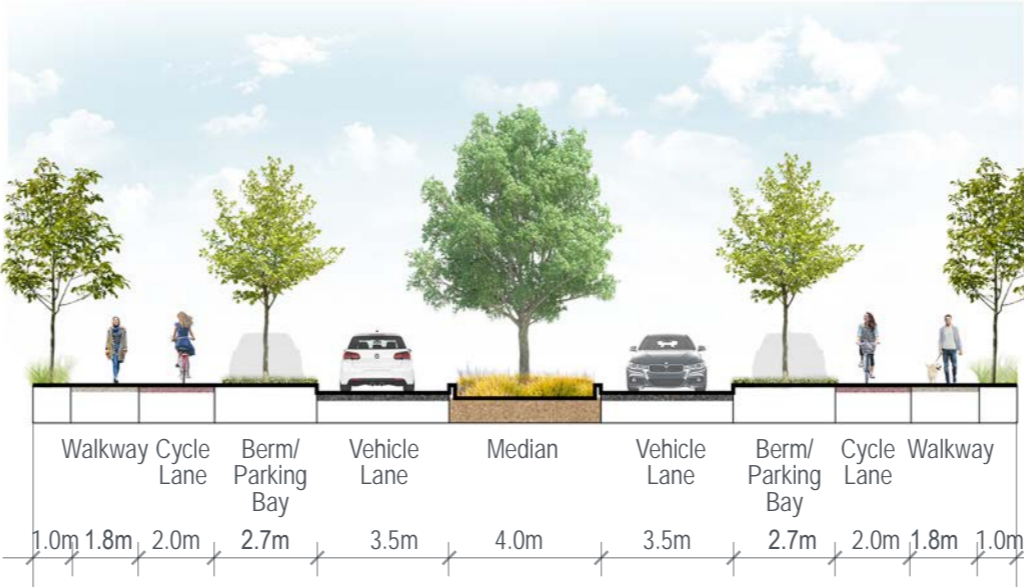


Indicative Road Cross-sections

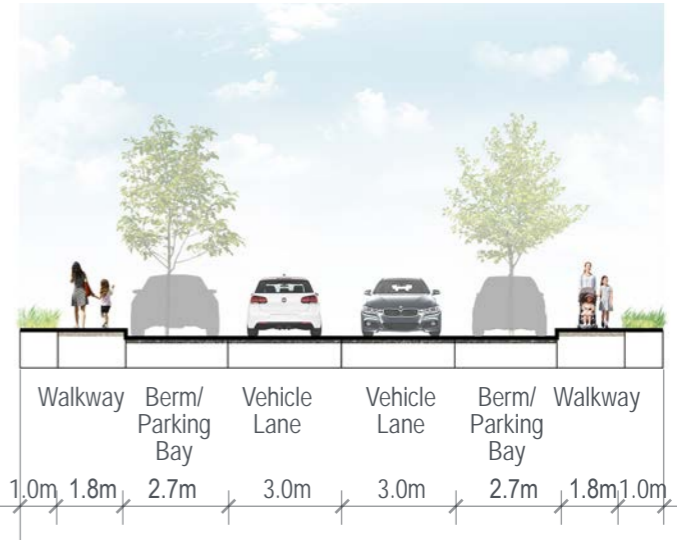
Collector Road (22m)



Green Avenue (26m)



Typical Local Road (17m)



## 6.8 Walking & Cycling Network

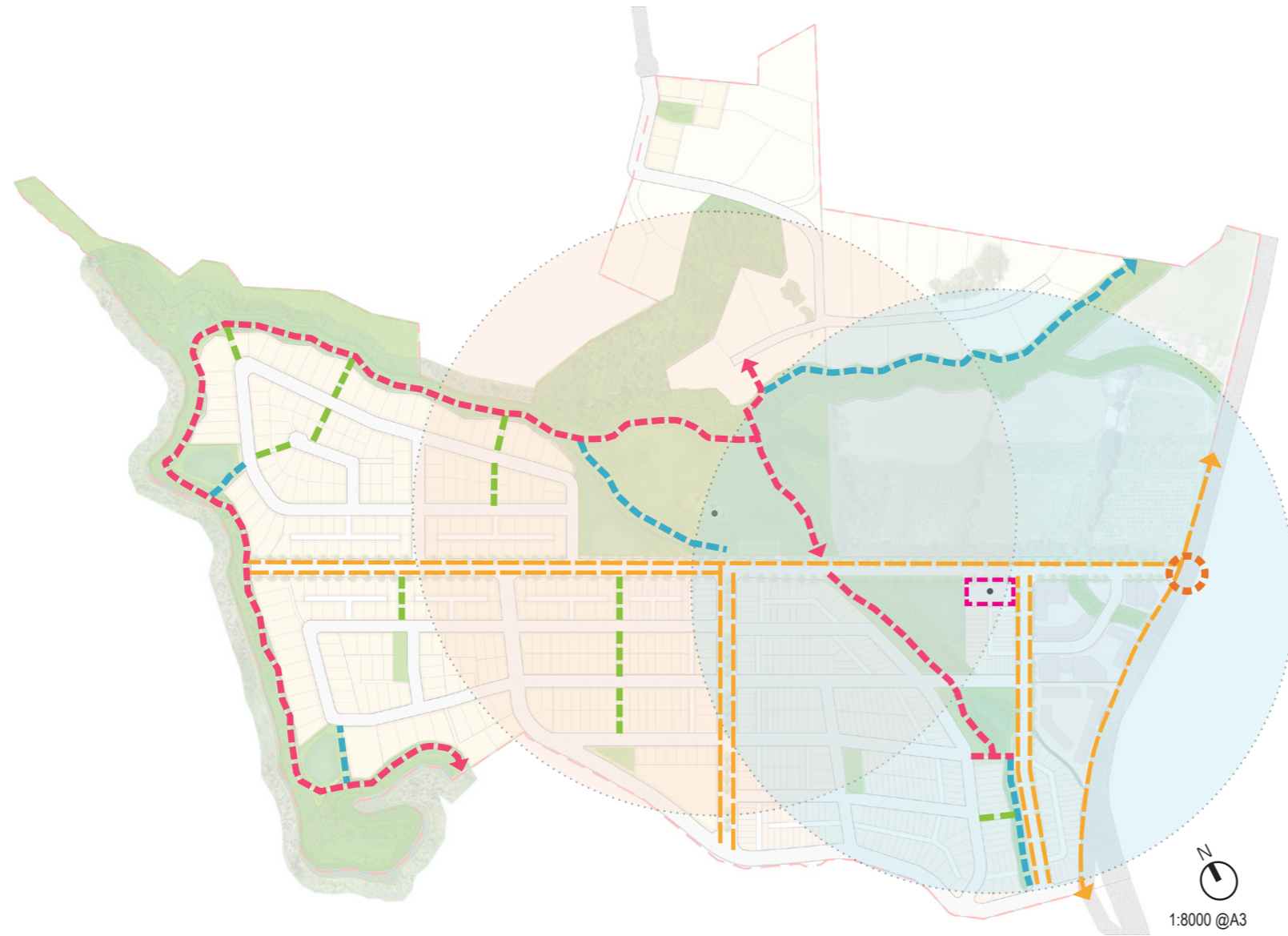


Figure 32 - Walking & Cycling Network

The Waimanawa masterplan places a strong emphasis on creating a walkable community.

Footpaths and on-road cycle routes are integrated within the road reserves to provide primary pedestrian and cycle access across the site. The routes are legible and offers direct connections to the local centre, public transport interchange and open spaces.

A pedestrian and cyclist crossing will be provided at the intersection of SH1 and WWLR to connect the western and eastern sites.

The open spaces within the masterplan area are interlinked and well connected with the proposed local centre and residential community through both on-road walking and cycling routes and off-road recreational paths.

A series of shared pedestrian and cycle paths are generously provided alongside Mahurangi River and its tributaries. The boulevard provides direct pedestrian and cycle linkages between the proposed WWLR and Valerie Close as well as visual connections towards the central park and bush reserves on the northern slopes.

Legend

- - - Recreational Greenway Route (Shared Pedestrian & Cycle)
- - - Recreational Pedestrian Path
- - - Mid block Green Connection
- - - Dedicated On-road Cycling Path
- Pedestrian & Cyclist Crossing between Waimanawa Valley & Waimanawa Hills
- Open Space
- 400m Radius - 5-min Walk

Examples of walking & cycling paths



Shared Path



Recreational Pedestrian Path



Mid-block Green Link



On-road Cycle Path

## 6.9 Landscape Approach



Figure 33 - Landscape Concept

Legend

- |                      |                             |                  |                     |
|----------------------|-----------------------------|------------------|---------------------|
| Streetscape Planting |                             | Amenity Planting |                     |
|                      | Arterial Road Planting      |                  | Riparian Planting   |
|                      | Local Centre Planting       |                  | Suburb Park         |
|                      | Boulevard Planting          |                  | Pocket Park         |
|                      | Collector Road Planting     |                  | Stormwater Pond     |
|                      | Residential Street Planting |                  | Feature Planting    |
|                      | Low Density Street Planting |                  | Green Link          |
|                      |                             |                  | Bat Flight Corridor |

### Planting Strategy

The natural valley setting of the Waimanawa site in south Warkworth, includes an existing necklace of wetland/riparian planting and well established native forest along the corridor of the central stream (a tributary of the upper reaches of the Mahurangi River).

The central intention of the landscape design for the site is to retain all established indigenous species, within both the riparian/wetland and forest areas and to extend these into the planned new wetlands, streams, reserve areas and streets.

The dominant tree species of the existing forest remnant and riparian vegetation are kanuka, pūriri, totara, rimu, kahikatea, kauri, pōhutukawa and many vines and epiphytes.

Recent landuse has been a mixture of pastoral farming, orchards, and vineyards.

Little care has been provided to the existing riparian and forest plantings. Pest plants existing within these areas, will require eradication and management prior to any infill or succession planting commences.

Expansion of the forest and wetlands into the new plantings in the reserves, wetland areas and streets will integrate the development with the existing landscape..

The proposed new stormwater ponds provide not only an opportunity to integrate with the existing riparian and wetland plantings, but to soften the transition to the residential community dwellings.

The planned reserve areas at the base of the valley feature extensive wetlands and provide additional opportunity to celebrate the past use of the land of food source, by integrating community gardens and fruit trees.

Open space of the planned reserve areas will allow for active use by the community, for play, sports, recreation and an active travel pathway.

All the streets will feature berm plantings of trees with a majority of indigenous species mixed with exotics chosen for their hardy and seasonal attributes.

The double planting of the heavy volume arterial road with large exotic plane tree species, will have instant scale impact, to provide the need to slow down for traffic, as it enters this community zone.

Large grade indigenous tree species, such as the Totara, Kowhai, and Pūriri will feature in the berms of the residential streets providing themed character to each street.

Future design guidelines will provide elements such as fencing, and amenity plantings, with pathways, allowing for clear visual access across plantings.

Plantings are also chosen to provide a diverse mix of both exotic for pollination of other plants, food source for birds, reptiles, insects, and frog species by wetland enhancement and expansion of riparian and forest species into the necklace of rich texture existing on the boundaries of the site.

Low riparian plants are specifically selected to maintain a clear corridor along the Mahurangi River for bats to flying through.

