



WARKWORTH NORTH STRUCTURE PLAN

January 2019





WARKWORTH NORTH - THE VISION - 2019

Warkworth North is an exemplar of a high quality urban environment that has a seamless connection to the existing urban area of Warkworth, relates to its distinctive character, and contributes positively to the existing town centre, residential area and Warkworth community.

This vision is supported by key objectives relating to achieving a quality urban environment, enhanced natural environment, a well-connected location, provision of infrastructure, the provision of business areas necessary to provide employment to support residential land uses; and the provision of quality open spaces.

THE STRUCTURE PLAN AREA

The Warkworth North Structure Plan (“Structure Plan”) area encompasses approximately 120 hectares of the total 324 hectares of Future Urban zoned land at Warkworth North. The Structure Plan area is a physically well-defined and contained area. The eastern boundary of the Structure Plan area is State Highway 1, to the north is the proposed northern motorway extension designation, to the west the area is bound by the Viv Davie-Martin Drive residential development and Falls Road to the south.

The land within the Structure Plan area is predominantly rural land with the exception of the existing Light Industrial strip that fronts Hudson Road and the existing land zoned Business - General Business on the corner of Hudson Road and State Highway 1.

Warkworth is a rural service town located approximately 60 kilometres north of the Auckland CBD. There are a number of outlying rural and coastal villages and settlements that rely on Warkworth for commercial services, supermarket shopping and some large format retail shops.



Public realm connectivity

The easiest and most direct access to and from Warkworth is via State Highway 1, although alternative access is available over West Coast Road or Kaipara Flats Road to State Highway 16.

A key feature of Warkworth is the location of the town on the banks of the Mahurangi River and the cultural and natural heritage of the town related to this location such as the Jane Gifford, a restored scow; the Cement Works and the protected areas of bush on the northern river bank.

KEY ELEMENTS OF THE STRUCTURE PLAN TO BE CONSIDERED

Development of the Structure Plan has considered the constraints and opportunities of the land area related to both the subject land area and the context of the land within Warkworth and the wider area.

A detailed process of issue identification and constraints mapping has been undertaken to determine the most appropriate land uses taking into account the following:

- The relationship to existing urban zoned areas.
- Transportation considerations and connectivity with the wider area.
- Natural environment considerations – areas of native bush, watercourses, habitat of flora, fauna and avifauna.
- Topography and geotechnical constraints.
- Infrastructure servicing – sequencing and capacity.
- Heritage values.

- Open space, recreation and community facilities.
- Compact urban form.
- Economic factors – achieving an appropriate balance between providing housing and employment land in a way, and at a rate that is sustainable for Warkworth, the wider Auckland region and smaller communities that rely on Warkworth as a service location.

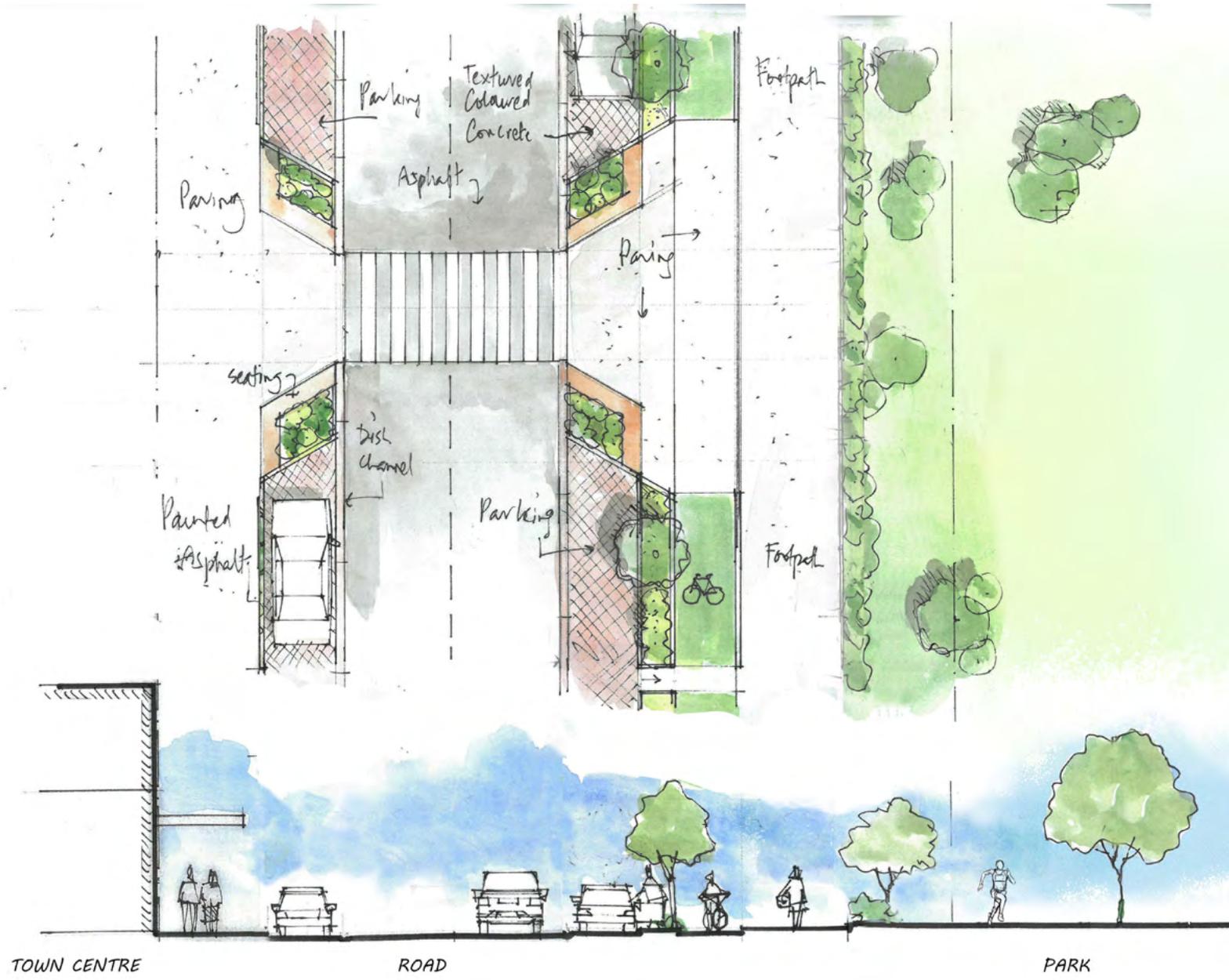
LAND USE AND ACTIVITIES

The Structure Plan identifies an extension to the existing Business – General Business zoned land on the corner of Hudson Road; Residential Mixed Housing Urban and Mixed Housing Suburban, a Local Centre, Single House residential land. Light Industrial zoned land and areas of proposed open space are also proposed.

These proposed land uses respond to the considerations detailed above. Of these, the key factors that have informed the proposed land uses and their location are the topography of the land, natural features, surrounding infrastructure and land uses and the need to manage potential reverse sensitivity.

INFRASTRUCTURE

Significant upgrades to the Warkworth wastewater system are required to service the proposed development. The upgrades are part of Watercare’s planned and consented extension to the Snells Beach treatment plant that will provide wastewater servicing for Warkworth North. A staged programme for the necessary upgrades has been developed. Interim solutions for wastewater servicing are also provided for, should development proceed ahead of completion of the upgrading of the Snells Beach plant.



Cross Section - Collector Road - Commercial

WARKWORTH NORTH - THE VISION - 2018 (CONT.)

Water supply for the development will be available. There is sufficient capacity in the network and a new treatment plant is under construction at Sanderson Road which is within the Structure Plan area.

Stormwater detention, retention and treatment will be provided in accordance with Unitary Plan Stormwater Management Area Flow 1 standards and stormwater from the fully developed catchment will be conveyed to the Mahurangi River via a green corridor to be formed along the tributaries of the river that exist within the Structure Plan area.

TRANSPORT

The northern boundary of the Structure Plan area is the designation for the northern motorway extension to Warkworth that is under construction and scheduled for completion towards the end of 2021. A link road from the existing State Highway 1 to Matakana Road (Matakana Link Road) is also planned and there is funding committed to ensure that road is consented and constructed to coincide with the opening of the motorway extension.

The Structure Plan extends the proposed Matakana Link Road south through the development (the Western Link Road, proposed by Auckland Transport) to connect with Falls Road, which will provide an alternative route for traffic through Warkworth in the future and could form the central spine of the development. A connected road network is proposed within the Structure Plan area that responds to topography and supports high quality built form outcomes.

NATURAL ENVIRONMENT AND HERITAGE:

The Structure Plan maintains and enhances the key natural features of the area by integrating them within the proposed open space network. Some intermittent watercourses, however, need to be piped or filled to enable roading connectivity through the development. Appropriate measures would be implemented to mitigate the potential adverse effects of this on water quality. Selective removal of some lesser quality native vegetation will also be considered to provide open space areas for play spaces and usable park land. There are no significant heritage or archaeological features within the Structure Plan area.

The Structure Plan area does not have any heritage or archaeological values that must be maintained.

OPEN SPACE AND RECREATION:

The Structure Plan provides a high quality, varied and accessible open space network. Open space will protect the majority of watercourses and their riparian margins. Three neighbourhood parks will be provided within the Structure Plan area that are centrally located within the development and will provide space for active and passive recreation.

IMPLEMENTATION AND STAGING:

It is anticipated that the Structure Plan area will provide capacity for approximately 1,000 to 1,200 dwellings providing for a range of living options from single house to apartment living. Capacity would also be provided for business uses, including:

- A Neighbourhood Centre (3,000m² approx) to provide for the convenience needs of the local community within a walkable distance; and
- Light Industrial land (13.4 hectares) adjacent to the existing State Highway 1 and connecting with the industrial natures of activities currently taking place there.

Construction and development will occur in stages, however, there are no known limitations that require a staged approach to zoning or release of land for urban development.

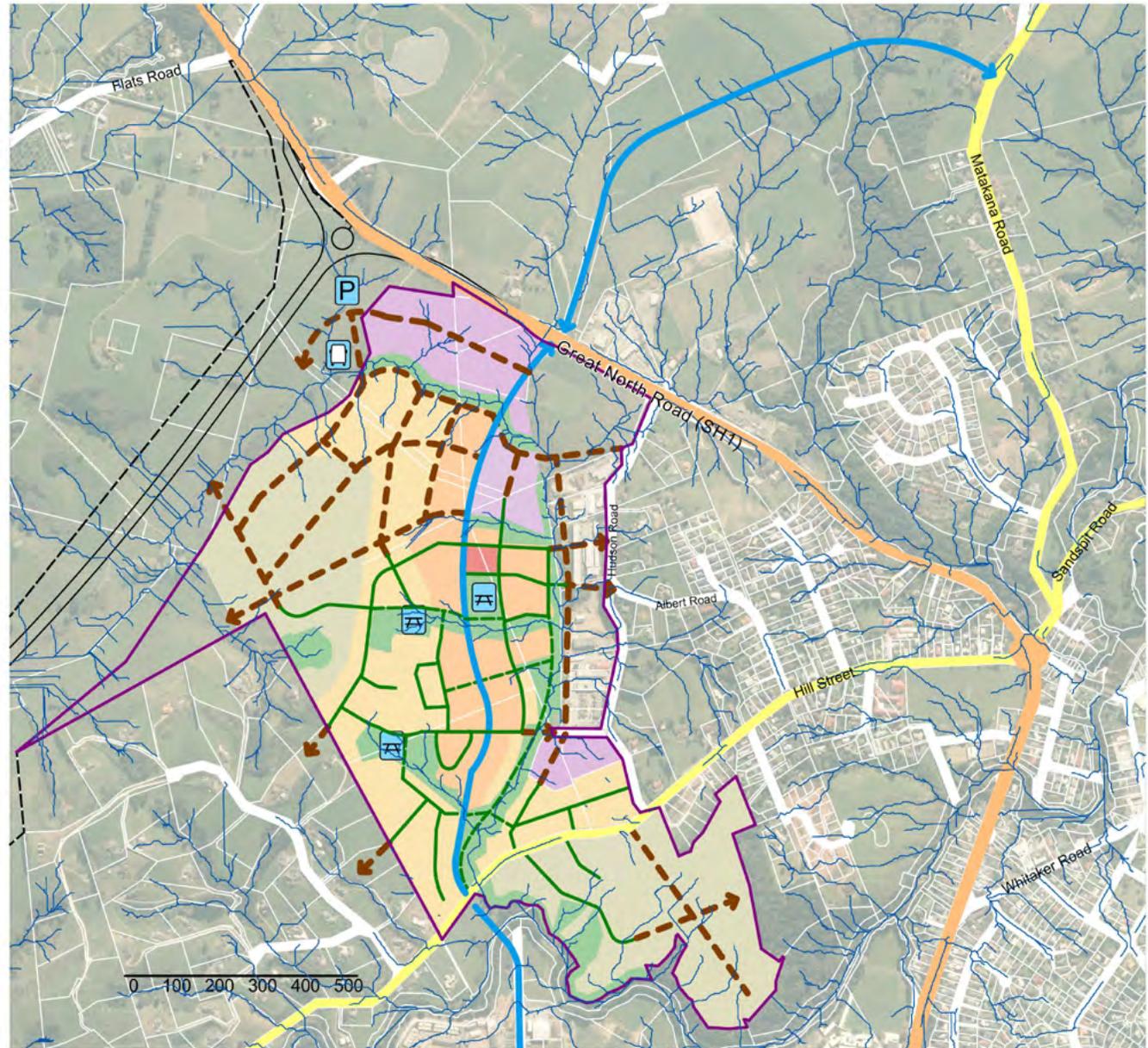


Heritage values characterise local spaces



THE STRUCTURE PLAN MAP

-  Warkworth Structure Plan Boundary
-  Proposed new link road corridors-Refer also Transport Networks Drawings
-  Proposed AT Park and Ride
-  Proposed Neighbourhood Park
-  Schematic proposed roads (indicative)
-  Schematic proposed pedestrian and cycle connection (indicative)
-  Potential Future Roads
-  Existing Watercourse
-  Residential - Single House Zone
-  Residential - Mixed Housing Suburban Zone
-  Residential - Mixed Housing Urban Zone
-  Business -Light Industry
-  Business - Neighbourhood Centre Zone
-  Open Space - Informal Recreation Zone
-  Warkworth Structure Plan Boundary



SCALE @ A3 = 1:10,000
SCALE @ A4 = 1:15,000



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1.0 INTRODUCTION

The purpose of this document is to outline the Structure Plan for Warkworth North. The Structure Plan has been prepared in full accordance with the requirements of Appendix 1 to the Auckland Unitary Plan – Structure Plan Guidelines.