Example of Riparian Edge



Example of Stormwater Pond Landscape Treatment



## Indicative Planting Palette

### Streetscape Planting

Area	Category	Botanic Name	Common Name
Arterial Road	Specimen Trees	<i>Sophora chathamica</i>	Coastal kōwhai
		<i>Prunus yedoensis 'Awanui'</i>	Flowering Cherry
		<i>Liquidambar styraciflua 'Worplesdon'</i>	Sweet Gum
		<i>Vitex lucens</i>	Puriri
		<i>Platanus x acerifolia</i>	London Plane
	Amenity Planting	<i>Phormium cookianum 'Emerald Green'</i>	Dwarf Mountain Flax
		<i>Libertia grandiflora</i>	NZ Iris
		<i>Phormium 'Dark Delight'</i>	Ornamental Flax
		<i>Hebe species</i>	Hebe
		<i>Griselinia littoralis</i>	Kapuka / Broadleaf
		<i>Muehlenbeckia complexa</i>	Small-leaved Pohuehue
		<i>Carex secta</i>	Makura Sedge

### Selection of Arterial Road Planting



*Sophora chathamica*  
Coastal kōwhai



*Prunus yedoensis 'Awanui'*  
Flowering Cherry



*Liquidambar styraciflua 'Worplesdon'*  
Sweet Gum



*Vitex lucens*  
Puriri



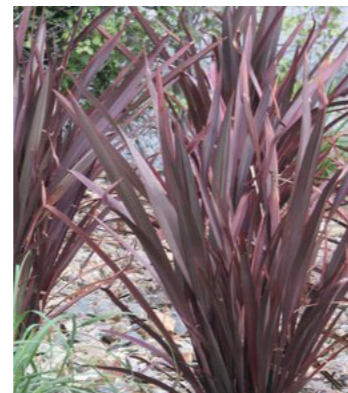
*Platanus x acerifolia*  
London Plane



*Phormium cookianum 'Emerald Green'*  
'Dwarf Mountain Flax



*Libertia grandiflora*  
NZ Iris



*Phormium 'Dark Delight'*  
'Ornamental Flax



*Hebe 'Wiri Mist'*  
Koromiko / Hebe



*Carex secta*  
'Makura Sedge

## Indicative Planting Palette

### Streetscape Planting

Area	Category	Botanic Name	Common Name
Local Centre	Specimen Trees	<i>Meryta sinclairii</i>	Puka/Pukanui
		<i>Rhopalostylis sapida 'Chathamica'</i>	Chatham Island Nikau
		<i>Rhopalostylis sapida</i>	Nikau Palm
		<i>Sophora chathamica</i>	Coastal kōwhai
		<i>Prunus yedoensis 'Awanui'</i>	Flowering Cherry
	Amenity Planting	<i>Pimelea prostrata</i>	NZ Daphne
		<i>Pseudopanax arboreus</i>	Five Finger
		<i>Pseudopanax ferox</i>	Fierce Toothed Lancewood
		<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai
		<i>Tecomanthe speciosa</i>	Three Kings Vine
		<i>Pratia angulata</i>	Panakenake
		<i>Coprosma 'Taiko'</i>	Groundcover coprosma

Area	Category	Botanic Name	Common Name
Boulevard	Specimen Trees	<i>Prunus 'Tai Haku'</i>	Great White Flowering Cherry
		<i>Prunus yedoensis 'Awanui'</i>	Flowering Cherry
		<i>Rhopalostylis sapida 'Chathamica'</i>	Chatham Island Nikau
		<i>Alectryon grandis</i>	Three Kings titoki
		<i>Sophora microphylla</i>	South Island Kowhai
	Amenity Planting	<i>Muehlenbeckia complexa</i>	Small-leaved Pohuehue
		<i>Hebe species</i>	Hebe
		<i>Asplenium 'Maori Princess'</i>	Hybrid Fern
		<i>Coprosma 'Taiko'</i>	Groundcover coprosma
		<i>Dianella nigra</i>	Turutu
		<i>Libertia grandiflora</i>	NZ Iris
		<i>Pratia angulata</i>	Panakenake

### Selection of Local Centre Planting



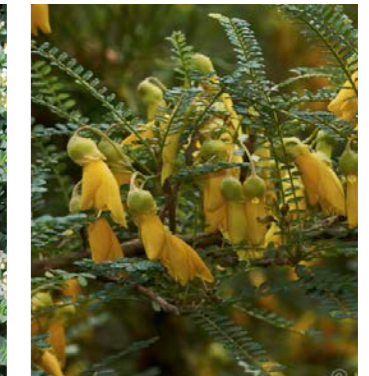
*Meryta sinclairii*  
Puka/Pukanui



*Rhopalostylis sapida 'Chathamica'*  
Chatham Island Nikau



*Pimelea prostrata*  
NZ Daphne



*Sophora molloyii 'Dragons Gold'*  
Ornamental Kowhai

### Selection of Boulevard Planting



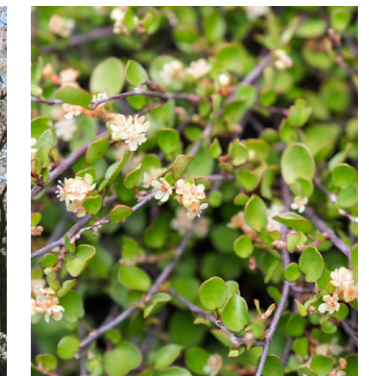
*Sophora microphylla*  
South Island Kowhai



*Alectryon grandis*  
Three Kings titoki



*Prunus 'Tai Haku'*  
Great White Flowering Cherry



*Muehlenbeckia complexa*  
Small-leaved Pohuehue



*Hebe salicifolia 'Snowdrift'*  
Koromiko / Hebe



*Dianella nigra*  
Turutu



*Asplenium 'Maori Princess'*  
Hybrid Fern



*Pratia angulata*  
Panakenake

## Indicative Planting Palette

### Streetscape Planting

Area	Category	Botanic Name	Common Name
Collector Road	Specimen Trees	<i>Podocarpus 'Matapouri Blue'</i>	Blue Totara
		<i>Phyllocladus trichomanoides</i>	Tanekaha
		<i>Vitex lucens</i>	Puriri
		<i>Carpodetus serratus</i>	Putaputaweta / Marble Leaf
		<i>Laurelia novae-zelandiae</i>	Pukatea
	Amenity Planting	<i>Phormium cookianum 'Emerald Green'</i>	Dwarf Mountain Flax
		<i>Phormium 'Dark Delight'</i>	Ornamental Flax
		<i>Choisya ternata</i>	Mexican Orange Blossom
		<i>Coprosma 'Prostrata'</i>	Groundcover coprosma
		<i>Hebe species</i>	Hebe
		<i>Pimelea prostrata</i>	NZ Daphne
		<i>Pittosporum 'Golf Ball'</i>	Dwarf Pittosporum

### Selection of Collector Road Planting



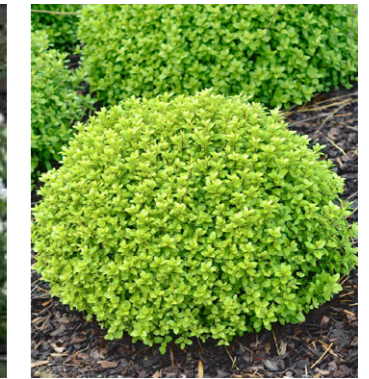
*Podocarpus 'Matapouri Blue'*  
Blue Totara



*Phyllocladus trichomanoides*  
Tanekaha



*Choisya ternata*  
Mexican Orange Blossom



*Pittosporum 'Golf Ball'*  
Dwarf Pittosporum

Area	Category	Botanic Name	Common Name
Residential Street	Specimen Trees	<i>Sophora tetraptera</i>	North Island Kowhai
		<i>Magnolia grandiflora 'Little Gem'</i>	Evergreen Magnolia
		<i>Olea europaea</i>	Fruiting Olive
		Apple tree	Fruiting Apple
		Apricot tree	Fruiting Apricot
	Amenity Planting	<i>Trachelospermum jasminoides</i>	Star Jasmine
		<i>Buxus 'Green Gem'</i>	Dwarf Box Hedge
		<i>Buxus 'Graham Blandy'</i>	Upright Box
		<i>Rosmarinus 'Lockwood de Forest'</i>	Groundcover Rosemary
		<i>Acaena purpurea</i>	Purple Bidibidi
		<i>Ajuga reptans 'Jungle Beauty'</i>	Bugleherb
		<i>Pimelea prostrata</i>	NZ Daphne

### Selection of Residential Street Planting



*Sophora tetraptera*  
North Island Kowhai



*Magnolia grandiflora 'Little Gem'*  
Evergreen Magnolia



*Trachelospermum jasminoides*  
Star Jasmine



*Buxus 'Green Gem'*  
Dwarf Box Hedge

Area	Category	Botanic Name	Common Name
Low Density Street	Specimen Trees	<i>Fraxinus angustifolia 'Raywoodii'</i>	Claret Ash
		<i>Magnolia grandiflora 'Little Gem'</i>	Evergreen Magnolia
		<i>Prunus yedoensis 'Awanui'</i>	Flowering Cherry
	Amenity Planting	<i>Phormium cookianum 'Emerald Green'</i>	Dwarf Mountain Flax
		<i>Phormium 'Surfer'</i>	Ornamental Flax
		<i>Ajuga reptans 'Jungle Beauty'</i>	Bugleherb
		<i>Coprosma 'Prostrata'</i>	Groundcover coprosma

### Selection of Low Density Street Planting



*Fraxinus angustifolia 'Raywoodii'*  
Claret Ash



*Prunus yedoensis 'Awanui'*  
Flowering Cherry



*Phormium cookianum 'Emerald Green'*  
'Dwarf Mountain Flax



*Phormium 'Surfer'*  
Ornamental Flax



Stormwater Pond Planting

Category	Botanic Name	Common Name
SHURBS	<i>Carex secta</i>	Makura Sedge
	<i>Apodasmia similis</i>	Oioi
	<i>Phormium tenax</i>	Harakeke / NZ Flax
	<i>Coprosma robusta</i>	Karamu
	<i>Hebe salicifolia</i>	Koromiko / Hebe
	<i>Carex virgata</i>	Pukio / Swamp Sedge
	<i>Carex geminata</i>	Rautahi / Wetland Cutty Grass
	<i>Coprosma propinqua</i>	Mingimingi
	<i>Austroderia fulvida</i>	Toe Toe
	<i>Macropiper excelsum</i>	Kawakawa
	<i>Pseudopanax arboreus</i>	Five Finger
	<i>Aristolelia serrata</i>	Makomako / Wineberry
TREES	<i>Cordyline australis</i>	Cabbage Tree
	<i>Dacrycarpus dacrydioides</i>	kahikatea
	<i>Pittosporum tenuifolium</i>	Kohuhu / Black Matipo
	<i>Pittosporum crassifolium</i>	NZ Karo
	<i>Podocarpus totara</i>	Totara
	<i>Leptospermum scoparium</i>	Manuka
	<i>Kunzea ericoides</i>	Kanuka

Selection of Stormwater Pond Planting



*Carex secta*  
Makura Sedge



*Apodasmia similis*  
Oioi



*Phormium tenax*  
Harakeke / NZ Flax



*Coprosma robusta*  
Karamu



*Carex virgata*  
Pukio / Swamp Sedge



*Pittosporum tenuifolium*  
Kohuhu / Black Matipo



*Aristolelia serrata*  
Makomako / Wineberry



*Austroderia fulvida*  
Toe Toe



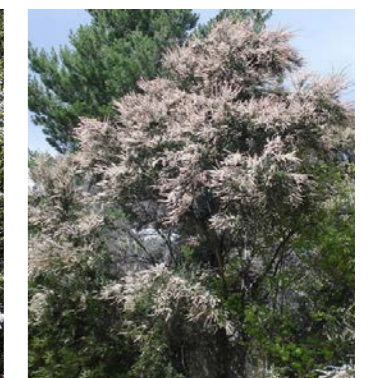
*Cordyline australis*  
Cabbage Tree



*Pittosporum tenuifolium*  
Kohuhu / Black Matipo



*Leptospermum scoparium*  
Manuka



*Kunzea ericoides*  
Kanuka

Riparian Planting

a	Category	Botanic Name	Common Name	
SHURBS		<i>Phormium tenax</i>	Harakeke / NZ Flax	
		<i>Carex secta</i>	Makura Sedge	
		<i>Apodasmia similis</i>	Oioi	
		<i>Coprosma robusta</i>	Karamu	
		<i>Carex virgata</i>	Pukio / Swamp Sedge	
		<i>Austroderia fulvida</i>	Toe Toe	
		<i>Macropiper excelsum</i>	Kawakawa	
		<i>Pseudopanax arboreus</i>	Five Finger	
		<i>Aristotelia serrata</i>	Makomako / Wineberry	
		<i>Coprosma propinqua</i>	Mingimingi	
		<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai	
		<i>Pseudopanax lessonii</i>	Native Five Finger	
	TREES		<i>Cordyline australis</i>	Cabbage Tree
			<i>Dacrycarpus dacrydioides</i>	kahikatea
		<i>Pittosporum tenuifolium</i>	Kohuhu / Black Matipo	
		<i>Pittosporum crassifolium</i>	NZ Karo	
		<i>Podocarpus totara</i>	Totara	
		<i>Leptospermum scoparium</i>	Manuka	
		<i>Carpodetus serratus</i>	Putaputaweta / Marble Leaf	