The Structure Plan has been informed by detailed technical reports across the wide range of disciplines required to be addressed in Appendix 1 to the Unitary Plan, engagement with landowners within the Structure Plan area and community groups, key infrastructure providers, and Auckland Council.

Consideration has also been given to development projects in the wider area such as the northern motorway extension and the Matakana Link Road and the interrelationship of the proposed structure plan area with those projects.

The development proposed for this part of Warkworth will provide the first stage of anticipated growth for Warkworth where the population is forecast to accommodate an additional 7,600 households over the next 30 years.

Warkworth is the northern satellite town for the Auckland region. The significant growth identified in the Warkworth North area, as identified in the Future Urban Land Supply Strategy 2017 (“FULSS”), is scheduled to align with the northern motorway extension from Puhoi to Warkworth that is due for completion in late 2021. The FULSS signals that the northern part of the Future Urban zoned land will develop ahead of the land areas in Warkworth South. The timing and sequencing of development as outlined in the FULSS has been a key consideration in the development of this Structure Plan.

1.1 STRUCTURE PLAN AREA CONTEXT

The Structure Plan area is located in Warkworth, which is strategically located within the Auckland region. It is the most significant northern town in the region and provides a wide range of services to support the rural and coastal areas that support strong populations in the surrounding areas. Warkworth is also the gateway to the popular east coast beach settlements such as Leigh and Omaha; tourist areas such as Matakana; and popular regional parks such as Tawharanui, Pakiri and Atiu Creek. Figure 4 is a map showing Warkworth in a wider regional context in relation to the northern part of the Auckland region.

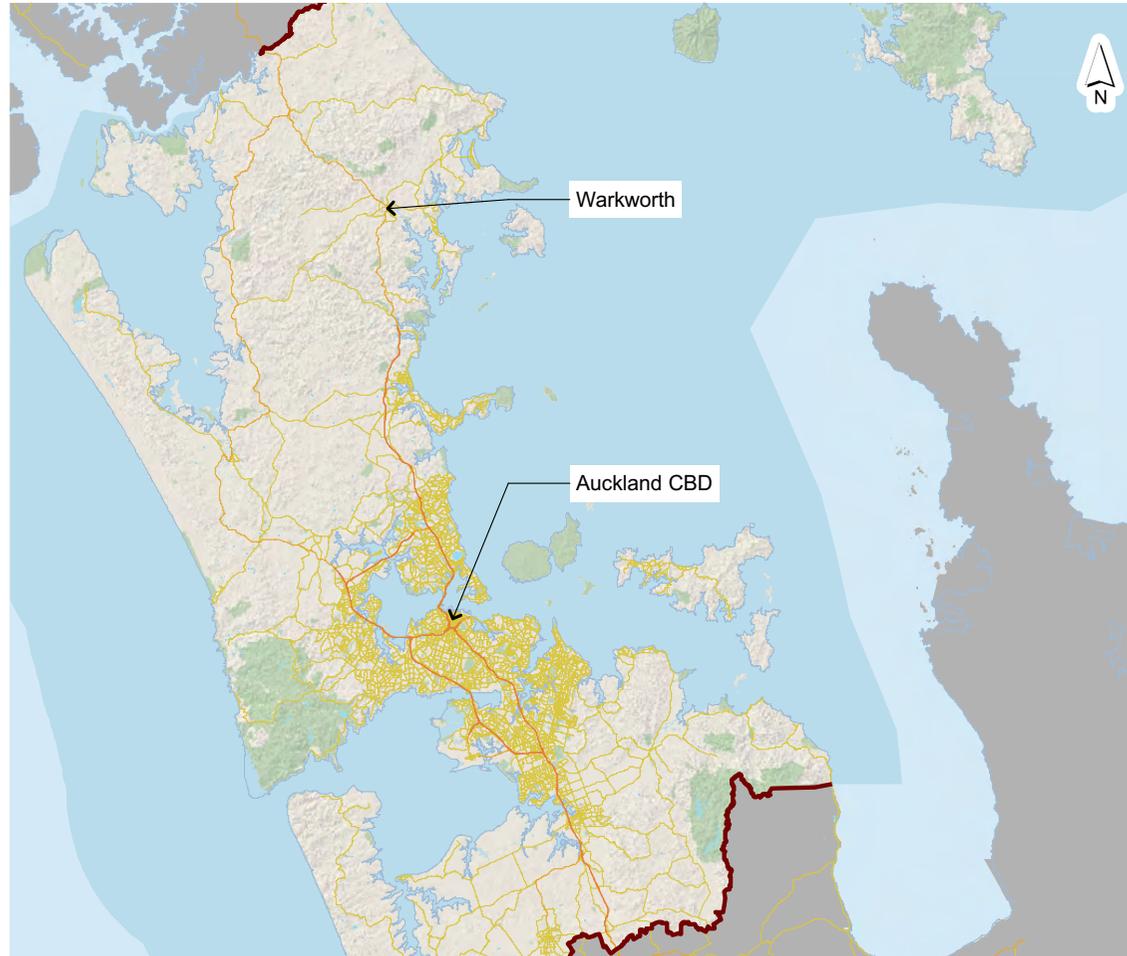


Figure 1 - Regional Context Map

1.0 INTRODUCTION (CONT.)

Warkworth is approximately 1 hour's drive from the Auckland CBD, and 30 minutes to Orewa, a growing seaside area. A similar travel time to the south is Silverdale that has rapidly growing business, retail and residential areas. Silverdale is a growing employment hub; and approximately a 1 hour 10 minute drive north is the city of Whangarei. Wellsford is a small rural town with growth potential, 15 minutes' drive north on State Highway 1 and the popular seaside area of Mangawhai, located in the Kaipara District is approximately a 45 minute drive to the north - east.

A key unique feature of Warkworth is its location on the banks on the Mahurangi River and the cultural and natural heritage values associated with that location.

For all of the above reasons, Warkworth is a desirable place to live, work and play. Access to the area will be enhanced by the northern motorway extension. The Satellite Town status of Warkworth under the Auckland Unitary Plan means that the area is one of only two places in the Auckland region outside of the metropolitan area to be prioritised for infrastructure spending to enable urban growth and development.

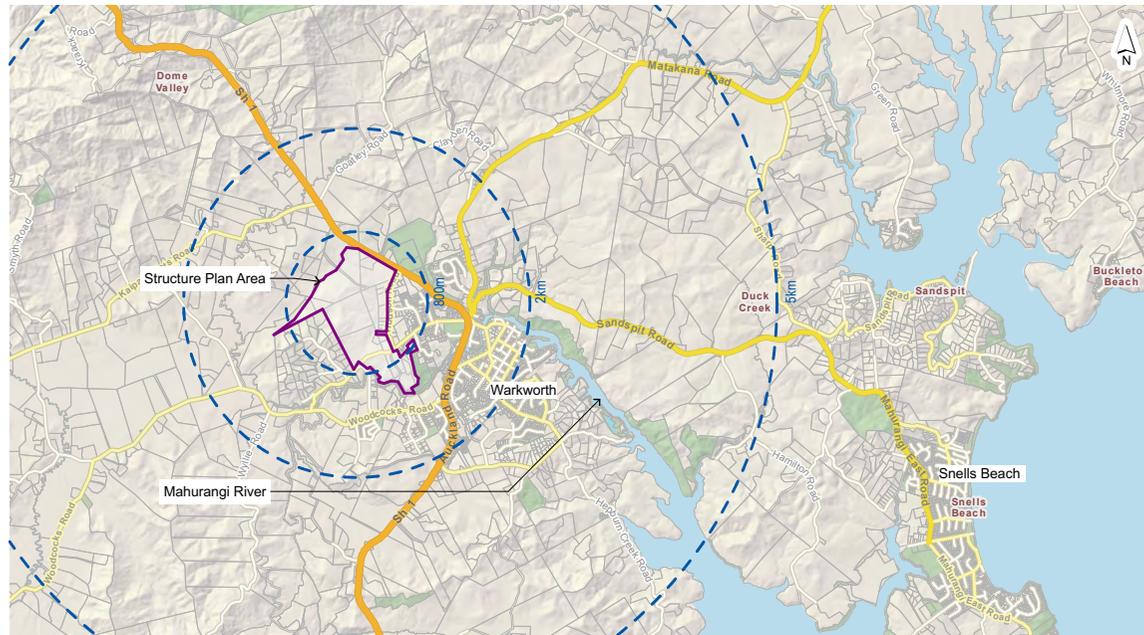


Figure 2 - Warkworth and Surrounding Areas

1.1.1 THE STRUCTURE PLAN AREA

The Structure Plan area covers 120 hectares within the approximately 324 hectares of Future Urban zoned land at Warkworth North. There is additional Future Urban zoned land to the north north-east and south south-west of the Structure Plan area. The Structure Plan area is shown in Figure 2.

The land area is strategically located adjacent to the northern motorway extension, the proposed Matakana Link Road; close to existing zoned and operating business areas and established and expanding sports fields and community facilities.

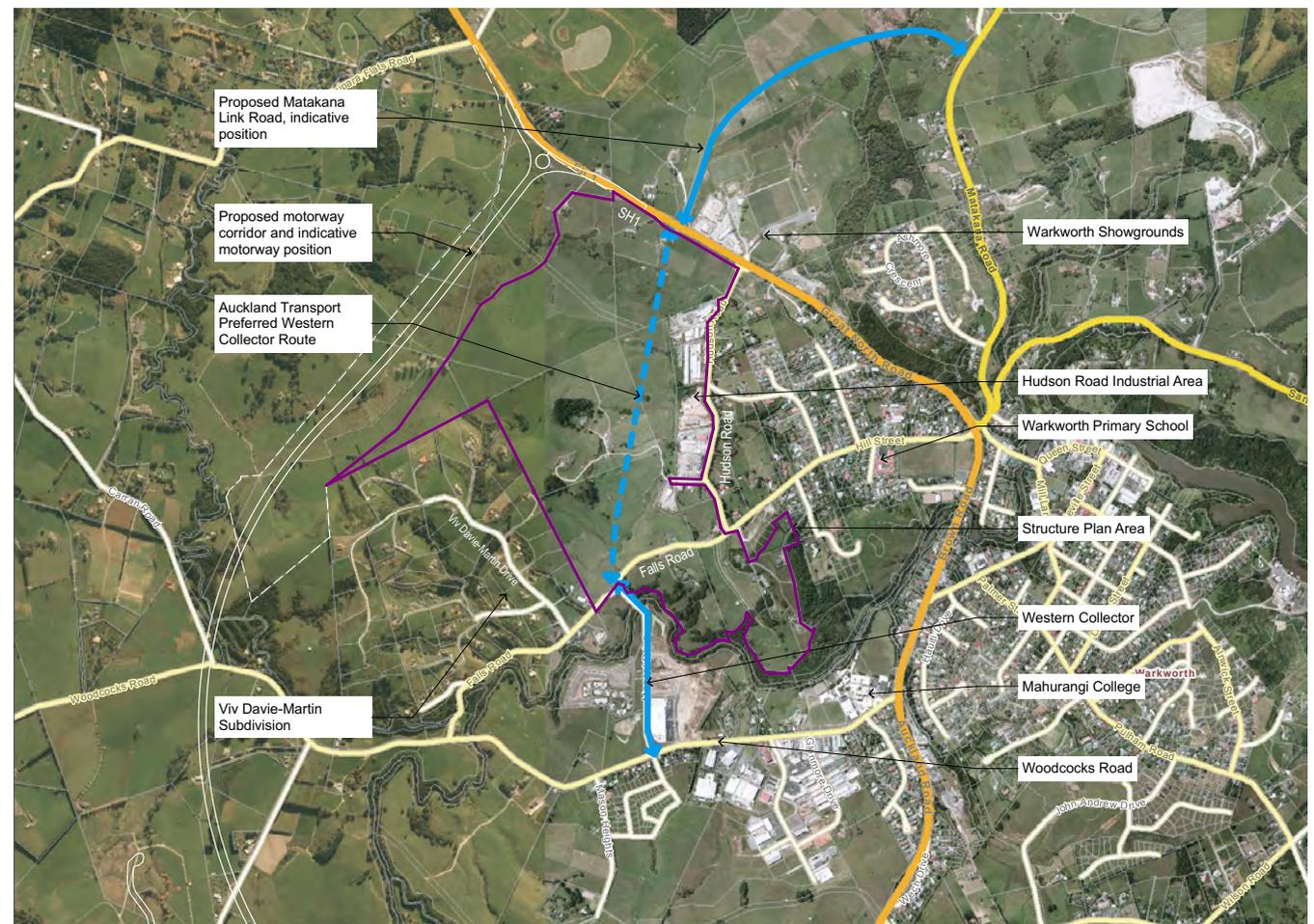


Figure 3 - Structure Plan Area



Mahurangi river, Warkworth heart of the town

1.0 INTRODUCTION (CONT.)

The Structure Plan area includes all of the land within Warkworth North with the exception of the lifestyle development area at Viv Davie-Martin Drive and the land to the west and south of that. The Viv Davie-Martin Drive area has been excluded from this structure planning exercise as, despite its Future Urban zoning, has only recently been developed as an isolated rural residential subdivision and it is highly unlikely to be redeveloped in the future. It is more appropriate therefore to treat this area as a fixed boundary. The Structure Plan responds to the existing context of the Viv Davie-Martin Drive area and ensures that future development can integrate well with development in the Structure Plan area.