Parks & Common Areas Planting

b	c	e	f	Category	Botanic Name	Common Name	
				SHURBS	<i>Buxus 'Green Gem'</i>	Dwarf Box Hedge	
					<i>Pittosporum 'Golf Ball'</i>	Dwarf Pittosporum	
					<i>Hebe species</i>	Hebe	
					<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai	
					<i>Phormium cookianum 'Emerald Green'</i>	Dwarf Mountain Flax	
					<i>Phormium 'Dark Delight'</i>	Ornamental Flax	
					<i>Phormium 'Surfer'</i>	Ornamental Flax	
					<i>Rosmarinus 'Lockwood de Forest'</i>	Groundcover Rosemary	
					<i>Trachelospermum jasminoides</i>	Star Jasmine	
					<i>Griselinia littoralis</i>	Kapuka / Broadleaf	
					<i>Camellia species</i>	Camellia	
					<i>Muehlenbeckia complexa</i>	Small-leaved Pohuehue	
					TREES	<i>Liquidambar styraciflua 'Worplesdon'</i>	Sweet Gum
						<i>Sophora tetraptera</i>	North Island Kowhai
				<i>Platanus x acerifolia</i>		London Plane	
				<i>Magnolia grandiflora 'Little Gem'</i>		Evergreen Magnolia	
				<i>Apple tree</i>		Fruiting Apple	
				<i>Apricot tree</i>		Fruiting Apricot	
				<i>fig tree</i>		Fruiting Fig	

Selection of Riparian Planting



*Podocarpus totara*  
Totara



*Carpodetus serratus*  
Putaputaweta / Marble Leaf



*Carex secta*  
Makura Sedge



*Sophora molloyii 'Dragons Gold'*  
Ornamental Kowhai

Selection of Common Area Planting



*Buxus 'Green Gem'*  
Dwarf Box Hedge



*Phormium 'Dark Delight'*  
'Ornamental Flax



*Platanus x acerifolia*  
London Plane



*Magnolia grandiflora 'Little Gem'*  
Evergreen Magnolia

## Bat Flight Corridor Planting

g	Category	Botanic Name	Common Name
	GRASSES & SHURBS	<i>Phormium tenax</i>	Harakeke / NZ Flax
		<i>Carex secta</i>	Makura Sedge
		<i>Apodasmia similis</i>	Oioi
		<i>Hebe species</i>	Hebe
		<i>Carex virgata</i>	Pukio / Swamp Sedge
		<i>Austroderia fulvida</i>	Toe Toe
		<i>Macropiper excelsum</i>	Kawakawa
		<i>Astelia fragrans</i>	Kakaha / Bush Flax
		<i>Astelia nervosa 'Westland'</i>	Bronze Bush Flax
		<i>Coprosma propinqua</i>	Mingimingi
		<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai

### Selection of Bat Flight Corridor Planting



*Astelia fragrans*  
Kakaha / Bush Flax



*Hebe 'Wiri Mist'*  
Koromiko / Hebe



*Carex secta*  
Makura Sedge



*Sophora molloyii 'Dragons Gold'*  
Ornamental Kowhai



## 7. WAIMANAWA HILLS(A) MASTERPLAN



Drawing List	
SK-010	Location Plan
SK-014	Existing Site Plan - Aerial
SK-015	Existing Site Plan - Existing Zones
SK-100	Proposed Masterplan - Aerial
SK-103	Proposed Masterplan - Overall
SK-105	Proposed Masterplan - North
SK-106	Proposed Masterplan - South
SK-110	Proposed Masterplan - Existing Structure Plan Overlay
SK-111	Proposed Masterplan - Proposed Zoning Overlay
SK-120	Proposed Masterplan - Natural Features
SK-121	Proposed Masterplan - Tree Retention Classification Overlay - North
SK-122	Proposed Masterplan - Tree Retention Classification Overlay - South
SK-125	Proposed Masterplan - Proposed Transport
SK-130	Proposed Area Plan - North
SK-131	Proposed Area Plan - South
SK-132	Proposed Area Schedule
Grand total: 16	

Project Name:

# Warkworth - South

Project Address:

Client Name:

NZPC

Project Number: 2114

Project Date: March 2021

SKHY Level 4,  
38 Khyber Pass Road,  
Grafton, Auckland  
09 302 3689  
PO Box 44376  
Point Chevalier  
Auckland 1022  
www.astudioarchitects.com

**A STUDIO**  
ARCHITECTS

**FEASIBILITY**

Revision & Date

◦A Feasibility	2021-03-18
◦B Feasibility	2021-08-31
◦C Feasibility	2021-10-14
◦D Feasibility	2021-11-03
◦E Feasibility	2021-12-14
◦F Feasibility	2022-02-22
◦G Feasibility	2022-03-24
◦H Feasibility	2023-05-01

# 7.1 Location Plan



**Disclaimer :**  
 Lot layouts and sizes are indicative only and are subject to further civil design, geotechnical input, and council approval and consents

**1** 1 : 10000 Plan  
 Location Plan

half scales @ A3  
 0  
 Scale: 1:20000 @ A3

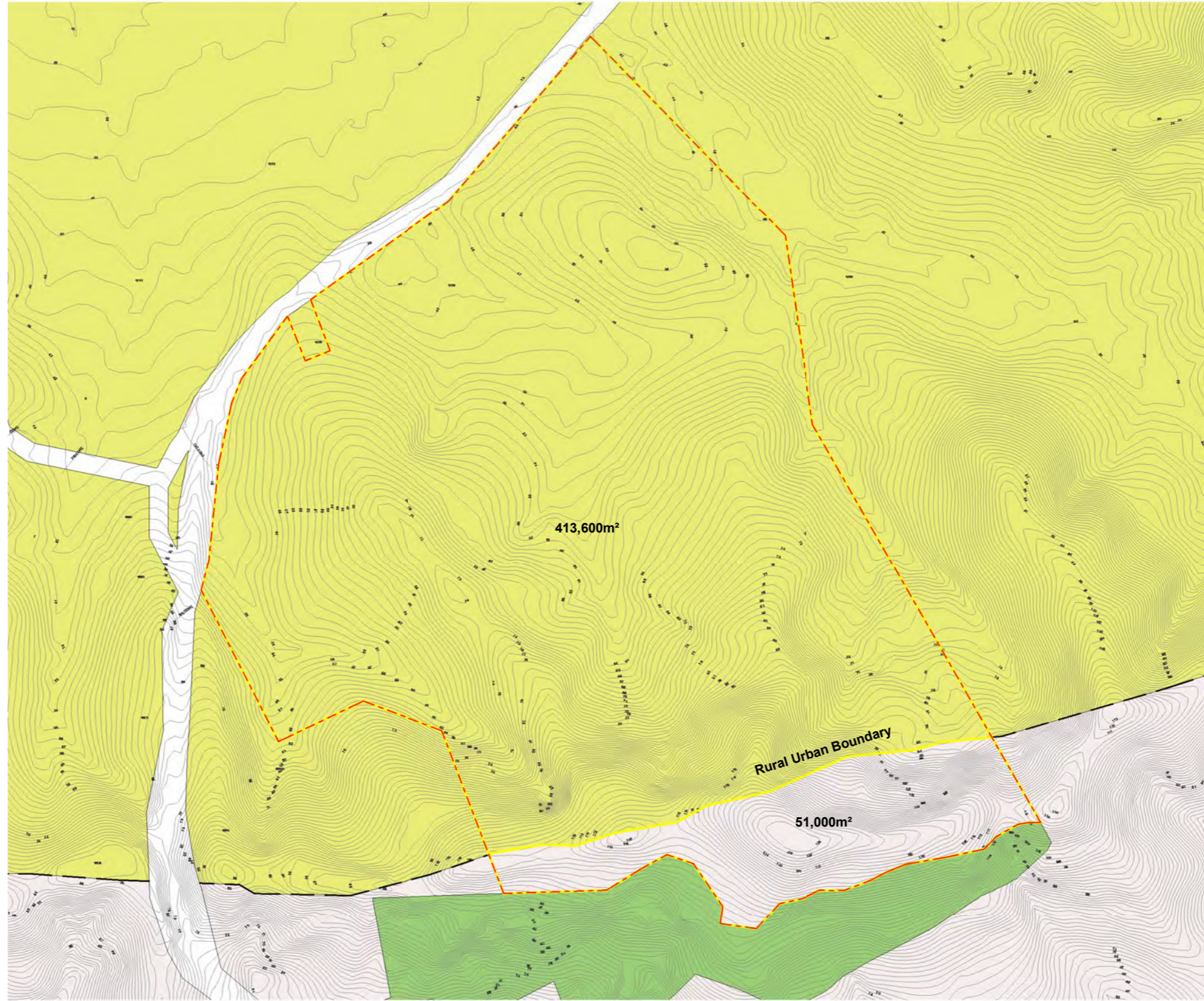
## 7.2 Existing Site Plans






Lot Area = 473,300m <sup>2</sup>
## Existing levels from GIS

Disclaimer :  
Lot layouts and sizes are  
indicative only and are subject  
to further civil design,  
geotechnical input, and council  
approval and consents

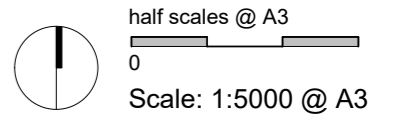
half scales @ A3  
0  
Scale: 1:5000 @ A3



Zoning Legend	
	Future urban
	Open Space - Conservation Zone
	Rural - Rural Production Zone

Note: Contour lines at 1m interval

Disclaimer :  
 Lot layouts and sizes are indicative only and are subject to further civil design, geotechnical input, and council approval and consents





### 7.3 Proposed Masterplan



Disclaimer :  
Lot layouts and sizes are  
indicative only and are subject  
to further civil design,  
geotechnical input, and council  
approval and consents

half scales @ A3  
0  
Scale: 1:5000 @ A3

March 2021  
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Level 5, Tasman Building, 16-22 Anzac  
Avenue, Auckland City,  
PO Box 44376 Point Chevalier 1022.  
Phone: 09 302 3689

## Warkworth - South

### Proposed Masterplan - Aerial

NZPC

Drawing No:  
**SK-100**  
Project No: 2114

Revision  
**G**

**FEASIBILITY**  
**A STUDIO**  
**ARCHITECTS**

- Proposed open space
- Existing trees to be retained
- Storm water shown indicatively
- Stream
- Stream 20m offset
- Stream 10m offset

Proposed plan is shown overlaid with existing contours, shown at 1m interval.