A small area of land at 68 View Road to the south of the Warkworth Birthing Centre is also excluded from the Structure Plan area. This land is isolated and is separated from the Structure Plan area by an extensive open space. Development on this site in the future would logically respond to the character of land to the north and east, rather than land within the Structure Plan area.

1.2 THE GROWTH CHALLENGE

In 2015 the population of Auckland – *Tamaki Makaurau* was estimated at 1.57 million and growing. At this time Warkworth had been identified as a Satellite town in the Auckland Plan and had a population of approximately 4,500.¹

By 2043 the population of Auckland is projected to grow to between 2,028,300 (low), and 2,432,800 (high) people. Warkworth is estimated to have a population of 25,000 to 30,000 people by around 2040.

To accommodate this growth for Warkworth, the FULSS 2017 estimates that approximately 7,600 new homes will be required in Warkworth along with additional employment land. Within Warkworth North, the FULSS anticipates that approximately 2,300 dwellings will be required. The FULSS sets out a programme

for sequencing the release of Future Urban zoned land for development over a 30 year period to accommodate growth. Warkworth North is identified in this document to be development ready by 2022 onwards.

The Structure Plan area is within the Future Urban zoned land area in Warkworth North and is directly adjacent to existing urban zoned land areas.

1.2.1 HOUSING DEMAND IN WARKWORTH

The extension of the motorway north to Warkworth will increase the demand for housing as a result of improved accessibility and reduced journey times. In the context of the Warkworth market, Warkworth is a relatively affordable location and has many features that make it a desirable place to live.

The town is already experiencing modest rates of growth with new housing being provided in the McKinney Valley and Woodcocks Road locations.

Because Warkworth is remote from major employment centres, zoning residential land is a prerequisite to employment growth in a process that requires the parallel release of business land. It is anticipated that development within the Structure Plan area, will provide between 40% and 50% of the planned dwellings for Warkworth North and will provide approximately 13.4 hectares of business land, which will contribute to an improved balance and diversity of residential and employment opportunities.

A mix of dwelling types that provide a range of living opportunities and affordability is likely to be in demand given that there are limited opportunities for more intensive housing forms in Warkworth currently. The location of the Structure Plan area close to major transport networks provides an opportunity for higher density housing types in close proximity to these networks and also proposed employment areas to ensure land is efficiently utilised.

¹<http://population.city/new-zealand/warkworth/>

1.0 INTRODUCTION (CONT.)

1.2.2 BUSINESS DEMAND IN WARKWORTH

Demand for business land in Warkworth will increase as a result of population growth and a consequent diversifying of the work force in terms of skills and age. Issues have been identified that need to be addressed in zoning. These include existing limited business and professional services in Warkworth that may constrain growth in sectors that rely on these services, such as manufacturing; transformational challenges facing retail in the town; and the fact that the current employment structure is not conducive to inward movement of households across the board, offering more blue than white collar opportunities. Greater business diversification will support – and depend on – greater demographic diversification.

1.3 WHAT IS A STRUCTURE PLAN AND WHAT OUTCOMES SHOULD A STRUCTURE PLAN ACHIEVE?

Structure Planning is a tool for managing the effects and demands of development or redevelopment of larger areas held in multiple ownership in an integrated, holistic and orderly way. It is an effective means to achieve sustainable management of natural and physical resources, particularly in an urban context.

Source: Quality Planning website

A structure plan is a high-level plan for a large area that shows the arrangement of various land uses (e.g. centres, housing, employment and parks) and infrastructure (e.g. transport and stormwater), and how the area connects to adjacent urban areas and wider infrastructure networks. It identifies public infrastructure such as streets, rail, stormwater, natural features, schools and community facilities. A structure plan guides future development by coordinating and defining the land use patterns and the location, distribution and integration of this infrastructure. A structure plan forms the basis of changes to the Auckland Unitary Plan through the plan change process.

This Structure Plan has been undertaken as the first stage of the Private Plan Change request process to rezone land from the Future Urban zone to a range of residential and business zones within the Structure Plan area.

Appendix 1 of the Auckland Unitary Plan sets out what must be considered when structure planning, the content of the structure plan, and the supporting information that is required. The outcome of the structure planning phase is the production of a structure plan map that can be readily converted into a statutory planning format, including zones and overlays.

2.0 STRUCTURE PLAN PROCESS

2.1 BACKGROUND

Turnstone Capital Limited own a large portion of land within the structure plan area, including 12 Sanderson Road, 220 Falls Road, Lot 18 DP 9212, 102 Hudson Road and Lot 1 DP 508375. As the majority landowner within the Structure Plan area, Turnstone Capital Limited has instigated the structure plan process and is the applicant for the Private Plan Change request. Turnstone Capital Limited has engaged with owners and occupiers within and adjacent to the Structure Plan area as detailed in the consultation report and written approvals have been obtained from several landowners. The consultation report is attached to the Private Plan Change request at Appendix 6.

2.1.1 BACKGROUND PLANNING DOCUMENTS

The Auckland Plan – March 2012 identified Warkworth as one of two Satellite towns, the other being Pukekohe in the southern part of the region. Consequently, large areas of Future Urban zoned land were identified to the north and south of the town to provide for the growth projected to occur over the 30 year period from the Auckland Plan. Approximately 1,000 hectares of Future Urban zoned land has been identified in Warkworth. To the west and north, the Rural Urban boundary aligns with the northern motorway designation.

In anticipation of this growth, 64 hectares of land in the north was zoned Business – Light Industry through the Unitary Plan process and land on either side of Hudson Road at the intersection with State Highway 1 was zoned Business – General Business.

Given the lead time for development associated with the planning process and initial land development and construction phases, the Structure Plan and associated Private Plan Change are considered to be generally in keeping with the timing and sequencing for this land set out in the FULSS.

2.2 THE PROCESS FOR THE WARKWORTH NORTH STRUCTURE PLAN

Turnstone Capital Limited commenced the Structure Planning process in mid-2016. The land area was identified as being suitable for structure planning because of its location in Warkworth North, an area that is able to be serviced in the immediately foreseeable future, and also the location is adjacent to the motorway extension meaning that it is a location that will face development pressure; and is desirable for development because it is also adjacent to the existing town boundary.

A series of technical reports and analyses were commissioned in order to understand the opportunities and constraints in the Structure Plan area. In addition, assessments previously undertaken for the Unitary Plan process (s32 assessments), previous Warkworth Structure Plans and other relevant documents were also reviewed.

The reports and assessments prepared for the Structure Plan include the following:

- Archaeological assessment (Clough and Associates).
- Ecological assessments (Bioresearches).
- Engineering assessment that includes strategies for wastewater, water supply and stormwater servicing (Chester).
- Geotechnical assessment (KGA Geotechnical).
- Economic assessments (Phil McDermott).
- Landscape Assessment (Littoralis).

2.0 STRUCTURE PLAN PROCESS (CONT.)

- Urban design assessment and analysis (Pacific Environments).
- Land contamination assessment (Babbage).
- Integrated Traffic Assessment (HG T2).
- Community Facilities and Open Space Assessment (B&A).

A draft Structure Plan was prepared for discussion with stakeholders and the community. The outcomes of consultation and engagement have shaped the final Structure Plan.

Detailed analysis of the technical reports have resulted in a Structure Plan to support a Private Plan Change request that will achieve an integrated land use outcome for the land.



Residential adjoining Main Through Road

3.0 VISION AND OBJECTIVES

The vision and objectives for the Structure Plan were developed by Turnstone Capital Limited and their project team and are intended to inform future development in the Structure Plan area. They specifically respond to the opportunities and constraints of the Structure Plan area and to ensure that development outcomes accord with Auckland Unitary Plan.

The vision and objectives relate to the Structure Plan only and are not intended to be applied to the Structure Plan area under the Auckland Unitary Plan.

3.1 VISION

Warkworth North is a high quality urban environment that has a seamless connection to the existing urban area, relates to its distinctive character, and contributes positively to the existing town centre, residential area and Warkworth community.

3.2 OBJECTIVES

- Achieve an optimal urban development outcome consistent with the regional policy direction set out in the Unitary Plan.
 - *Enable changes in uses to transition without impacting urban quality, by having complimentary or similar zones across roads to create street spaces with singular purpose, or using wide boulevard streets as buffers.*
- Achieve a compact urban form that responds to the physical characteristics and constraints of this location.
 - *Enable seamless urban transitions into the area by compatible and similar uses across the structure plan boundaries.*
- *Achieve linkages and integration with existing urban-zoned and/or rural-zoned land adjoining the structure plan area through careful edge or boundary treatment.*
- *Urban development needs to be timed to coincide with the provision of infrastructure extensions and upgrades to support the development planned.*
- Define and enhance existing and future business areas to support residential growth.
- Provide for a range of living choices in a quality, well designed built environment.
 - *Enable a mix of land uses that can include social, amenity and employment uses.*
- Offer a high level of living amenity in a form that is respectful to Warkworth's identity.
 - *Identify natural heritage and mana whenua values.*
- Achieve a development outcome that protects and enhances, to the extent practicable, key landscape and ecological elements.
 - *Utilise the topography and natural patterns of the area to shape the configuration of urban development and related movement corridors.*
 - *Put roads directly alongside open spaces areas where possible.*
- Provide for pedestrian, cycling and vehicular connectivity in a manner that utilises and responds to natural corridors and patterns.
 - *Integrate land locked parcels by connecting them to the proposed road network.*



Stubbs Farm - Terrace Houses Perspectives (indicative artist impression)

3.0 VISION AND OBJECTIVES (CONT.)

- *Provide a walkable environment that is safe by using an appropriately scaled road system that incorporates natural and neighbourhood amenity directly, and by connecting areas not connected by road with pedestrian linkages.*
- Provide for higher density residential development where there is close access to open space and transport hubs.
- *Incorporate efficient yields in a compact way to reduce walkable distances and allow for natural amenity features to be retained and enhanced.*
- *Facilitate and guide appropriate land use by providing a range of lot sizes within zones appropriate to the envisaged uses.*

4.0 LOCAL CONTEXT

SITE DESCRIPTION:

The land within the Structure plan adjoins recently developed lifestyle development land holdings accessed off Viv Davie-Martin Drive. These sites are within the Future Urban zone but are not included within the Structure Plan area because of the fact that they are largely sites and only recently developed with relatively high levels of investment in development of these properties.

The Structure Plan area encompasses a logical extension of Future Urban zoned land that directly adjoins the existing urban area to the north of Warkworth. The southern side of Hudson Road is zoned Residential – Single House and there is an existing industrial zoned area on the northern side of Hudson Road. In addition there is the recently zoned Business – General Business sites on either side of the Hudson Road intersection with State Highway 1 where a Pak n’ Save supermarket is proposed on the northern side and there is an existing Z station on the southern corner.

To the north the Structure Plan area bounds the land designated for the northern motorway extension and the eastern boundary is the existing State Highway 1. There is an existing cemetery owned by the Catholic Church located adjacent to the State Highway. The cemetery has 35 graves and adjoins another land holding owned by the Catholic Church.

Land within the Structure Plan area is ear-marked for the extension of the ‘western collector’ that would logically continue on from the existing Mansel Drive connection through to Falls Road. This is a significant infrastructure aspect within the Structure Plan area from which the pattern and location of development will be determined.

LAND USES AND CHARACTER:

The area has a mixed character arising from the historic pattern of development and related existing land use activities. However it is a contained area of land and the development land holdings are green fields providing an opportunity for comprehensively designed and quality outcomes to be achieved taking into consideration how future development will connect with, and relate to the existing development.

The Warkworth Showgrounds are located on the opposite side of State Highway 1 and the Matakana Link Road is proposed to connect to the existing State Highway 1 to the north of this sporting facility. Warkworth Primary School is a 10 minute walk from the Structure Plan area and the Town Centre is approximately 15 minutes walking time.

In addition to the zoned Light Industrial area there is also the Watercare water treatment plant under construction at Sanderson Road and an existing dairy depot and storage contained facility. These activities are not within the existing Light Industrial zoned area but are consented and effectively form part of the existing industrial land uses.





Figure 4 - Industrial Area Hudson Road

Panorama VP4:
The panorama from Hudson Road where it rises partially above the light industry premises to reveal the upper slopes of the grazed slopes in the core of the structure plan area beyond.

The residential land to the south of Hudson Road has until recently, when rezoned as part of the Unitary Plan process, had a large lot zoning; this area is therefore likely to see re-development to more intensive residential housing in the near future.

The area to the south of Falls Road is typically smaller land holdings that adjoin the existing residential area. The Warkworth town reservoir is also located adjacent to this part of the Structure Plan area on a site accessed from View Road.

LANDFORM AND FEATURES:

Warkworth's northern margin is composed of a diverse variety of terrain and catchment patterns. Sitting as a defining frame are The Dome and Kraack Hill range which sit to the north at an elevation of around 300m, with a cladding of indigenous and exotic plantation forest reinforcing their containing presence.

A sequence of lower foothills then sporadically progress south towards Warkworth's current urban area at a lower level of 60-80 m. These smaller hills are more weathered and rounded than their northern counterparts, but remain moderately steep sided, with gradients of 20° and more being very common.

The Mahurangi River has its headwaters in this inland Warkworth area, with its primary channel taking a northward arc to collect the complex drainage patterns falling south from the northern hills described initially. Numerous ephemeral watercourses and minor tributaries continue to contribute to the Mahurangi's flow as it descends to its estuarine limit alongside the Warkworth Town Centre. The incised nature of the primary watercourses as they cut through the alluvial lowlands means that they are not, of themselves, strongly expressed. Instead, it is the riparian associations of podocarp-dominant vegetation that form a strong pattern alongside the main rivers and streams which brings legibility to the catchment pattern.

4.0 LOCAL CONTEXT (CONT.)

The Structure Plan area is a microcosm of many of these geomorphic characteristics of its wider setting. The core of the area lies across one of the low foothills which ascends to a ridgeline of just over 80m elevation. While apparently simple at first glance, at a detailed level the foothill has a complex and moderately steep terrain drained by a large number of tiny watercourses at regular intervals. Most of these minor flow paths exist in a highly degraded state as part of wider grazed paddocks. A pair of slightly more substantial channels are found in the centre of the Structure Plan area, where they drain two isolated pockets of indigenous forest situated just below the main ridgeline found in that area. In the northern part of the Structure Plan area, the minor watercourses drop to a small unnamed stream which skirts the foothill around its northern apex before heading south west along the motorway link designation. That stream then runs along the toe of light industrial properties parallel to Hudson Road as it conveys the flow to its confluence with the Mahurangi near the junction of Falls Road and Mansel Drive.

The western projection of the Structure Plan area downstream of Falls Road features belts of native vegetation consisting predominantly of totara which form a more contiguous, connected pattern linking to the Mahurangi River on this southern edge of the structure plan area. Those vegetative themes then continue as the river continues its course to central Warkworth and beyond.



Shoesmith Reserve – a much used community facility

5.0 STRATEGIC CONTEXT

5.1 THE AUCKLAND PLAN

The Auckland Plan provides a high level strategic framework for growth and development in the Auckland region over a 30 year time period. The Plan was adopted by Auckland Council in March 2012. The Auckland Unitary Plan is the primary statutory document that will give effect to the Auckland Plan.

Map D.1 illustrates the high level strategic development framework. This map identifies Warkworth as both a satellite town and a 'greenfields area for investigation' (see figure below). Paragraph 150 of the Auckland Plan, below, discusses the satellite town concept.

Two satellite towns are highlighted for their potential to function semi-independently of the main metropolitan area, and to provide a range of services to the surrounding rural areas. These factors make them suitable locations for substantial residential and employment growth.

Development Strategy Map (Auckland-Wide)





Figure 5 - Auckland Plan Figure D4 - Staged Release of Land

Figure D.4, above illustrates that the Council anticipates the staged release of land for urban development from the current urban core extending out the extent of the Rural Urban Boundary that is currently identified in 'proposed' form on the Proposed Unitary Plan maps. The location of the Structure Plan area supports this approach as it adjoins the existing urban area and extends into the adjoining Future Urban zoned land area in a location scheduled to be development ready 2022 as set out in the Future Urban Land Supply Strategy.

The Proposed Auckland Unitary Plan identifies a RUB around the existing urban area of Warkworth that encompasses approximately 1000 hectares of Future Urban zoned land.

The proposed Structure Plan is in keeping with the outcomes and staging set out in the Auckland Plan.

5.2 NATIONAL POLICY STATEMENTS AND NATIONAL ENVIRONMENTAL STANDARDS

The following National Policy Statements and National Environmental Standards are relevant to the Structure Plan and subsequent plan change/s:

National Policy Statements (NPS) -

- On Urban Development Capacity, 2016
- For Freshwater Management, 2014
- For Renewable Electricity Generation, 2011

The New Zealand Coastal Policy Statement is not relevant as the land area is not within the coastal environment. The National Policy Statement pertaining to Electricity Transmission is also not relevant because the proposed land uses are not, and do not relate to, electricity transmission.

Urban Development Capacity:

This NPS came into effect in December 2016. The NPS "...directs local authorities to provide sufficient development capacity in their resource management plans for housing and business growth to meet demand.

Development capacity refers to the amount of development allowed by zoning and regulation in plans that is supported by infrastructure. This development can be "outwards" (on Greenfield sites) or 'upwards" (by intensifying existing urban environments).

Sufficient development capacity is necessary for urban land and development markets to function efficiently in order to meet community needs..."

5.0 STRATEGIC CONTEXT (CONT.)

The NPS sets out objectives and policies to guide local authorities in the provision and development of urban land.

This Structure Plan aligns with this NPS by setting out options for the use and development of land that is identified as being for urban land use activities in the future. The land area is able to be serviced by reticulated water, waste water and roading networks within the time frame that it will take for the land to be rezoned and for resource consents to be processed and granted enabling that land to be developed for residential and business land uses.

The proposed land uses, and the proposed timing of the Structure Plan and associated plan Changes are considered to be in keeping with the time frames specified by Council for this land to be 'development ready' as detailed in the review of the FULSS.

Freshwater Management:

This NPS sets out a policy framework to guide local authorities in managing freshwater resources in an integrated manner. The outcomes sought to be achieved by the NPS are effectively implemented through the Auckland Unitary Plan provisions that relates to discharges to water, water takes and other activities that affect water quantity and quality.

This Structure Plan and development of the identified area for urban land uses will be in keeping with this NPS in that any future land use activities will need to comply with the relevant standards for discharges, water takes etc. and this will ensure that the effects of activities on water quality and water quantity are appropriately managed.

Renewable Electricity Generation:

This NPS provides a policy framework to address the need to develop, operate, maintain and upgrade renewable electricity generation activities throughout New Zealand and acknowledge the benefits of renewable electricity generation. There are opportunities to incorporate renewable electricity generation as land within the structure plan area is developed.

National Environmental Standards (NES) –

- For Air Quality, 2004
- For Sources of Drinking Water, 2008
- For Assessing and Managing Contaminants in Soil to Protect Human Health, 2012.

The NES for Telecommunications Facilities and that for Electricity Transmission Activities are not relevant to this Structure Plan, future plan change/s or the proposed land uses.

Air Quality:

The NES is implemented through the air quality provisions in the Unitary Plan. There are no known air quality standard issues in the Structure Plan area and the land area was shown as being within the Rural Air Quality areas identified on map Series 1 of the Auckland Council Air, Land, Water Plan. This Plan has been superseded by the Auckland Unitary Plan; however, that Plan does not map air quality areas.

Sources of Drinking Water:

Land uses within the proposed Structure Plan area will be connected to the reticulated town water supply for Warkworth. The water source for this water supply is from a bore located on Sanderson Road within the Structure Plan Area and adjacent to the proposed development site.

The Structure Plan does not compromise the outcomes sought to be achieved by this NES.

Assessing and Managing Contaminants in Soil to Protect Human Health:

This NES is relevant and Preliminary Site Investigations (PSI) have been undertaken for the land areas within the Structure Plan area that are proposed to be developed in the first stage of development in conjunction with the private Plan Change request.

The PSI concludes that the activities undertaken on the site are not considered a significant risk and the proposed change of use would not create a risk to human health or the environment. On the basis of this, further investigations and consents under the NES or Unitary Plan are not required.

In summary it is unlikely that the soil contamination will present an issue for land within the Structure Plan area that would prevent the use of the land for the proposed purposes.

There are industrial activities in the industrial estate on Hudson Road that are within the Structure Plan area. The land uses occurring in this area are generally benign however there is a concrete batching plant consented on land in the north-east of the Industrial area in association with the Rhodes for Roads business. Further detailed investigations will be required to be undertaken on land areas that have not yet been subject to a Preliminary Site Investigation in the future if a change of use or subdivision was sought.

5.3 AUCKLAND UNITARY PLAN - OPERATIVE IN PART

The Auckland Unitary Plan provides a framework for development of identified Future Urban zoned land areas in a comprehensive manner and in a time frame that is consistent with the ability for necessary infrastructure to be provided by Auckland Council and Council Controlled Organisations.

Appendix 1 to the Unitary Plan provides guidance on the matters to be addressed in preparing Structure Plans, which are directed through the policy framework, to be the precursor to a Council initiated; or a private plan change application.

This Structure Plan has followed the framework directed through Appendix 1 to the Unitary Plan – *Structure Plan Guidelines*.

5.4 AUCKLAND COUNCIL LONG TERM PLAN – 2015 - 2025

Appendix 1 of this document contains excerpts from the Long Term Budget that relate to Warkworth. The Structure Plan is the first step in planning for the development that planned infrastructure upgrades will service. Infrastructure upgrades are planned for the waste water network to service this area and also the water supply.

There are also key roading projects such as the proposed Western Collector Road that are budgeted for and are within the Structure Plan area.

5.0 STRATEGIC CONTEXT (CONT.)

5.5 RODNEY LOCAL BOARD PLAN - DRAFT 2017

The key Outcomes from the 2017 Draft Local Board Plan that are relevant to the Warkworth North Structure Plan are set out below:

Outcome: We can get around easily and safely

Our transport infrastructure is better at meeting the demands of our growing communities. Our communities have safe and reliable alternatives to driving, with public transport that connects us to the rest of Auckland and via walkways, bridleways and cycleways. Our rural roads are well maintained and more of our unsealed roads are sealed.

Outcome: Communities are influential and empowered

Our communities influence local decision-making. They are empowered and enabled to act and take the lead on community projects and in the planning for their areas. Community groups and residents partner with the council and others to identify and deliver what is best for them.

Outcome: Parks and sports facilities that everyone can enjoy

Our local parks and sports facilities cater to a wide range of sporting and recreational interests. They are easily accessible, connecting our towns, villages and growth areas. Our parks are enjoyable places to visit, providing ample opportunities to improve our health and wellbeing.

Outcome: Our harbours, waterways and environment are cared for, protected and healthy

Our harbours and the rivers and streams that feed them are healthy and thriving natural marine environments. Our stormwater and wastewater services are reliable, well maintained and environmentally friendly, minimising downstream environmental impacts.

Outcome: Arts and culture is vibrant and strong

Local facilities are the heart of our communities. They are well used and cared for by communities that manage them. The diverse range of activities run by our communities creates a rich and accessible arts and culture scene.

The Structure Plan has taken into account these desired outcomes and it is noted that they are generally addressed by the statutory planning documents applying to the area.



5.6 INTEGRATED CATCHMENT MANAGEMENT PLAN

There is currently no Integrated Catchment Management Plan for the site or wider catchment. A Stormwater Management Plan has therefore been prepared to support urban development as set out in this Structure Plan and the private Plan Change request.

5.6 FUTURE URBAN LAND SUPPLY STRATEGY REFRESH 2017

The Future Urban Land Supply Strategy was updated in July 2017. This document details the sequencing of development within the Future Urban zoned areas to meet the projected growth of the Auckland region through to 2040.

The FULSS provides for Warkworth North to be development ready 2022 onwards and states that the area will accommodate approximately 2,300 dwellings. This timing is approximate and is based on the expected timing of the infrastructure necessary to support development. The timing of this Structure Plan; including subsequent plan changes and land development is consistent with this time frame given that a Plan Change application is likely to take at least 18 to 24 months to process if things are proceeding quickly. There is also at least two years of bulk earthworks to be undertaken to facilitate development of the plan change area within the Structure Plan to enable urban development to occur.

5.7 INFRASTRUCTURE STRATEGIES AND PLANS

5.7.1 Supporting Growth – Delivering Transport Networks:

Supporting Growth is a collaborative document prepared by Auckland Council, Auckland Transport and the New Zealand Transport Agency to provide a coordinated approach to land use and transportation infrastructure delivery necessary to support planned urban growth within Future Urban areas in Auckland.

The Supporting Growth initiative identifies the following relevant projects for Warkworth North:

- Western Collector – Northern and Southern Connection to State Highway 1
- Matakana Link Road
- New Park and Ride at the intersection of the proposed Puhoi to Warkworth motorway and State Highway 1 to coordinate with new frequent bus services to Auckland in this location.