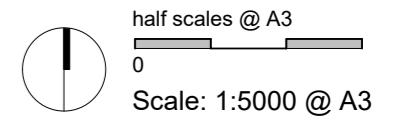
1 Sim  
SK-015

Refer to SK-015 for Proposed Masterplan - North

1 Sim  
SK-016

Refer to SK-016 for Proposed Masterplan - South

**Disclaimer :**  
Lot layouts and sizes are indicative only and are subject to further civil design, geotechnical input, and council approval and consents

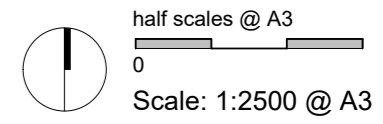


- Proposed open space
- Existing trees to be retained
- Storm water shown indicatively
- Stream
- Stream 20m offset
- Stream 10m offset

Proposed plan is shown overlaid with existing contours, shown at 1m interval.



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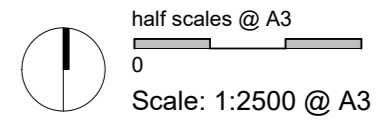


- Proposed open space
- Existing trees to be retained
- Storm water shown indicatively
- Stream
- Stream 20m offset
- Stream 10m offset

Proposed plan is shown overlaid with existing contours, shown at 1m interval.



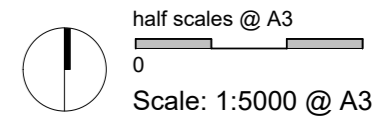
**Disclaimer :**  
 Lot layouts and sizes are indicative only and are subject to further civil design, geotechnical input, and council approval and consents





New Interchange - south facing ramps only	Ara Tuhono - Puhoi to Warkworth (under construction)
Ara Tuhono - Warkworth to Wellsford Indicative Alignment	Rural Urban Boundary (RUB)
New Collector Roads with cycleways (Potential routes)	Landscape Screening Area
Collector Roads (Upgrade existing road including cycling provision)	Potential buffering/screening area from motorway
Arterial Road (Upgrade Existing road including cycleways)	Protection areas (not for development)
New Arterial Roads with Cycleways (Potential routes)	Existing Open space
Matakana Link Road - Te Honohono ki Tai	Future esplanade reserves (20m) on subdivision
Study Area	Indicative locations of new open space
Business case for long term improvements to the Hill Street intersection	Morrison's Heritage Orchard
Areas for further landscape protection controls	Residential - Large Lot Zone
Business - Heavy Industry Zone	Residential - Mixed Housing Suburban Zone
Business - Light Industry Zone	Residential - Mixed Housing Urban Zone
Business - Local Centre Zone	Residential - Single House Zone
Business - Neighbourhood Centre Zone	Residential - Terrace Housing and Apartment Buildings
Area for potential increase to minimum site size	Potential investigation of rezoning 'live' zone
	Indicative Greenway routes (walkways/cycleways)

Disclaimer :  
 Lot layouts and sizes are indicative only and are subject to further civil design, geotechnical input, and council approval and consents



March 2021  
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 PO Box 44376 Point Chevalier 1022.  
 Phone: 09 302 3689

# Warkworth - South

## Proposed Masterplan - Existing Structure Plan Overlay

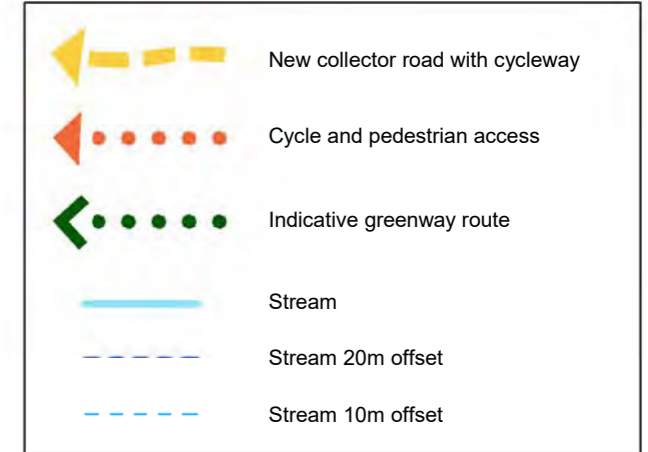
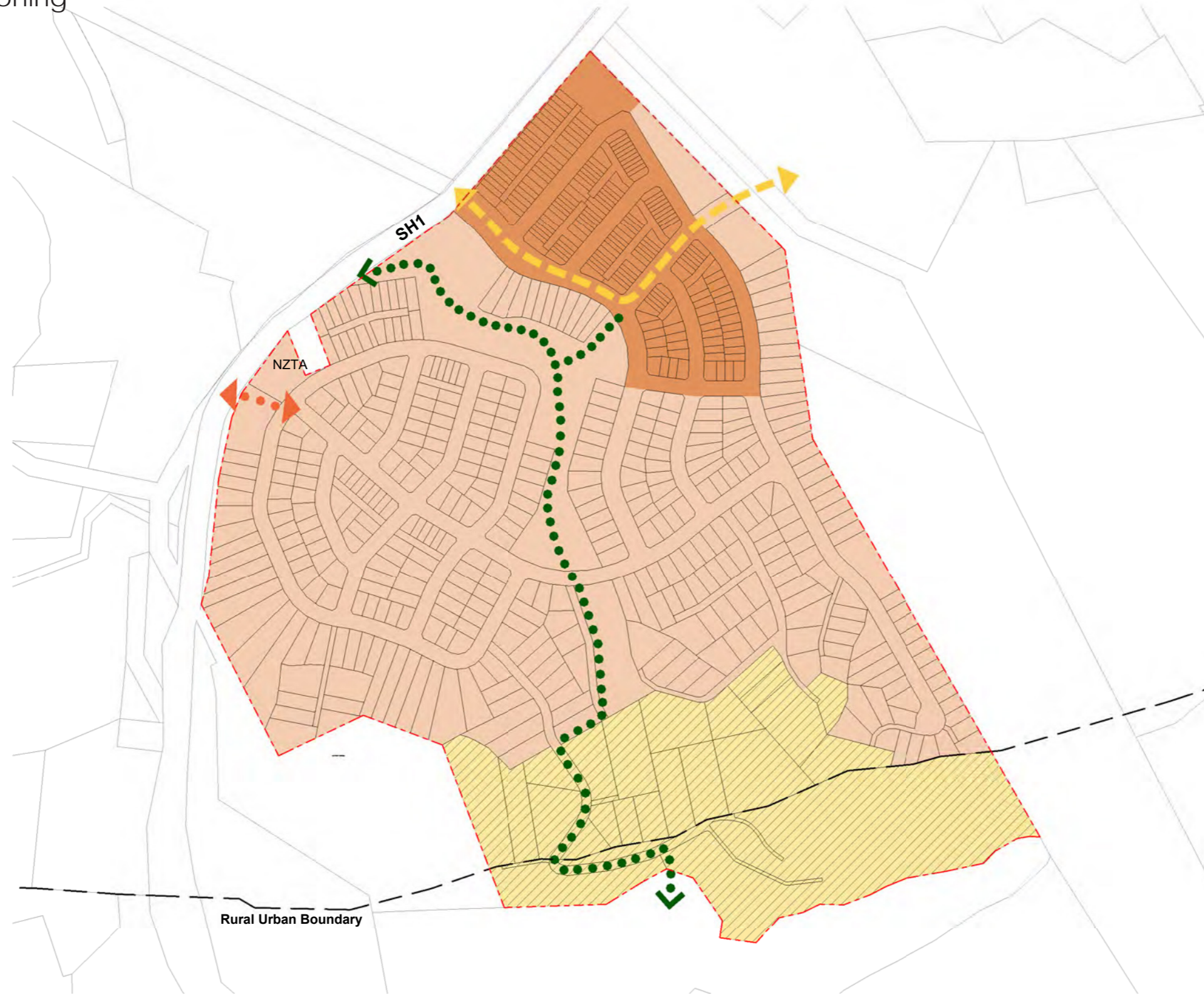
NZPC




Drawing No: SK-110  
 Project No: 2114  
 Revision: C

**FEASIBILITY**

**A STUDIO ARCHITECTS**

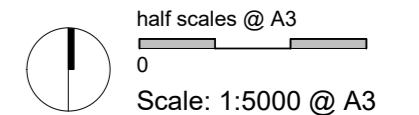
## 7.4 Proposed Zoning



Zoning Summary		
	<b>Low Density Residential Zone</b> Minimum lot size 1000m <sup>2</sup>	23
	<b>Mixed Housing Urban Zone</b>	396
	<b>Terrace Housing and Apartment Buildings Zone</b>	183
<b>Total</b>		<b>602</b>

Zoning Area Percentage		
Zone	Area	Percentage
Terrace Housing and Apartment Building Zone	57785.7 m <sup>2</sup>	12.4%
Mixed Housing Urban Zone	302215.8 m <sup>2</sup>	65.0%
Low Density Residential Zone - Minimum lot size 1000m <sup>2</sup>	104684.6 m <sup>2</sup>	22.5%
<b>Total</b>		<b>464686.1 m<sup>2</sup></b>
		<b>100.0%</b>

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# 7.5 Natural Features

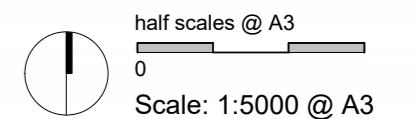


	Existing trees to be retained
	Site with covenant to be planted
	Stream as identified by Maven
	Stream 20m offset as identified by Maven
	Stream 10m offset as identified by Maven
	Tree numbers from the Arborist Report
	Existing trees to be removed

Refer to **SK-121 & 122** for the classification of the existing trees to be retained

Proposed plan is shown overlaid with existing contours, shown at 1m interval.

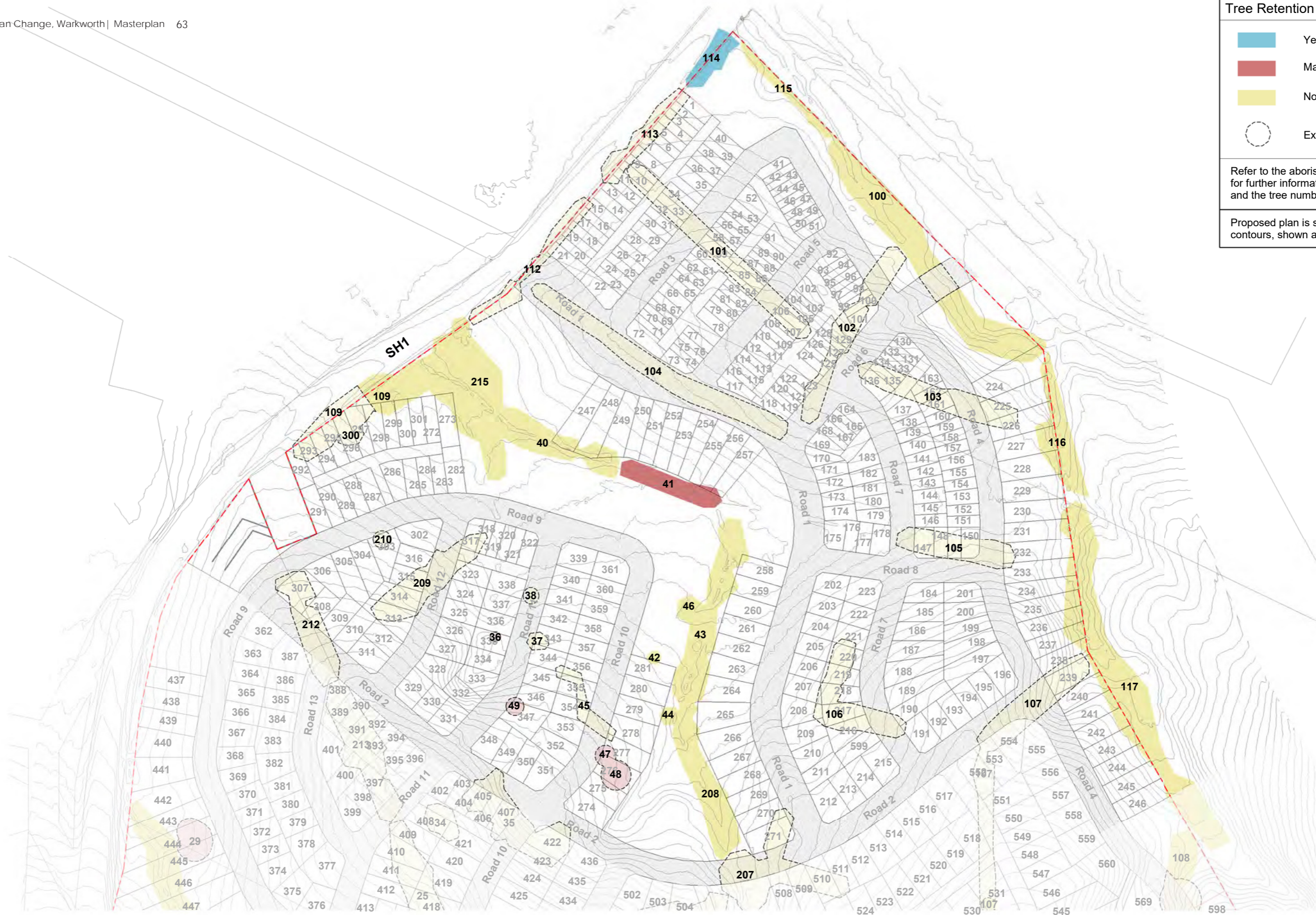
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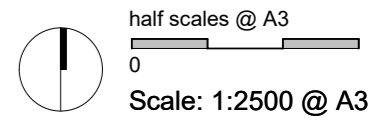
Tree Retention Classification	
<span style="display:inline-block; width:15px; height:10px; background-color:#00A0C0;"></span>	Yes
<span style="display:inline-block; width:15px; height:10px; background-color:#C00000;"></span>	Maybe
<span style="display:inline-block; width:15px; height:10px; background-color:#FFD700;"></span>	No
<span style="display:inline-block; border:1px dashed black; width:15px; height:10px;"></span>	Existing trees to be removed