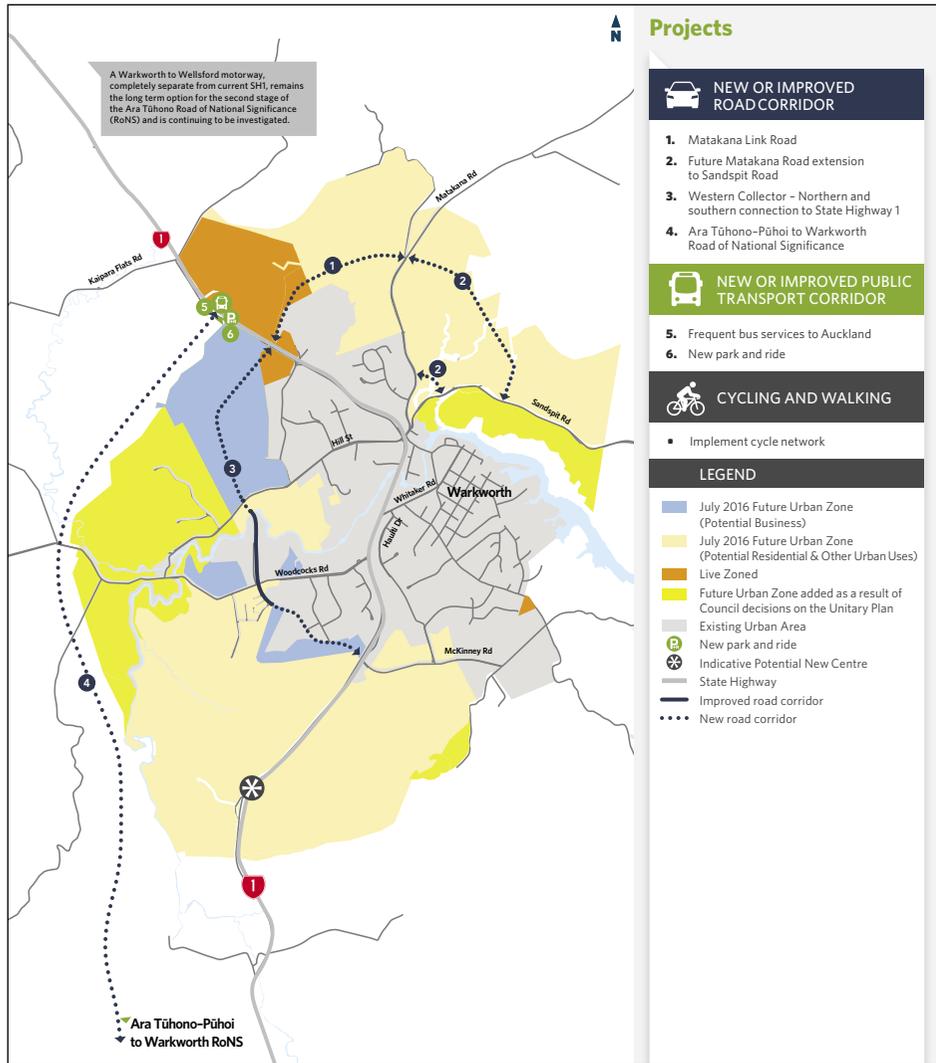


Figure 6 - Supporting Growth - Proposed Network for Warkworth

5.0 STRATEGIC CONTEXT (CONT.)

The location of the Western Collector Road through the Structure Plan area is shown indicatively in the Supporting Growth document and this Structure Plan sets the final location of the road, which has been confirmed with Auckland Transport.

The Supporting Growth document identifies the Structure Plan area as 'Potential Business'. It is understood that this area was identified for business activity given its location adjacent to State Highway 1 and the newly zoned industrial area to the north. This land use option was explored through the Structure Plan process, as set out in report below.

5.7.2 Regional Land Transport Plan 2015 - 2025

The Regional Land Transport Plan sets out the funding programmes for Auckland's transport infrastructure and services over the ten year period commencing 2015. Planned transport activities for the 3 years to 2018 are set out in detail whilst activities for the 4 to 10 year period are outlined. The Regional Land Transport Plan is delivered jointly by Auckland Transport, the New Zealand Transport Agency and KiwiRail. The Plan forms part of the National Land Transport Programme.

Growth at Warkworth is anticipated and provided for in the Regional Transport Plan through the following projects:

- State Highway 1 Pūhoi to Warkworth and Warkworth to Wellsford Roads of National Significance (RoNS)
- Warkworth Western Collector - Mansel Drive Extension (constructed)
- Northern Busway Extensions

5.7.3 Regional Public Transport Plan 2015

This document identifies the future public transport network. The following is relevant to the Structure Plan area:

- Proposed all day regional services to Warkworth by 2018.

5.7.4 Watercare Asset Management Plan 2016 – 2036

The Watercare Asset Management Plan (2016 – 2036) sets out how Watercare intends to operate, maintain, renew existing assets and provide new water and wastewater assets to meet the future demand generated by the projected growth of Auckland. Although this Plan covers a 20 year period Watercare’s planning horizon is 50 years.

The following projects are relevant to the Structure Plan area:

- Construct a north east sub-regional wastewater treatment plant and associated conveyance to accommodate in Warkworth; and
- A new groundwater source has been consented for 4.3 MLD at Sanderson Road. The groundwater source will replace the current Mahurangi River source which is constrained by minimum flow requirements.

The wastewater servicing for the Structure Plan area will be provided by the consented upgrades to the Snells Beach wastewater plant. Resource consent for these upgrades and the temporary continued discharge from the Warkworth plan were granted in March 2017.

5.8 IWI PLANNING DOCUMENTS

Kawerau a Maki and Ngati Manuhiri have been involved in the Structure Plan process in a consultation capacity and providing Cultural Impact Assessments.

Accordingly, the relevant Iwi Management Plans are considered to be:

- Kawerau a Maki Trust Resource Management Statement (1995)

The Cultural Impact Assessments outline the cultural values associated with the Structure Plan area and are generally supportive of the proposal. The Assessments include recommendations in relation to ecological restoration, cultural interpretation, archaeology, earthworks and stormwater, amongst others.

5.9 TREATY SETTLEMENT LEGISLATION

5.9.1 Ngati Manuhiri Claims Settlement Trust Act 2012

A Statutory Acknowledgement Area is set out in the Act. This and the legislation require relevant authorities to have regard to the Statutory Acknowledgment.

5.9.2 Te Kawerau a Maki Claims Settlement Act 2015

This Act recognises the customary interests that Te Kawerau a Maki have from the Tamaki Isthmus northwards to Hikurangi (West Auckland), the Upper Waitemata Harbour and North Shore and into Kaipara and Mahurangi. The Act requires relevant authorities to have regard to the views of Te Kawerau a Maki in all matters affecting these areas, amongst other things.

5.10 OTHER AUCKLAND COUNCIL PLANS AND STRATEGIES

5.10.1 Puhoi to Pakiri Greenways Plan June 2017

This plan sets out the long term greenways plan for Puhoi to Pakiri, which aims to provide cycling and walking connections, while improving local ecology and access to recreational opportunities. This plan identifies a proposed route within the Structure Plan area that largely aligns with the proposed Western Collector Road.

5.0 STRATEGIC CONTEXT (CONT.)

5.10.2 Parks and Open Spaces Strategic Action Plan 2013

This document sets out four areas of focus as strands of Auckland Council's strategy for parks and open space through to 2023. These are:

- Connect – creating a green network across Auckland by linking our parks, open spaces and streets.
- Enjoy – ensuring our parks and open Spaces can meet the needs of our growing population.
- Treasure – protecting and conserving our parks and open spaces and improving people's ability to understand and appreciate their value and significance.
- Utilise – maximising the economic and environmental benefits of our parks and open spaces.

The Structure Plan has been developed in cognisance of these four areas of attention, and the Open Space Provision Policy.

5.10.3 Open Space Provision Policy 2016

The Open Space Provision Policy 2016 provides direction on the provision of open space at a network scale. Provision is considered on the basis of four inter-related factors – function, distribution, location and configuration. The Open Space Provision Policy gives effect to the Parks and Open Spaces Strategic Action Plan. It informs the Council's investment, asset and acquisition activities in open space, and guides spatial planning by both council and the private sector.

The provision of open space areas within the Structure Plan area has taken account of the Open Space Provision Policy seeking to locate and provide for open space areas that meet the space and use functions as well as providing multi-purpose open space areas to achieve quality urban design outcomes, that may be vested or where alternatives for ongoing management will need to be considered.

5.10.4 Auckland Design Manual

The Auckland Design Manual is a non-statutory document providing a best practise guide for designing Auckland's neighbourhoods, buildings and spaces. It is a valuable tool for identifying suitable building typologies within the Structure Plan area. The Design Statement prepared in support of the Structure Plan has taken the Design Manual into account.



6.0 CONSULTATION AND ENGAGEMENT

Consultation with stakeholders and land owners with land in and adjacent to the Structure Plan area has been undertaken. Consultation was initiated on a draft Structure Plan, which is ongoing.

The key outcomes of consultation can be summarised as follows:

- There were concerns raised about how infrastructure would be provided in a timely manner.
- The industrial land owners at Hudson Road sought to retain the Business - Light Industry zoning.
- Feedback sought to ensure integrated storm water management and provision of quality usable open space areas.
- Some of the proposed intensive residential areas were not considered to be in keeping with the character of Warkworth.
- Feedback that the development should incorporate more lifestyle blocks.
- Concerns raised about the effect of the proposed western collector alignment on the Foodstuffs live zoned land.
- Further consideration should be given to the zoning of the Watercare treatment plant and the neighbouring storage and dairy depot. The landowner of the depot has requested those sites be zoned Business - Light Industry.

Outcomes arising from the consultation include investigation of an alternative location of the western collector in relation to the Foodstuffs landholding and the part of their land zoned Business - General Business. The Hudson Road Business - Light Industry area will retain the existing zoning and the inter-relationship of



this light industrial area has been considered in the Structure Plan with respect to setbacks from other zoning by open space areas and roads. The owner of 141 Carran Road has requested their land remain within the Future Urban zone as they wish to continue farming of that area of land in conjunction with other land that they own.

Full details on consultation undertaken are included in the Consultation Report included as Appendix 6 to the Plan Change application.

7.0 OPPORTUNITIES AND CONSTRAINTS

The Warkworth North Structure Plan has been informed by a series of technical reports. This section provides a summary of the opportunities and constraints associated with the development of Warkworth North are discussed below in relation to each technical discipline. The technical assessments typically provide more detailed assessments of the Plan Change area and land owned by Turnstone Capital Limited in particular, which is likely to form the first stages of the development.

7.1 Sustainability

The Structure Plan represents an opportunity to achieve sustainable urban development and create a model for the future development of Future Urban zoned greenfields land around Warkworth. This includes all aspects of sustainability, including the following specific opportunities:

- Achieving a walkable, mixed use environment that supports a reduction in reliance on cars;
- Providing for higher residential densities in close proximity to services and key arterials to support the efficient use of land;
- Co-locating employment and housing to support the diversification and sustainability of the local economy; and
- Contributing to achieving environmental sustainability by protecting waterways and significant areas of vegetation and by implementing appropriate stormwater management techniques.;

7.2 Land Tenure

Land tenure within the Structure Plan area is somewhat fragmented reflecting the existing land uses in the area and the proximity of the land to the existing urban area of Warkworth. All of the owners within the Structure Plan area have been consulted and have enabled access to their land to assist in preparation of the Structure Plan and the Private Plan Change request.

7.3 Transport

An Integrated Transportation Assessment (ITA) has been undertaken for the Structure Plan area and Private Plan Change request. The existing transport environment of the Structure Plan area is characterised by:

- The northern motorway extension currently under construction.
- The Matakana Link Road to the east of State Highway 1, currently in the advanced planning stages and anticipated to be constructed prior to the opening of the motorway extension.
- The Mansel Drive extension of the western collector through to Falls Road.
- Hudson Road that services the Light Industry area and existing residential development and provides connection to State Highway 1.
- Albert Road that provides connection from Hudson Road south to Hill Street.
- Limited public transport. There is a small scale local bus service and private bus and taxi companies. The closest park and ride facility and public transport options are at Silverdale, a 30 minute drive to the south.

The structure plan area has two significant road boundaries. These allow for potential integration and permeability into the site. The Hudson Road boundary currently has both residential and commercial access driveways off it into the subject area.

State Highway 1 is a combination of high speed open road with a major signalised intersection- it currently has limited access and would require NZTA consent to change this. With its future role as the main arterial into Warkworth from the proposed motorway, it is likely that this road will continue to have limited access. Primary access to sites would likely need to be from the internal road network within the Structure Plan area, in addition to Hudson Road and Falls Road.

The boundary against the proposed motorway corridor is impermeable.

There are several road entry points into the Structure Plan area that will allow both pedestrian, cycle, and vehicle access. There is no legal road access from the subdivision on the west boundary however the Structure Plan provides opportunities to connect with this area in the future.

The Structure Plan and the Plan Change application provide the opportunity for the third stage of the western collector to be constructed through the development area to connect with the Mansel Drive extension and Falls Road and through to the existing State Highway.

The transport related opportunities and constraints for the Structure Plan area are summarised as follows:

- Opportunity to enhance access and connections to public transport and integrate with a proposed Park and Ride;
- Opportunity to enhance capacity and safety of the road network;

- Opportunity to deliver an alternative for north and south bound traffic on State Highway 1, which would relieve congestion;
- No access from Puhoi to Warkworth motorway extension;
- Limited access from Great North Road/State Highway 1;
- Existing and proposed road network provides the framework for the local road network (Hudson Road, Falls Road and the proposed western collector); and
- Opportunity to physically integrate the Structure Plan area with the surrounding environment, including by providing future connections to the Future Urban area at the western boundary of the Structure Plan area.