Refer to the arborist report by Craig Webb for further information on the classification and the tree numbers.

Proposed plan is shown overlaid with existing contours, shown at 1m interval.



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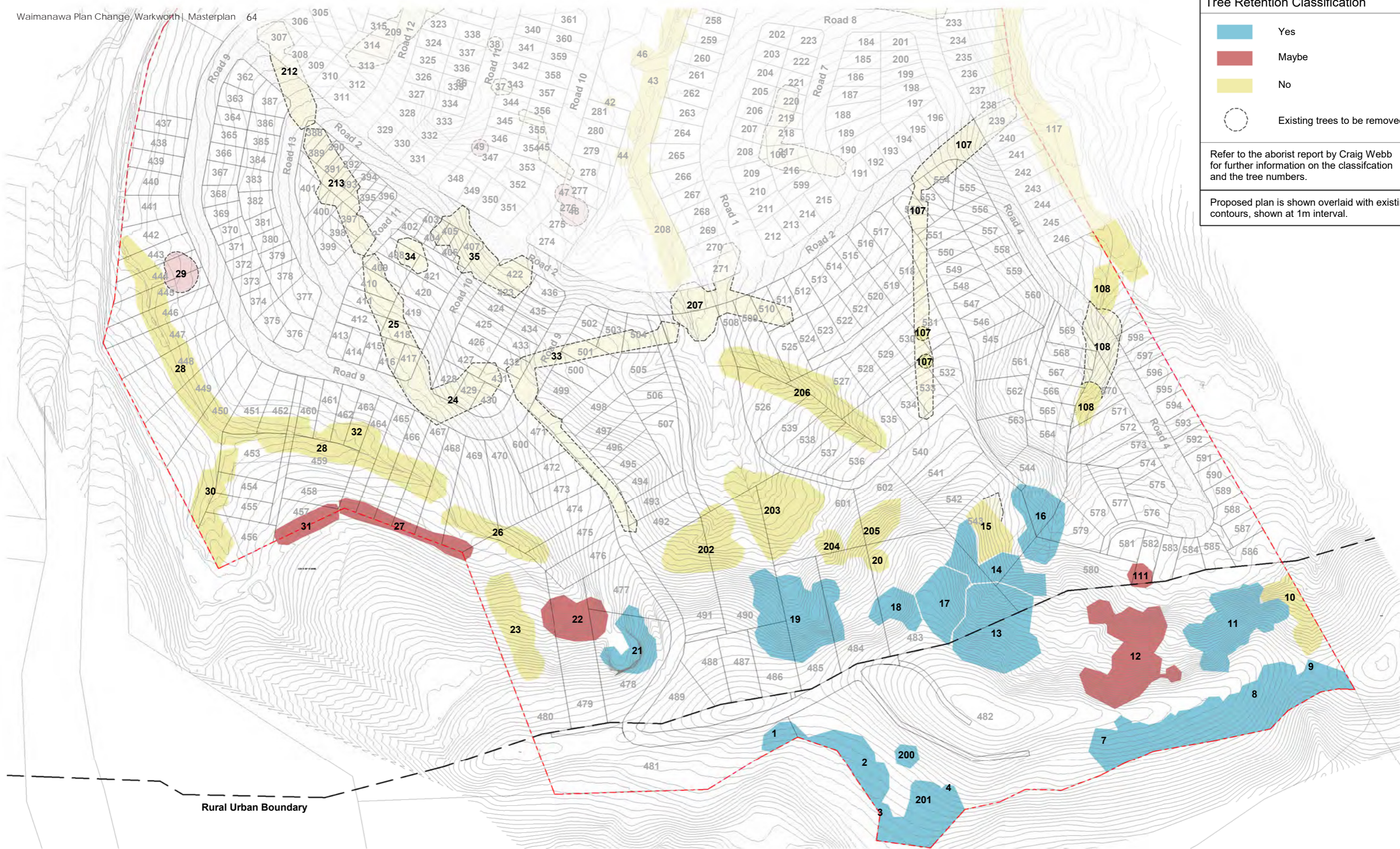


**Tree Retention Classification**

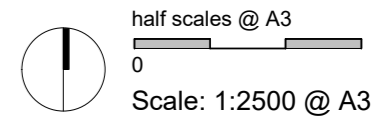
- Yes
- Maybe
- No
- Existing trees to be removed

Refer to the arborist report by Craig Webb for further information on the classification and the tree numbers.

Proposed plan is shown overlaid with existing contours, shown at 1m interval.



**Disclaimer :**  
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# 7.6 Transport



	Arterial road (State Highway 1)
	New collector road with cycleway
	Cycle and pedestrian access
	Indicative greenway route
	Minimum 20m Road reserve
	16m Road reserve
	14m park edge road

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half scales @ A3  
  
 Scale: 1:5000 @ A3

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## Warkworth - South

### Proposed Masterplan - Proposed Transport

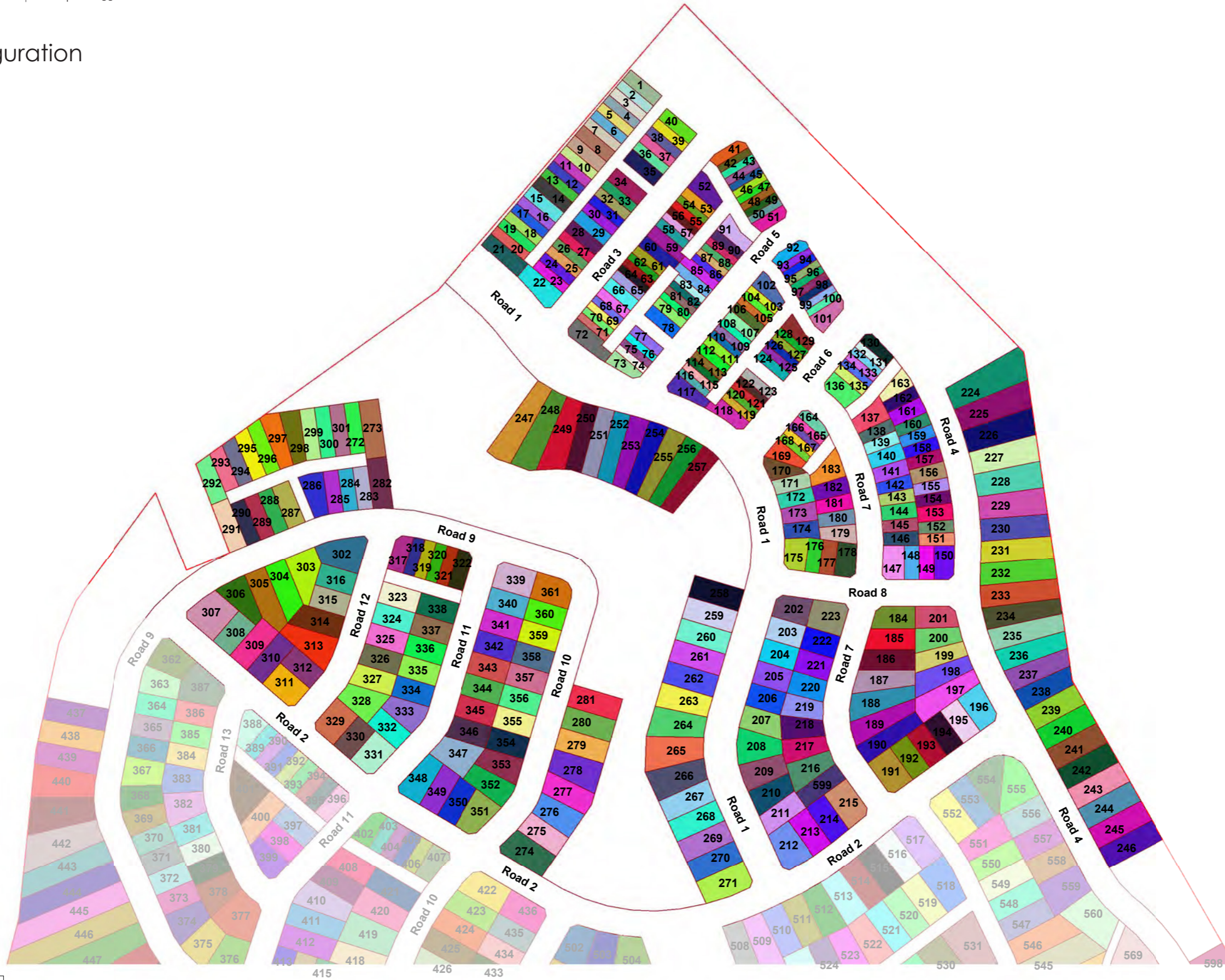
Drawing No:  
**SK-125**  
 Project No: 2114

Revision  
**D**

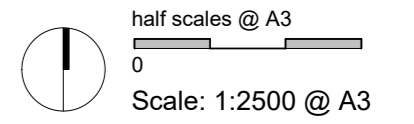
**FEASIBILITY**  
**A STUDIO ARCHITECTS**

NZPC

# 7.7 Lot Configuration

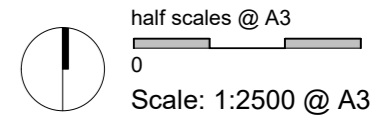


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## 7.8 Landscape Approach

### Landscape Design typologies



Legend

- Riparian Corridor
- Community Park
- Pocket Park
- Stormwater Pond
- Native Revegetation



1:5000 @A3

### Open Space Strategy

The proposed masterplan provides a variety of open spaces across the site to create an integrated network of parks and green links. The open space strategies aim to :

- Enhance the existing ecological corridors along the upper reaches of Mahurangi River and its primary tributaries through riparian planting
- Create a series of central community parks that provides a variety of high amenity public spaces
- Create a central green spine connecting the development to the Avice Miller Scenic Reserve on the southern boundary.
- Highlighting the existing tributaries and native tree stands on site
- Offer continuous, interlinked, and safe routes for pedestrians and cyclists to all open spaces
- Integrate stormwater management facilities with public open spaces to enhance the ecological and amenity values of the development
- Protect and enhance the Avice Miller Scenic Reserve, create community connection

#### Examples of Open Spaces



Community Park



Stormwater Park



Pocket Park



Riparian Corridor

## Landscape Design typologies



- Legend
- Streetscape Planting
  - Main Road Planting
  - Collector Road Planting
  - Residential Street Planting
  - JOAL Planting

N  
1:5000 @A3

## Streetscape Planting Strategy

**Collector Road Planting:** The collector roads within the development are typified by the large scale native and exotic species selected. The large deciduous exotic species assist in preserving the rural character of the Site and provide seasonal change and scale to the wide roads. The native species selected reflect the endemic species of the Site and provide habitat for native fauna.