7.4 BUSINESS DEMAND

7.4.1 Demand for Business Land in Warkworth

Approximately 64 hectares of Business – Light Industry land was zoned to the north east of the Structure Plan area through the Unitary Plan process and approximately 5 hectares of Business - Light Industry land at **Kauhai** Falls. There is approximately 7.5 hectares of Business – Light Industry land within the Structure Plan area adjoining Hudson Road. There is also approximately 5.4 hectares of Business – General Business land on the northern corner of Hudson Road and State Highway 1 and an established Z service station is located on the southern corner. The Z site has an area of approximately 7000m² and is also zoned Business – General Business.

The Structure Plan provides the opportunity to provide for economic sustainability by providing for local employment opportunities that generally match anticipated demand in highly accessible location directly adjacent to the proposed northern motorway extension and also connected to the proposed Matakana Link Road.

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

7.4.3 Effects on Existing Centres

There is an opportunity to support future land uses by providing for local business services (e.g. retail and food and beverage) that cater for the needs of the local area. This approach would be consistent with the objective of the Auckland Plan and the Auckland Unitary Plan to provide for quality compact growth, provide focal points for local communities, provide a range of travel options and minimise vehicle movements. At the same time, there is a need to manage the supply of business land to ensure the continued vitality and amenity of existing centres in Warkworth.

7.4.4 Summary

The above opportunities and constraints in relation to the optimal land use mix for the Structure Plan have been assessed in detail in the economic assessment prepared by McDermott Consultants and have been a key input to the Structure Plan, as detailed below.

7.5 OPEN SPACE AND RECREATION

Warkworth has a range of open spaces. Significant open spaces such as the sports grounds are removed from road frontage. Lucy Moore Park is fronted with houses and barriers of bush blocks to roads.

Shoemith Domain has Hill Street running alongside it and is a widely used safe community facility with fundamentally good CPTED qualities, as it is directly overseen by the fronts of houses, and the road and other highly frequented sports facilities such as the tennis and squash club.

There are opportunities to incorporate new open space areas that are both accessible, have high levels of amenity value and are designed and located to reflect CPTED principles.

Open space areas need to be useable as well as accessible and there are limited areas of flatter land. Constraints are also created by the need to incorporate existing bush and riparian areas into the open space network and these areas are by location defined.

The open space and recreation opportunities and constraints are summarised as follows:

- Opportunity to maintain and enhance the existing natural features of the site by incorporating into the public open space network;
- Opportunity to enhance local amenity by providing usable and accessible open spaces that serve as a focal point for the development;
- Limited opportunities to provide large and flat areas of open space given the topography of the land;
- Opportunity to deliver the open space network identified in the Puhoi to Pakiri Greenways Plan.

7.6 STORMWATER AND MANAGEMENT OF THE FRESHWATER ENVIRONMENT

There are several intermittent and permanent water courses within the Structure Plan area, as well as areas identified and being flood plain or prone to flooding as shown in Figure 7 below that will need to be managed as the area is developed.

One main watercourse (Mahurangi River tributary) traverses the eastern edge of the Structure Plan area. Seven notable watercourses run in an east-west direction before draining into the Mahurangi River tributary and an additional watercourse is located in the upper north-west section of the Structure Plan area that drains into the Mahurangi River left branch tributary.

The majority of the Structure Plan area has been intensively farmed and numerous artificial ponds have been constructed. The historic land uses has significantly altered the hydrology of the land and the ecological values of the streams are generally considered to be low.



Mahurangi River - North West close to Falls Road



Warkworth gateway to Auckland's playground

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

Higher-order watercourses offer cohesive ecological and spatial corridors that need to remain primarily free of built development, and in so doing offer strong movement avenues for both people and natural processes. Most connect to existing well-developed riparian belts that extend out through the Structure Plan area from the core of Warkworth where the Mahurangi River is a major feature.

Slightly isolated pockets of native vegetation exist within the Structure Plan area as “islands” and there is an opportunity to connect these into the riparian network just described. These provide an element of scale and diversity, along with an enduring legacy of the area’s identity prior to its development for urban purposes.

There is opportunity to physically define and protect most areas of identified heightened ecological value, and to extend those values through future restoration initiatives.

The Structure Plan area is within the High Use Stream and High Use Aquifer Management Area, which seek to manage water take volumes within the Mahurangi River catchment to maintain base flows, in-stream ecological values, Mana Whenua values and amenity values.

A flood modelling study has been undertaken for the Structure Plan area that confirms that the existing flooding is generally confined to the gullies and streams enabling the majority of the Structure Plan area to be clear of any flooding risk.

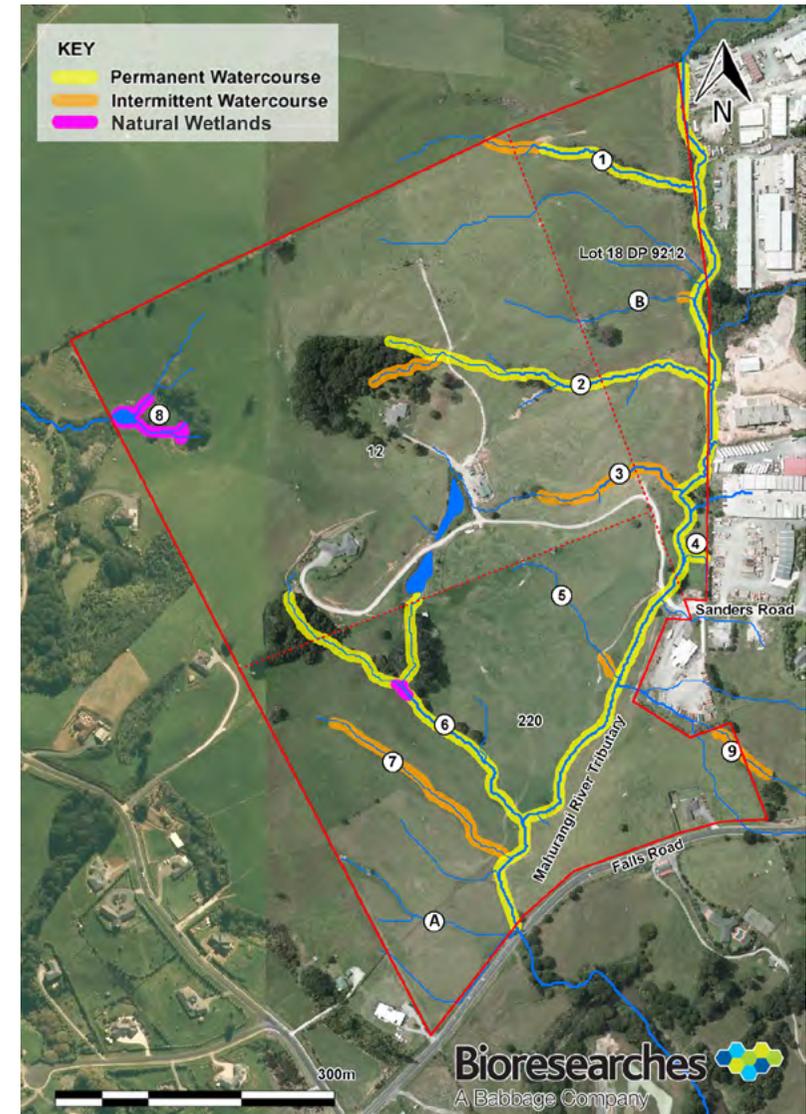


Figure 7 - Showing the network of streams within the Structure Plan Area

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

7.7 WATER AND WASTEWATER SERVICING

Infrastructure upgrades and extensions are required to enable the urban growth that is planned for Warkworth. The provision of infrastructure incurs significant costs and requires long term planning to ensure that the necessary consents and funding is in place to deliver the infrastructure that is required.

Discussions and negotiations have been occurring, and are ongoing, with Watercare and Auckland Transport to ensure that the necessary infrastructure upgrades are in place to coincide with the planned delivery of housing and commercial / retail development.

Watercare has secured the necessary resource consents to upgrade the Snells Beach wastewater plant which will service the Structure Plan area.

Water supply will be available from the Sanderson Road bore and the treatment plant is currently under construction.

Developers within the Structure Plan area will undertake physical works as well as provide land - the costs of which need to be acknowledged and offset against development contributions that will be payable.

Key infrastructure within the area is located as shown in the Auckland Council GIS Map opposite (Figure 8).

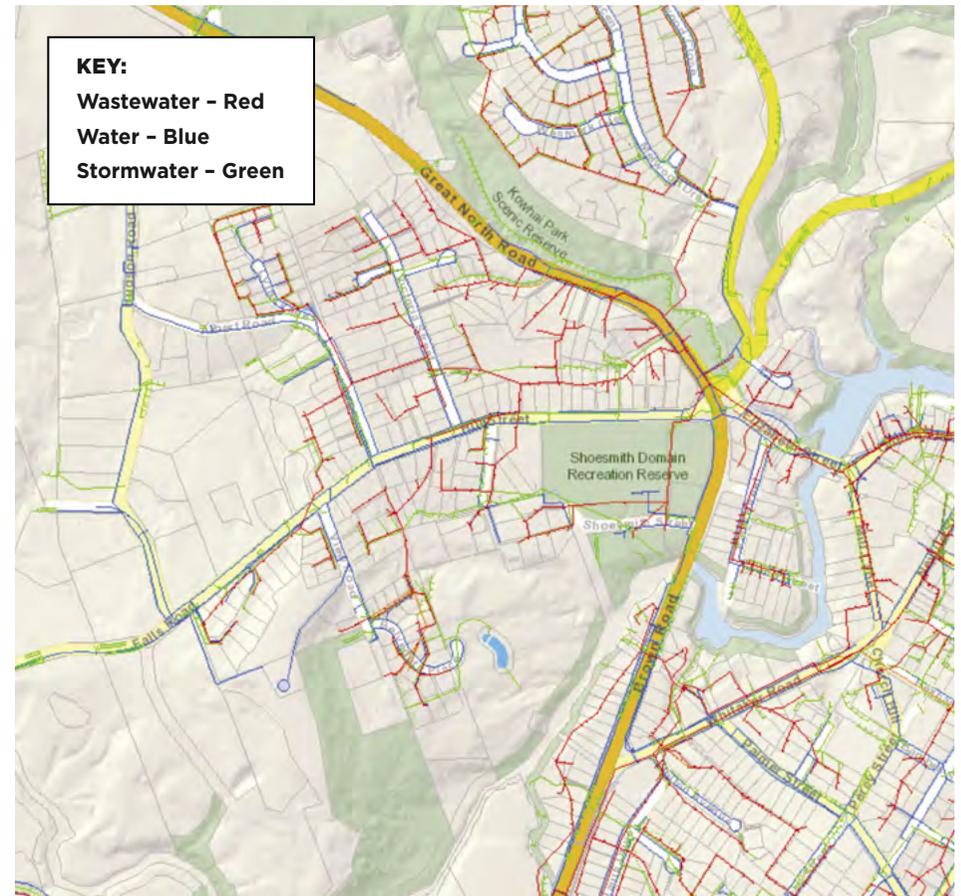


Figure 8 - Auckland Council GIS Viewer - Assets

7.8 VEGETATION AND FLORA

There are four areas of native trees and bush within the core Structure Plan area and numerous small wetlands associated with the watercourses and its tributaries, as identified in Figure 9 below. The Mahurangi tributary is fenced off and the lower portion of it has been planted with native plants. Other areas are open and grazed excepted for some small areas of bush.

While the bush areas are relatively small, they have ecological value as they provide habitat and food for native fauna and contribute to the ecological values of the wider landscape. On this basis, there is an opportunity to enhance the ecological values of the Structure Plan area by retaining these bush areas and implementing appropriate measures to enable them to regenerate over time.



8 September 2016

-  Property boundary
-  Ornamental pond
-  Tributary of Mahurangi River
-  Vegetation



-  Property boundary
-  Mahurangi River
-  Significant Ecological Area (SEA)



Figure 9 - Areas of Established Vegetation within the Structure Plan Area

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

7.9 IMPACT OF TOPOGRAPHY ON LAND USE

The topography of the Structure Plan area is sloping, as shown in Figure 10 below.

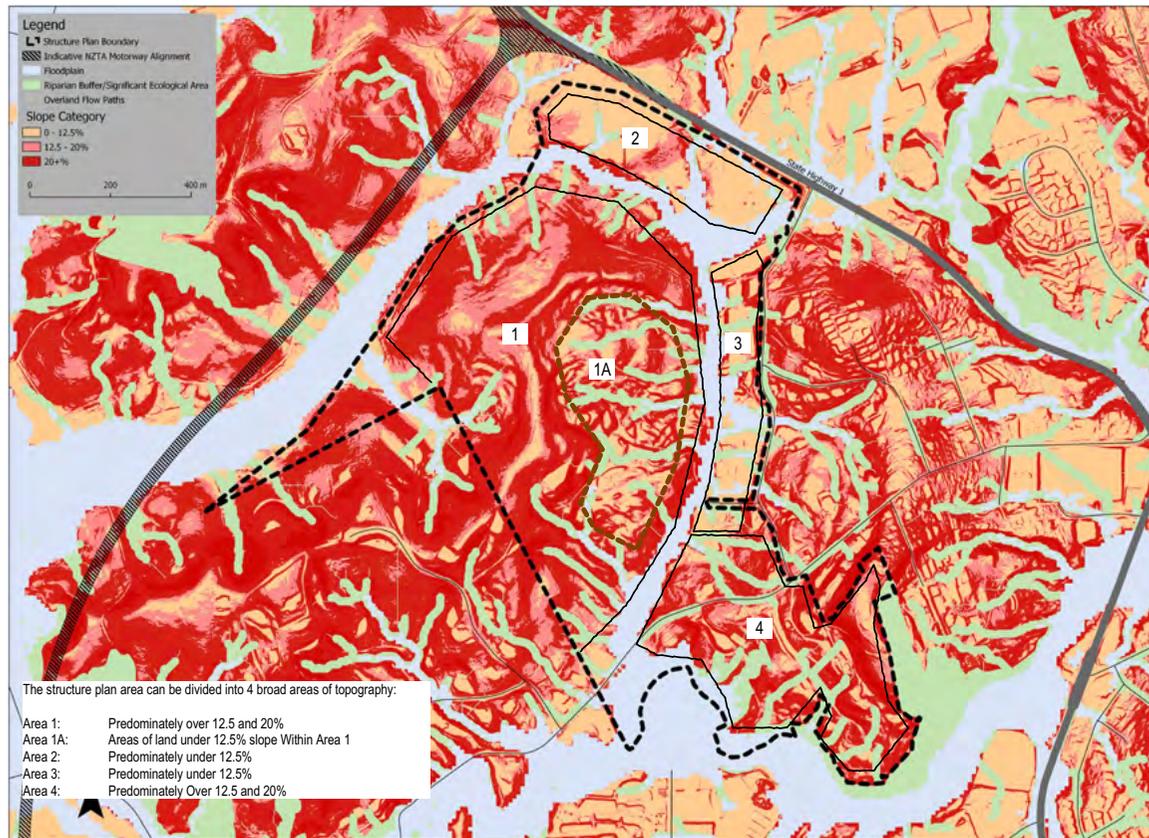


Figure 10: Slope and Drainage Analysis of the Structure Plan area

As slope analysis shows, significant areas of land exceed 12.5% making it primarily developable for housing only, and much of it precluding large lot buildings and activities given the extensive earthworks that would be required to provide effective building platforms for business uses.

The Unitary Plan supports the supply of industrial land which is relatively flat, has efficient access to freight routes and can be efficiently served by infrastructure (RPS B2.5.2(8)). Similarly, demand for business land in an area is driven by a range of factors, including those listed in RPS B2.5.2(8). While the Structure Plan area will have efficient access to the transport network, the land is steep, and would not be suitable for commercial uses without significant land modification. This is likely to negatively impact the economic viability of the land for business uses given the associated costs of earthworks and would have potentially significant adverse effects on landscape values, which cannot be mitigated.

In this context, the opportunity to provide employment opportunities within the Structure Plan area is significantly constrained by the slope of the Structure Plan area.

7.9 NATURAL CHARACTER, LANDSCAPE AND VISUAL

The Structure Plan area typically features a rolling, undulating landform that rises to modest but legible ridgelines via broad spurs. This moderately complex topography results in a correspondingly varied catchment system that sees numerous minor watercourses feeding a network that discharges into the Mahurangi River not too far above its intertidal extent. Limited extents of natural indigenous vegetation tend to be closely associated with those wetter riparian areas or forming small pockets at the head of small watersheds, leaving pastoral grazing predominating over the majority of the area.

A small number of scattered houses are found within the body of the area, whilst pockets of existing commercial use prevail on two of the primary road margins.

Generally, the area has an established but unremarkable rural character that is typical of the hinterland of many of the region's outlying settlements; a fact that is acknowledged by there being a lack of special recognition for the area's landscape qualities. That circumstance is also acknowledged by a landscape assessment commissioned by Auckland Council for its s32 review of potential urban expansion areas, which concluded that most of the structure plan area has strong capacity to accommodate built urban form, whilst the balance displays moderate capacity.

Ecological characteristics are generally quite suppressed as a reflection of land-use, competition from an array of well-established weeds and fragmentation. Some small areas display slightly heightened values, including an area of SEA.

Primary landform elements have the scale and robustness to accommodate modifications necessary for reasonably intensive urban development while maintaining their defining role. The strength of the landform also acts as a driver for the configuration of development and road alignments, effectively forcing roads to primarily run across the terrain, rather than in direct conflict with its contour.

A tension exists between conserving every subtlety of the area's terrain, and small elements of indigenous vegetation, and efficiently utilising the land for a density of urban development that is envisaged by Auckland Council through its Unitary Plan and related documents. Earthworks and grading necessary to develop the land to that intensity, do not allow for retaining many of those more minor elements.

There is an opportunity to retain the broad underlying form of the land and utilising the primary overland flow paths, along with their related indigenous vegetation cover where these exist, while enabling a practical urban development outcome.

There is also an opportunity to reinforce the existing riparian networks within the Structure Plan area to strengthen their visual presence and enable them to become a defining theme of a future community. It also allows the opportunity to heighten the relatedness between the site and more established parts of Warkworth; particularly the forest-clad flank that drops to the Mahurangi River as a natural backdrop to the village's commercial hub. Collectively, this spatial frame of natural corridors has the potential to form the basis of a strong green network that would weave through the area and then precipitate the enhancement of existing connections outside of the area that are currently lying neglected.

7.10 HERITAGE AND ARCHAEOLOGY

There were no archaeological sites identified in the Structure Plan area and there are no recorded sites. There is however a Notable tree recorded on the property at 60 Hudson Road.

This tree is a Redwood as set out in the notation below and the Structure Plan should provide for its ongoing protection.

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

With respect to archaeology any future development will need to comply with the requirements of the Heritage New Zealand Act and also Accidental Discovery Protocols in the Unitary Plan.

7.11 CULTURAL VALUES

The Structure Plan area contains natural heritage features such as the Mahurangi River and areas of native bush and highly modified wetland areas as detailed in Section 7.7 and 7.8 above.

There are no known identified sites of significance or value to Mana Whenua within the Structure Plan area. Consultation with Mana Whenua has been undertaken the Cultural Impact Assessments provided by Ngati Manuhiri and Kawerau a Maki. In summary, these assessments highlighted the following concerns:

- Ongoing degradation of waterways through further development, loss of habitat and storm water runoff
- Growth exceeding current predictions
- Connectivity appropriate to growth
- Unforeseen adverse impacts to the environment
- Sustainability
- Unaffordability of dwellings for Mana Whenua
- Ongoing engagement has been requested
- Meaningful cultural interpretation occurs through incorporation of place names (e.g. streets and parks) and if and as appropriate cultural art and design elements to offset the impacts to the cultural and natural landscape

- Ecological mitigation plans be developed and that stormwater treatment be designed in consultation and combined with a waterway enhancement programme.

7.12 COMMUNITY FACILITIES

Most community facilities are located in the central areas of Warkworth. This includes the town library, town hall and healthcare facilities. There is a local medical facility that provides a small scale surgical centre for local people. Most community facilities in Warkworth will need to be extended to provide for the projected population growth set out in the FULSS. The existing community facilities in Warkworth are set out in the Open Space and Community Facilities Report at Appendix 11 to the Plan Change application.

There are significant plans for sports facilities at the Warkworth Showgrounds, to the immediate north of the Structure Plan area. These plans include a northern arena type swimming pool complex as there is currently no public pool in Warkworth. This location is also the hub for sports fields in this community.

In particular, Warkworth has no facility for events of a scale and the Showgrounds potentially provide a venue for larger scale outdoor events.

Based on this, there is unlikely to be a need to provide for new community facilities within the Structure Plan area, although there would be an opportunity to establish public or private community facilities on any business zoned land.

7.13 HEALTH

The urban environment is a key determinant of health and wellbeing. Decisions made in the Structure Plan process will fundamentally direct and frame the way people live, travel, play and work in this locality.

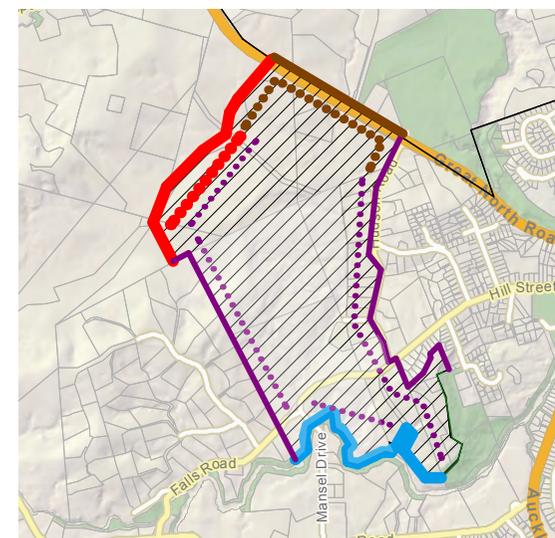
It is important that health and welfare considerations are placed at the forefront of the structure planning process particularly when considering residential intensification.

Healthy places and communities require:

- Access to services and amenities for all persons – i.e. young, elderly, people with disabilities, families.
- Connectivity and public transport – Warkworth has limited public transport but daily bus services are scheduled to improve by 2018 and the location of the Structure Plan adjacent to the motorway extension means this is a good location for a park and ride or similar transportation hub. Opportunities to improve pedestrian and cycleway connectivity also exist within the Structure Plan area.
- Safety – Crime Prevention through Environmental Design Principles are a cornerstone that should be incorporated into the design and layout of the Structure Plan. Such principles drive design to provide passive surveillance of public spaces, provide appropriately lit and open spaces for movement and social spaces.
- Housing – there is an opportunity to provide a range of housing typologies within the Structure Plan area providing a range of choice and affordability, particularly in areas that are not suitable for business activities. All building will be quality and meet the required standards for insulation, heating and sound attenuation.
- Communities Facilities – The Structure Plan area is well served by existing community facilities, however, there would be opportunities to establish new public or private community facilities within land zoned for business activities.

- Public and open space – There is opportunity within the Structure Plan area to establish an open space network that provides a range of active and passive spaces and supports local amenity and physical health. .
- Maori heritage and cultural identity – Mana whenua have been consulted as part of the Structure Plan process and have provided comment about environmental quality in their Cultural Impact Assessments.

Figure 11: Showing the edge conditions of the Structure Plan area



Proposed Commercial use ●●●●●●●●●●

Proposed Motorway mitigation ●●●●●●●●●●

Proposed Residential Use ●●●●●●●●●●

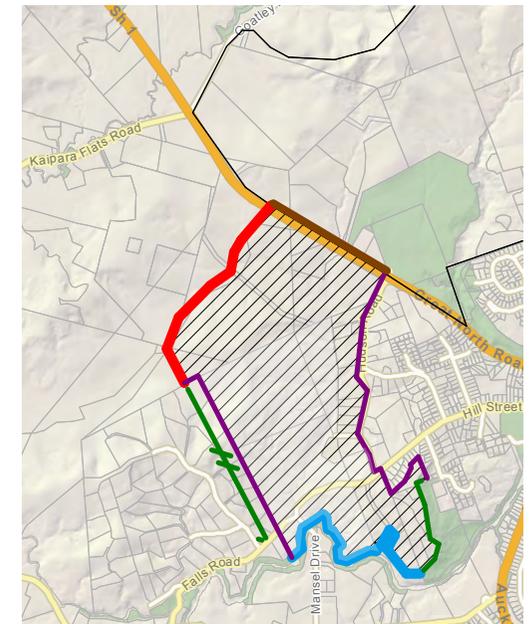
7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

7.14 EDGE CONDITIONS

The edges of the Structure Plan area provide various opportunities and constraints from a land use and transport perspective, which are summarised as follows and are shown in Figure 11 below:

- The north-western boundary is with the future Puhoi to Warkworth section of the motorway. The land use pattern within the Structure Plan area will need to be cognisant of the potential amenity and reverse sensitivity effects associated with proximity of sensitive land uses to significant infrastructure. No new connections would be possible on this boundary.
- The western boundary is with the Viv Davie-Martin Drive lifestyle development area. Acknowledging that this area is unlikely to change in the medium term, the land use pattern within the Structure Plan area should provide an appropriate transition in building form to this area and should consider how potential amenity effects on those existing residents are managed. There is potential for future connections from the Structure Plan area to Viv Davie-Martin Drive in the future to ensure development is integrated. The southern boundary is with the Mahurangi River and the adjoining esplanade reserves. Further south is the Light Industrial area on Mansel Drive. No new connections are possible on this boundary, however, there is potential to extend the open space network on the northern side of the Mahurangi River, which would enhance ecological and recreational values and provide a buffer between land uses in the Structure Plan area and the existing industrial area in Mansel Drive.
- The eastern boundary of the Structure Plan area is with Hudson Road and the existing residential land further east (Single House zone). This interface between industrial and residential is existing and is not proposed to change.
- The eastern boundary of the Plan Change Area (Future Urban zone) is with the existing Light Industrial area on Hudson Road. The land use pattern at this edge will need to be cognisant of potential amenity and reverse sensitivity effects at this edge.
- The northern boundary is with State Highway 1, which is a limited access road, with limited opportunity for new connections other than the proposed northern access to the Western Collector. Consideration would also need to be given to potential amenity and reverse sensitivity effects.