**Main Road Planting:** A largely native tree palette is utilised along the main roads within the development, relating to the endemic species of the Site, providing year round greenery and shade to the streets whilst providing habitat for native fauna, and connection to the Avicé Miller Scenic Reserve.

**Residential Street Planting:** A mix of medium sized native and exotic trees species line the residential streets providing a mix of colours and textures. Fruit species provide a link to the Historic Morrisons Orchard across State Highway 1 in addition to seasonal change and edible fruit to the residential streets. Selected native species relate to those identified on site by the arborist providing habitat for native fauna, and connection to the Avicé Miller Scenic Reserve.

**JOAL Planting:** Native and exotic trees species line the residential streets providing a mix of colours and textures. Deciduous exotic species assist in preserving the rural character of the Site and provide seasonal change. Selected native species relate to those identified on site by the arborist providing habitat for native fauna, and connection to the Avicé Miller Scenic Reserve.

## Landscape Design typologies



- Legend
- Amenity Planting
  - (a) Riparian Planting
  - (b) Central Park
  - (c) Pocket Park
  - (d) Stormwater Pond
  - (e) Native Revegetation

N  
1:5000 @A3

## Native Enhancement Planting Strategy

The large site contains open farmland, a large number of shelter belts and agro-forestry plantings, native bush-clad areas, and a centrally located homestead surrounded by amenity plantings. The site has gentle gradients over much of the area, but rises steeply towards a ridgeline to the south. Three tributaries of the Upper reaches of the Mahurangi River incise the site and are buffered by largely exotic species.

The intention of the landscape design is to retain all established stands of indigenous species and largely remove all exotic species unless they provide significant rural value to the Site. Indigenous stands should be enhanced through native revegetation planting of existing riparian/wetland and forest areas and extend into the planned new wetlands, streams, reserve areas and streets.

The dominant tree species of the existing forest remnant and riparian vegetation are pūriri, totara, rimu, kahikatea, kauri, pōhutukawa and associated vines and epiphytes.

Recent landuse has been a mixture of pastoral farming, and horse stables.

Existing riparian and forest areas have been neglected. Pest plants existing within these areas, will require eradication and management prior to any infill or succession planting commences.

Expansion of the forest and wetlands into the new reserves, wetland areas and streets will integrate and enhance the existing landscape.

The proposed new stormwater ponds provide an opportunity to integrate with the existing riparian and wetland areas softening the transition to the residential community dwellings.

Open space of the planned reserve areas will allow for active use by the community, for play, sports, recreation and an active travel pathway.



# Indicative Planting Palette

## Streetscape Planting

Area	Category	Botanic Name	Common Name
Collector Road	Specimen Trees	<i>Podocarpus totara</i>	Totara
		<i>Knightia excelsa</i>	Rewarewa
		<i>Liquidambar styraciflua 'Worplesdon'</i>	Sweet Gum
		<i>Vitex lucens</i>	Puriri
		<i>Platanus acerifolia</i>	London Plane
	Amenity Planting	<i>Phormium green dwarf</i>	Dwarf Mountain Flax
		<i>Libertia sp.</i>	NZ Iris
		<i>Phormium 'Dark delight'</i>	Hybrid Flax
		<i>Hebe sp.</i>	Kiromiko
		<i>Griselinia littoralis</i>	Kapuka
		<i>Muehlenbeckia complexa</i>	Pohuehue
		<i>Carex secta</i>	Sedge



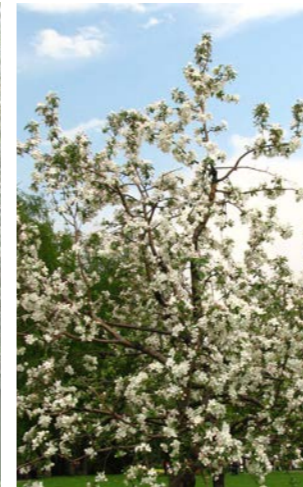
Area	Category	Botanic Name	Common Name
Main Road	Specimen Trees	<i>Podocarpus totara</i>	Totara
		<i>Dacrydium dacrydioides</i>	Kahikatea
		<i>Vitex lucens</i>	Puriri
		<i>Sophora microphylla</i>	Kowhai
		<i>Lourelia novae-zealandiae</i>	Pukatea
	Amenity Planting	<i>Phormium dwarf green</i>	Dwarf Mountain Flax
		<i>Phormium dark delight</i>	Hybrid Flax
		<i>Muehlenbeckia astonii</i>	Shrubby Tororaro
		<i>Coprosma prostrata</i>	Ground cover coprosma
		<i>Hebe sp.</i>	Kiromiko
		<i>Pimelea prostrata</i>	NZ daphne ground cover
		<i>Pittosporum golf ball</i>	dwarf pittosporum hybrid



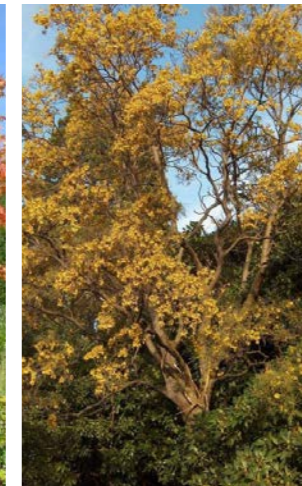
# Indicative Planting Palette

## Streetscape Planting

Area	Category	Botanic Name	Common Name
Residential Street	Specimen Trees	<i>Olea europaea</i>	Olive
		<i>Malus 'Domestica'</i>	Apple
		<i>Prunus armeniaca</i>	Apricot
		<i>Sophora tetraptera</i>	Kowhai
		<i>Magnolia grandiflora little gem</i>	Magnolia
	Amenity Planting	<i>Muehlenbeckia axillaris</i>	Pohuehue
		<i>Coprosma repens 'Poor Knights'</i>	Taupata
		<i>Libertia Sp.</i>	NZ Iris
		<i>Carex virgata</i>	Pukio
		<i>Acaena inermis purpures</i>	Purple Bidibidi
		<i>Astelia chathamica 'Silver Spear'</i>	Hybrid Astelia
		<i>Pimelia prostrate</i>	NZ daphne



Area	Category	Botanic Name	Common Name
JOAL	Specimen Trees	<i>Meryta sinclairii</i>	Puka
		<i>Rhopalostylis sapida 'chathamica'</i>	Chatham Island nikau
		<i>Acer palmatum 'Senkaki'</i>	Coral Bark Maple
		<i>Sophora chathamica</i>	Chatham Island Kowhai
		<i>Prunus yedoensis 'Awanui'</i>	Yoshino Cherry
	Amenity Planting	<i>Pimelia prostrata</i>	NZ Daphne
		<i>Pseudopanax arboreus</i>	NZ five finger
		<i>Pseudopanax ferrox</i>	Lancewood
		<i>Sophora dragons gold</i>	Hybrid Kowhai
		<i>Tecomanthe speciosa</i>	Three Kings Climber
		<i>Lobelia angulata</i>	Panakenake
		<i>Coprosma taiko</i>	Groundcover coprosma



## Indicative Planting Palette

### Parks & Common Areas Planting

Category	Botanic Name	Common Name
SHURBS	<i>Buxus 'Green Gem'</i>	Dwarf Box Hedge
	<i>Pittosporum 'Golf Ball'</i>	Dwarf Pittosporum
	<i>Hebe species</i>	Hebe
	<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai
	<i>Phormium cookianum 'Emerald Green'</i>	Dwarf Mountain Flax
	<i>Phormium 'Dark Delight'</i>	Ornamental Flax
	<i>Phormium 'Surfer'</i>	Ornamental Flax
	<i>Rosmarinus 'Lockwood de Forest'</i>	Groundcover Rosemary
	<i>Trachelospermum jasminoides</i>	Star Jasmine
	<i>Griselinia littoralis</i>	Kapuka / Broadleaf
	<i>Camellia species</i>	Camellia
	<i>Muehlenbeckia complexa</i>	Small-leaved Pohuehue
	TREES	<i>Liquidambar styraciflua 'Worplesdon'</i>
<i>Sophora tetraptera</i>		North Island Kowhai
<i>Platanus x acerifolia</i>		London Plane
<i>Magnolia grandiflora 'Little Gem'</i>		Evergreen Magnolia
Apple tree		Fruiting Apple
Apricot tree		Fruiting Apricot
fig tree		Fruiting Fig



### Stormwater Pond Planting

Category	Botanic Name	Common Name
SHURBS	<i>Carex secta</i>	Makura Sedge
	<i>Apodasmia similis</i>	Oioi
	<i>Phormium tenax</i>	Harakeke / NZ Flax
	<i>Coprosma robusta</i>	Karamu
	<i>Hebe salicifolia</i>	Koromiko / Hebe
	<i>Carex virgata</i>	Pukio / Swamp Sedge
	<i>Carex geminata</i>	Rautahi / Wetland Cutty Grass
	<i>Coprosma propinqua</i>	Mingimingi
	<i>Austroderia fulvida</i>	Toe Toe
	<i>Macropiper excelsum</i>	Kawakawa
	<i>Pseudopanax arboreus</i>	Five Finger
	<i>Aristolelia serrata</i>	Makomako / Wineberry
TREES	<i>Cordyline australis</i>	Cabbage Tree
	<i>Dacrycarpus dacrydioides</i>	kahikatea
	<i>Pittosporum tenuifolium</i>	Kohuhu / Black Matipo
	<i>Pittosporum crassifolium</i>	NZ Karo
	<i>Podocarpus totara</i>	Totara
	<i>Leptospermum scoparium</i>	Manuka
	<i>Kunzea ericoides</i>	Kanuka



## Indicative Planting Palette

### Riparian Planting

Category	Botanic Name	Common Name
SHURBS	<i>Phormium tenax</i>	Harakeke / NZ Flax
	<i>Carex secta</i>	Makura Sedge
	<i>Apodasmia similis</i>	Oioi
	<i>Coprosma robusta</i>	Karamu
	<i>Carex virgata</i>	Pukio / Swamp Sedge
	<i>Austroderia fulvida</i>	Toe Toe
	<i>Macropiper excelsum</i>	Kawakawa
	<i>Pseudopanax arboreus</i>	Five Finger
	<i>Aristotelia serrata</i>	Makomako / Wineberry
	<i>Coprosma propinqua</i>	Mingimingi
	<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai
	<i>Pseudopanax lessonii</i>	Native Five Finger
TREES	<i>Cordyline australis</i>	Cabbage Tree
	<i>Dacrycarpus dacrydioides</i>	kahikatea
	<i>Pittosporum tenuifolium</i>	Kohuhu / Black Matipo
	<i>Pittosporum crassifolium</i>	NZ Karo
	<i>Podocarpus totara</i>	Totara
	<i>Leptospermum scoparium</i>	Manuka
	<i>Carpodetus serratus</i>	Putaputaweta / Marble Leaf



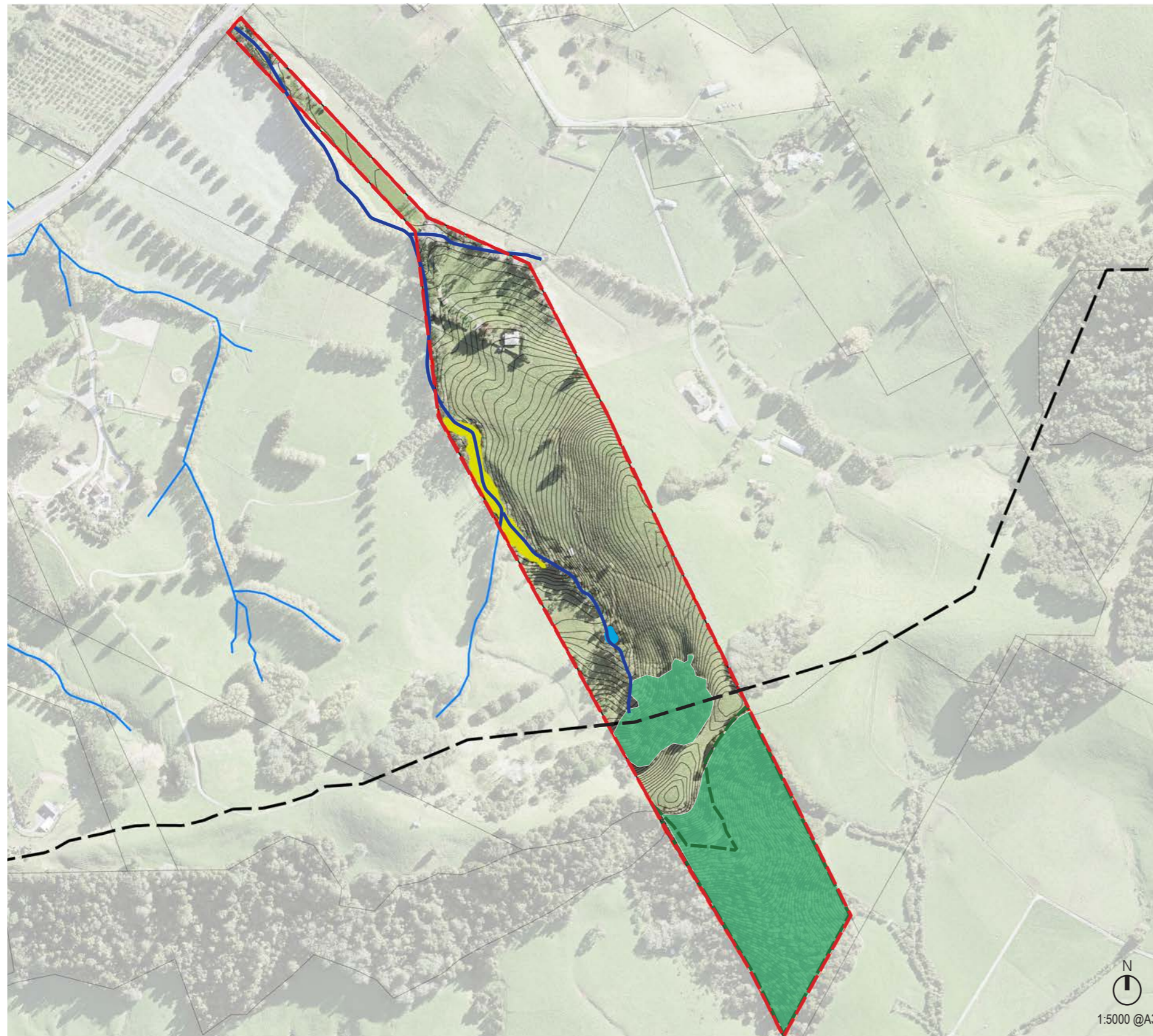
### Riparian Planting





## 8. WAIMANAWA HILLS(B) MASTERPLAN

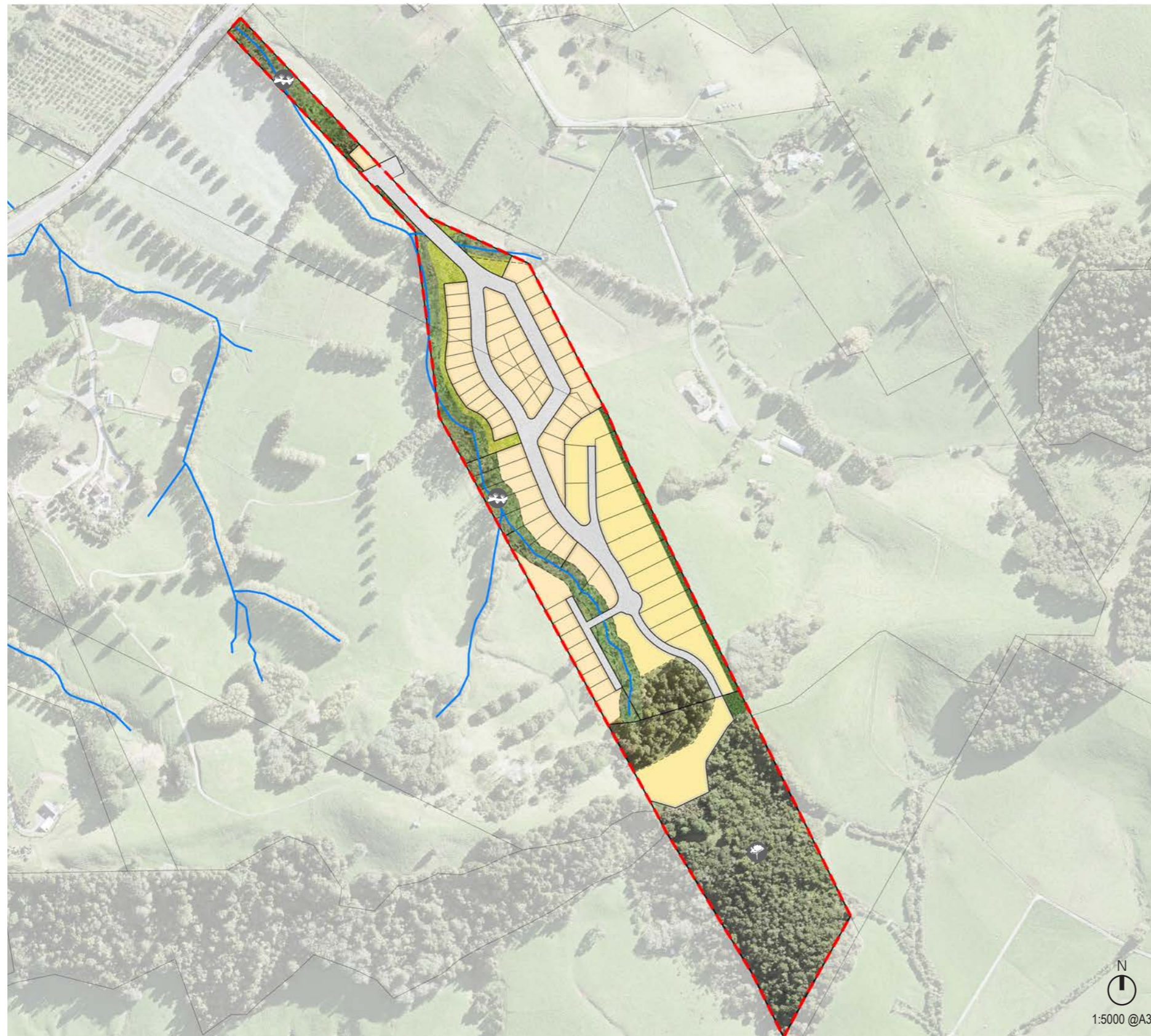
8.1 Existing Site Features





- Legend
- - - Waimanawa Hills(b) Site Boundary
  - - - Rural Urban Boundary
  - Permanent Stream
  - Wetland
  - Indigenous Tree Land
  - Farm Pond
  - - - Significant Ecological Area
  - 1m Contours

Figure 34 - Waimanawa Hills(b) Existing Site Features

8.2 Proposed Masterplan



Key Features

-  Stream Corridor
-  Bush Reserve

Residential




-  Mixed Housing Urban
-  Low Density Residential
-  Waimanawa Hills(b) Site Boundary

Figure 35 - Waimanawa Hills(b) Illustrative Masterplan

### 8.3 Proposed Zoning

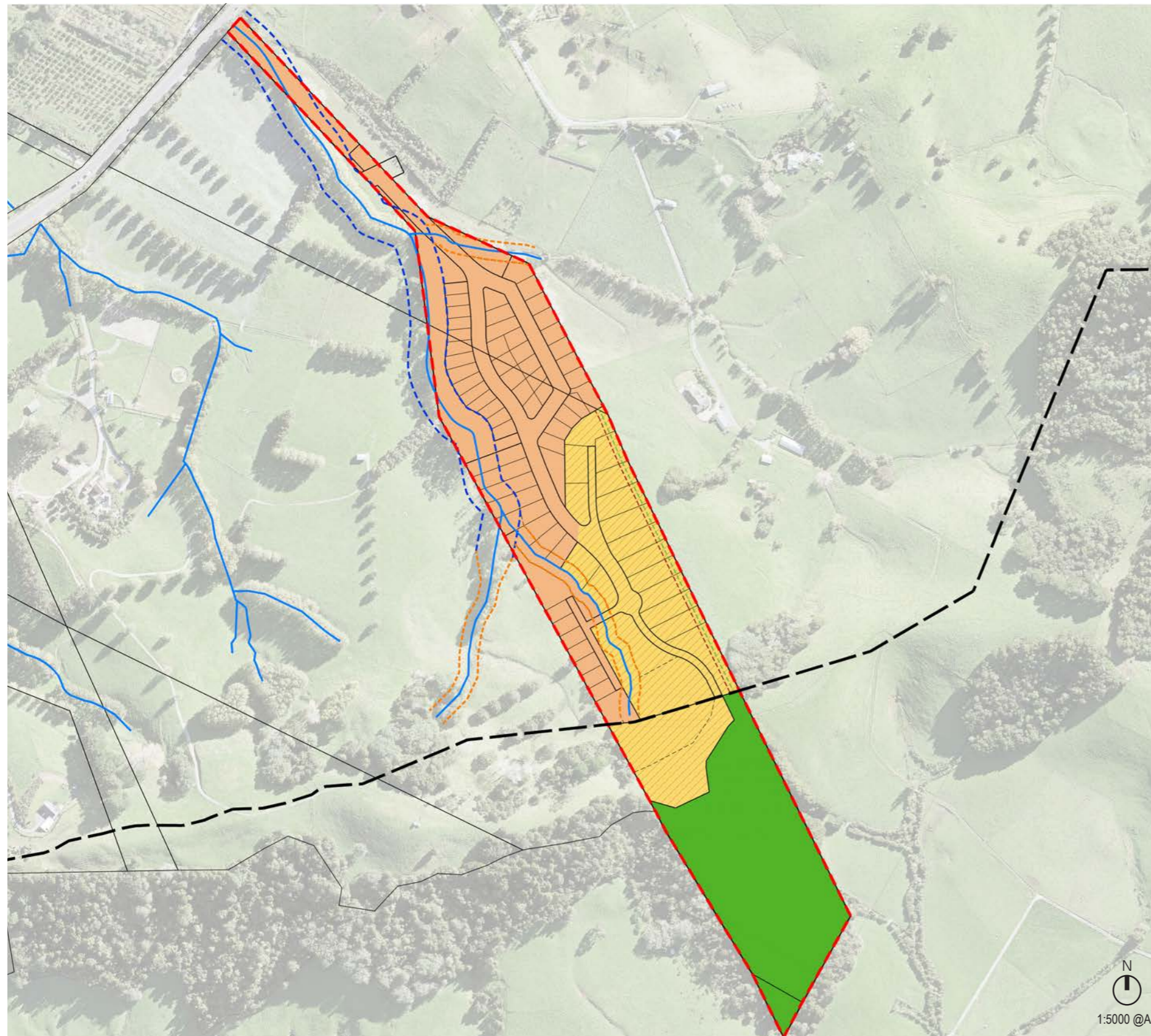


Figure 36 - Waimanawa Hills(b) Zoning Plan

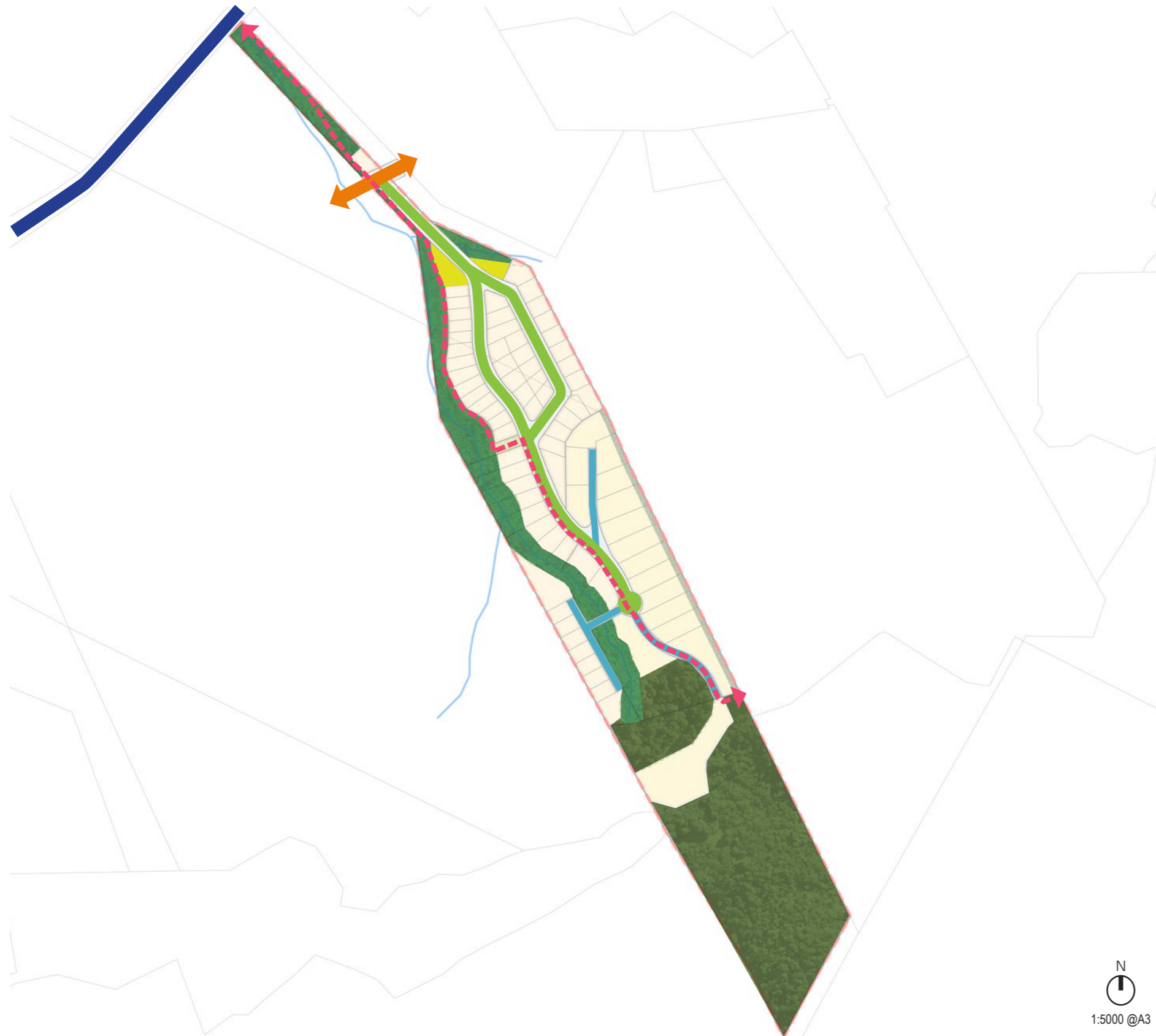


Zoning		Land Area (Hectare)	Percentage
Residential	Mixed Housing Urban	5.628	43.23%
	Low Density Residential	4.012	30.82%
	Sub-total	9.640	74.05%
Open Space	Open Space - Conservation	3.378	25.95%
	Sub-total	3.378	25.95%
<b>Total</b>		<b>13.02</b>	<b>100.00%</b>

Figure 37 - Waimanawa Hills(b) Zoning Metrics



### 8.4 Transport & Open Space



Legend

- State Highway 1
- Collector Road
- Local Road
- JOAL/ Private Lane
- Riparian Corridor
- Pocket Parks
- Bush Reserves
- Recreational Path

Figure 38 - Waimanawa Hills(b) Road & Open Space Network

## 8.5 Landscape Approach



Figure 39 - Waimanawa Hills(b) Streetscape Planting

## Streetscape Planting Strategy

**Collector Road Planting:** The collector roads within the development are typified by the large scale native and exotic species selected. The large deciduous exotic species assist in preserving the rural character of the Site and provide seasonal change and scale to the wide roads. The native species selected reflect the endemic species of the Site and provide habitat for native fauna.

**Residential Street Planting:** A mix of medium sized native and exotic trees species line the residential streets providing a mix of colours and textures. Fruit species provide a link to the Historic Morrisons Orchard across State Highway 1 in addition to seasonal change and edible fruit to the residential streets. Selected native species relate to those identified on site by the arborist providing habitat for native fauna, and connection to the Avicé Miller Scenic Reserve.

**JOAL Planting:** Native and exotic trees species line the residential streets providing a mix of colours and textures. Deciduous exotic species assist in preserving the rural character of the Site and provide seasonal change. Selected native species relate to those identified on site by the arborist providing habitat for native fauna, and connection to the Avicé Miller Scenic Reserve.

### Open Space Strategy

The proposed masterplan provides a variety of open spaces across the site to create an integrated network of parks and green links. The open space strategies aim to :

- Enhance the existing ecological corridors along the upper reaches of Mahurangi River and its primary tributaries through riparian planting
- Create a coupling of pocket parks that provides a variety of high amenity public spaces
- Highlighting the existing tributaries and native tree stands on site
- Offer continuous, interlinked, and safe routes for pedestrians and cyclists to all open spaces
- Protect and enhance the Avice Miller Scenic Reserve, create community connection



Figure 40 - Waimanawa Hills(b) Open Space

#### Examples of Open Spaces



Pocket Park



Riparian Corridor

Indicative Planting Palette

Streetscape Planting

Area	Category	Botanic Name	Common Name
Collector Road	Specimen Trees	<i>Podocarpus totara</i>	Totara
		<i>Knightia excelsa</i>	Rewarewa
		<i>Liquidambar styraciflua 'Worplesdon'</i>	Sweet Gum
		<i>Vitex lucens</i>	Puriri
		<i>Platanus acerifolia</i>	London Plane
	Amenity Planting	<i>Phormium green dwarf</i>	Dwarf Mountain Flax
		<i>Libertia sp.</i>	NZ Iris
		<i>Phormium 'Dark delight'</i>	Hybrid Flax
		<i>Hebe sp.</i>	Kiromiko
		<i>Griselinia littoralis</i>	Kapuka
		<i>Muehlenbeckia complexa</i>	Pohuehue
		<i>Carex secta</i>	Sedge



Area	Category	Botanic Name	Common Name
Residential Street	Specimen Trees	<i>Olea europaea</i>	Olive
		<i>Malus 'Domestica'</i>	Apple
		<i>Prunus armeniaca</i>	Apricot
		<i>Sophora tetraptera</i>	Kowhai
		<i>Magnolia grandiflora little gem</i>	Magnolia
	Amenity Planting	<i>Muehlenbeckia axillaris</i>	Pohuehue
		<i>Coprosma repens 'Poor Knights'</i>	Taupata
		<i>Libertia Sp.</i>	NZ Iris
		<i>Carex virgata</i>	Pukio
		<i>Acaena inermis purpures</i>	Purple Bidibidi
		<i>Astelia chathamica 'Silver Spear'</i>	Hybrid Astelia
		<i>Pimelia prostrate</i>	NZ daphne



Area	Category	Botanic Name	Common Name
JOAL	Specimen Trees	<i>Meryta sinclairii</i>	Puka
		<i>Rhopalostylis sapida 'chathamica'</i>	Chatham Island nikau
		<i>Acer palmatum 'Senkaki'</i>	Coral Bark Maple
		<i>Sophora chathamica</i>	Chatham Island Kowhai
		<i>Prunus yedoensis 'Awanui'</i>	Yoshino Cherry
	Amenity Planting	<i>Pimelia prostrata</i>	NZ Daphne
		<i>Pseudopanax arboreus</i>	NZ five finger
		<i>Pseudopanax ferrox</i>	Lancewood
		<i>Sophora dragons gold</i>	Hybrid Kowhai
		<i>Tecomathe speciosa</i>	Three Kings Climber
		<i>Lobelia angulata</i>	Panakenake
		<i>Coprosma taiko</i>	Groundcover coprosma



## Indicative Planting Palette

### Parks & Common Areas Planting

Category	Botanic Name	Common Name
SHURBS	<i>Buxus 'Green Gem'</i>	Dwarf Box Hedge
	<i>Pittosporum 'Golf Ball'</i>	Dwarf Pittosporum
	<i>Hebe species</i>	Hebe
	<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai
	<i>Phormium cookianum 'Emerald Green'</i>	Dwarf Mountain Flax
	<i>Phormium 'Dark Delight'</i>	Ornamental Flax
	<i>Phormium 'Surfer'</i>	Ornamental Flax
	<i>Rosmarinus 'Lockwood de Forest'</i>	Groundcover Rosemary
	<i>Trachelospermum jasminoides</i>	Star Jasmine
	<i>Griselinia littoralis</i>	Kapuka / Broadleaf
	<i>Camellia species</i>	Camellia
	<i>Muehlenbeckia complexa</i>	Small-leaved Pohuehue
TREES	<i>Liquidambar styraciflua 'Worplesdon'</i>	Sweet Gum
	<i>Sophora tetraptera</i>	North Island Kowhai
	<i>Platanus x acerifolia</i>	London Plane
	<i>Magnolia grandiflora 'Little Gem'</i>	Evergreen Magnolia
	Apple tree	Fruiting Apple
	Apricot tree	Fruiting Apricot
	fig tree	Fruiting Fig



### Riparian Planting

Category	Botanic Name	Common Name
SHURBS	<i>Phormium tenax</i>	Harakeke / NZ Flax
	<i>Carex secta</i>	Makura Sedge
	<i>Apodasmia similis</i>	Oioi
	<i>Coprosma robusta</i>	Karamu
	<i>Carex virgata</i>	Pukio / Swamp Sedge
	<i>Austroderia fulvida</i>	Toe Toe
	<i>Macropiper excelsum</i>	Kawakawa
	<i>Pseudopanax arboreus</i>	Five Finger
	<i>Aristotelia serrata</i>	Makomako / Wineberry
	<i>Coprosma propinqua</i>	Mingimingi
	<i>Sophora molloyii 'Dragons Gold'</i>	Ornamental Kowhai
	<i>Pseudopanax lessonii</i>	Native Five Finger
	TREES	<i>Cordyline australis</i>
<i>Dacrycarpus dacrydioides</i>		kahikatea
<i>Pittosporum tenuifolium</i>		Kohuhu / Black Matipo
<i>Pittosporum crassifolium</i>		NZ Karo
<i>Podocarpus totara</i>		Totara
<i>Leptospermum scoparium</i>		Manuka
<i>Carpodetus serratus</i>		Putaputaweta / Marble Leaf