- (1) Industrial 
- (2) Rural/Bush 
- (3) Motorway Corridor 
- (4) Residential 
- (5) River, with commercial use over river. 
- (6) Future Urban / Current Rural use 



In summary, there are limited opportunities to physically integrate the road network within the Structure Plan area with the surrounding area, with the exception of the Western Collector. This will be the primary access to the development from the surrounding area and will therefore form an important spatial element in determining the optimal development layout. In determining the land use pattern, consideration would also need to be given to potential amenity and reverse sensitivity issues at the interface with the motorways and industrial areas.

7.15 AFFORDABILITY

An adequate supply of a variety of dwelling types and sizes located near jobs and transport links is an important component of a functioning society and economy, and provides a good quality of life for everyone.

The provision of a wide variety of housing types is expected in the structure plan area to meet the needs of people and communities, including:

- a. households on low to moderate incomes
- b. people with special housing requirements.

There is an immediate need for housing to rent and purchase at a variety of price points to meet the needs of Auckland people. The following initiatives have been identified as opportunities which could be explored to help deliver more housing choices:

- enable a range of dwelling types
- locate dwellings close to transport hubs and corridors
- encourage good quality dwellings which exceed environmental minimums and provide more comfortable homes for Auckland people

- apply universal design principles to buildings to make them usable for people of all ages.

7.16 NATURAL HAZARDS

A geotechnical assessment of the Structure Plan land area has been undertaken and there are no known land stability hazards or constraints to the land use options that have arisen from the Structure Plan process.

7.17 CONTAMINATION

A Preliminary Site Investigation relating to soil contamination has been undertaken for the Structure Plan area. The report confirms that the previous land uses identified were not considered a significant risk to contaminate soil and no potential for contamination was identified that would likely create a risk to human health or the environment.

7.18 REVERSE SENSITIVITY

Industrial Area:

There are two significant areas of industrial land use both adjoining and within the Structure Plan area. To the south across the Mahurangi River and fronting Hudson Road is an existing industrial development. The Structure Plan has considered how to manage these potential effects generally through the proposed land use pattern and/or the implementation of other measures, including locating open spaces, roads or other physical barriers to provide a separation between industrial and residential areas. Where this is not possible, consideration should be given to the specific characteristics of the sites that would ensure reverse sensitivity effects are appropriately managed.

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)



Stubbs Farm - Terrace Houses Perspectives (indicative artist impression)

Northern Motorway Extension:

The northern motorway extension also creates potential reverse sensitivity impacts.

The actual carriageway of the motorway is proposed to be within the northern portion of the designated land area and thus provides reasonable separation between the road and future residential land areas and this is likely to provide a degree of mitigation. Condition D38 of Designation 6769 (Puhoi to Warkworth Motorway) requires an Urban Landscape Design Sector Plan to be prepared for the area north of Woodcocks Road, with a particular focus on establishing a visual screen of the project for nearby residents in Viv Davie-Martin Drive. This plan provides an opportunity to develop an appropriate landscaped interface between the Structure Plan area and the motorway, and it is likely at least some of the adjoining motorway land will be planted for stormwater management and ecological mitigation.

Discussions are continuing with the New Zealand Transport Agency to ensure that the inter-relationship between the Structure Plan and plan change area and the motorway are successfully managed.

7A.0 SUMMARY OF OPPORTUNITIES AND CONSTRAINTS

The opportunities and constraints associated with the Structure Plan are summarised as follows:

Site Conditions

- The site is primarily used for rural production activities and large portions are held in single ownership – there is a significant opportunity to achieve the integrated development of land within the timeframes specified in the FULSS.
- The site is reasonably steeply sloping, which constrains the potential for commercial activities, which require largely flat sites to accommodate large footprint buildings.
- Previous land uses have not given rise to site contamination issues that would limit potential future uses.
- Geotechnical analysis has confirmed that there are no land stability hazards or constraints within the Structure Plan area.
- Flooding mapping analysis confirms that the majority of the Structure Plan area is free from flooding.

Economic

- There is an opportunity for the Structure Plan area to contribute to meeting the future demand for business land in Warkworth by providing for business activities on land that is well suited to these activities.
- There is an opportunity to provide retail activities that would support the convenience needs of the local community and addition Business - Light Industry to provide for employment demand, in a manner that supports the continued amenity and vitality of the existing Warkworth centres.

Transport and Accessibility

- Opportunity to enhance access and connections to public transport and integrate with a proposed Park and Ride;
- Opportunity to enhance capacity and safety of the road network;
- Opportunity to deliver an alternative for north and south bound traffic on State Highway 1, which would relieve congestion;
- No access from Puhoi to Warkworth motorway extension;
- Limited access from Great North Road/State Highway 1;
- Existing and proposed road network provides the framework for the local road network (Hudson Road, Falls Road and the proposed Western Collector); and
- Opportunity to physically integrate the Structure Plan area with the surrounding environment, including by providing future connections to the Future Urban area at the western boundary of the Structure Plan area.

7.0 OPPORTUNITIES AND CONSTRAINTS (CONT.)

Interface Conditions

- There are limited opportunities for new connections to the wider area given the motorway edge to the north and north-west, the Mahurangi River in the south and the existing development to the west and east. The Western Collector Road will therefore be the primary road serving the development and access point to the wider area.
- The land use pattern will need to address the potential reverse sensitivity and amenity effects posed by the existing industrial land uses at Hudson Road and Mansel Drive.

Natural Environment

- There are permanent and intermittent streams within the Structure Plan area with varying ecological values. There is an opportunity to maintain and enhance these streams as part of an urban development.
- However, urban development of the site is likely to result in the need to infill or pipe the identified intermittent streams, which are of low ecological value.
- There is an opportunity to maintain and enhance areas of existing vegetation within the Structure Plan area, which offer ecological benefits, as part of an urban development.

Natural Character and Landscape Values

- Given the sloping topography of the site, reasonably extensive land modification would be required to enable urban development.
- There is an opportunity to maintain the key ridgelines as part of an urban development, which are important from a visual landscape perspective.
- The Structure Plan area has been modified over time and does not have outstanding landscape qualities.

Cultural Values

- Affected Mana Whenua groups do not oppose an urban redevelopment of the site on cultural grounds.
- There is an opportunity to incorporate matters of importance to Mana Whenua groups within the development, as outlined in the Cultural Impact Assessments.

Infrastructure

- Development in the Structure Plan area is able to be serviced by water supply networks, with appropriate upgrades in place.
- Development in the Structure Plan area is able to be serviced by wastewater networks, with the proposed upgrade to the Snells Beach Treatment Plant in place.
- The effects of stormwater runoff from the Structure Plan area are able to be managed with appropriate management techniques in place.

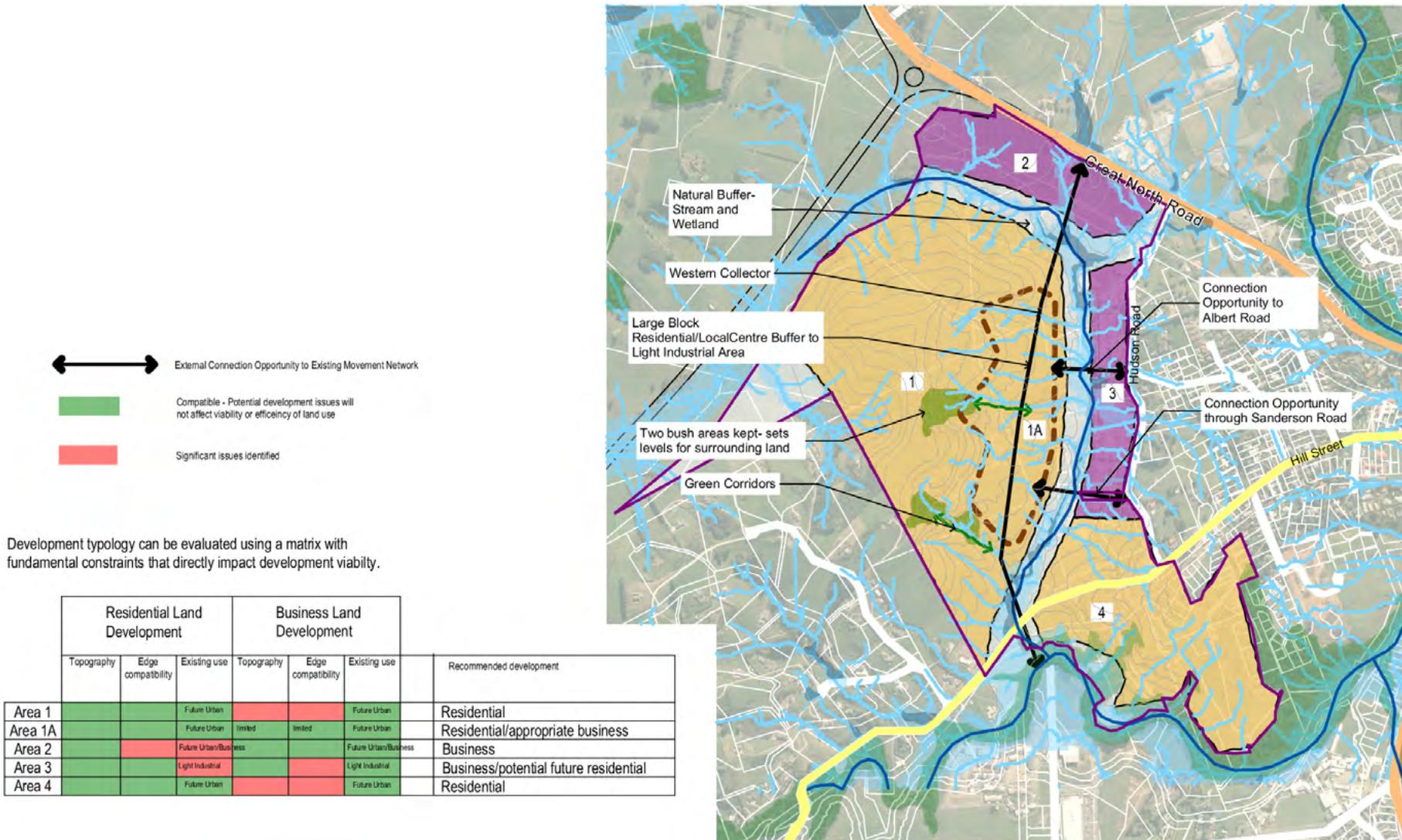


Figure 12: Summary of Opportunities and Constraints

8.0 THE STRUCTURE PLAN

8.1 DEVELOPMENT AND DESIGN PRINCIPLES

1. Acknowledge the challenging topography

- Distributing uses so they can be cost effectively developed on appropriate terrain; and
- Setting development levels from existing natural features and working with surrounding topography.



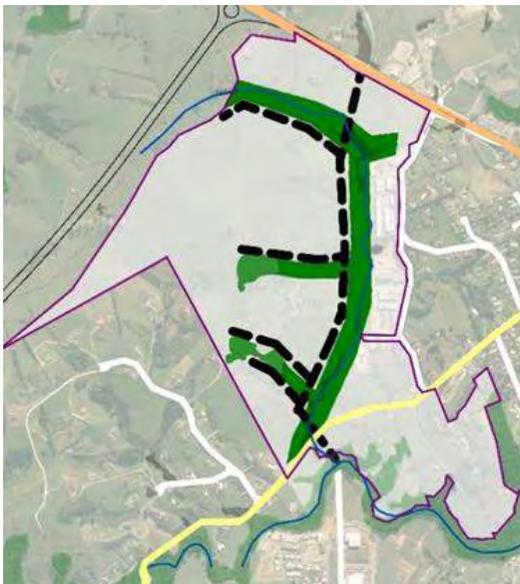
2. Keep and protect stands of trees and waterways as far as practicable

- Planting the watercourses from the stands of native trees to the Mahurangi River tributary;
- Connecting those areas by green corridors; and
- Incorporating these natural features into the storm and water treatment design.



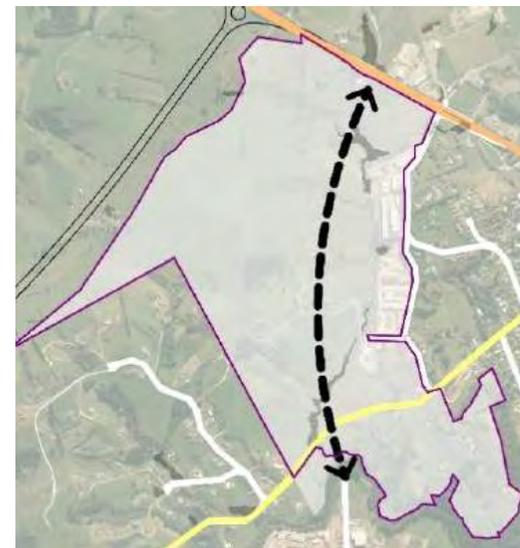
3. Appreciate natural areas by putting roads and public places along their edges

- Multi-modal roads are placed by planted and landscaped areas; and
- Higher densities of housing can overlook these roads to enjoy the visual amenity of these areas.



4. Connect the Western Link

- Creating dominant and legible entries to the site; and
- Acknowledging it as a through road and minimising interaction from it within incompatible land uses e.g. residential vehicle entrances.



8.0 THE STRUCTURE PLAN (CONT.)

5. Provide a well-connected Neighbourhood Centre

- Local amenities within a 400m walking distance;
- Enhanced sense of community;
- Opportunity for local employment; and
- Opportunity for choices of living.



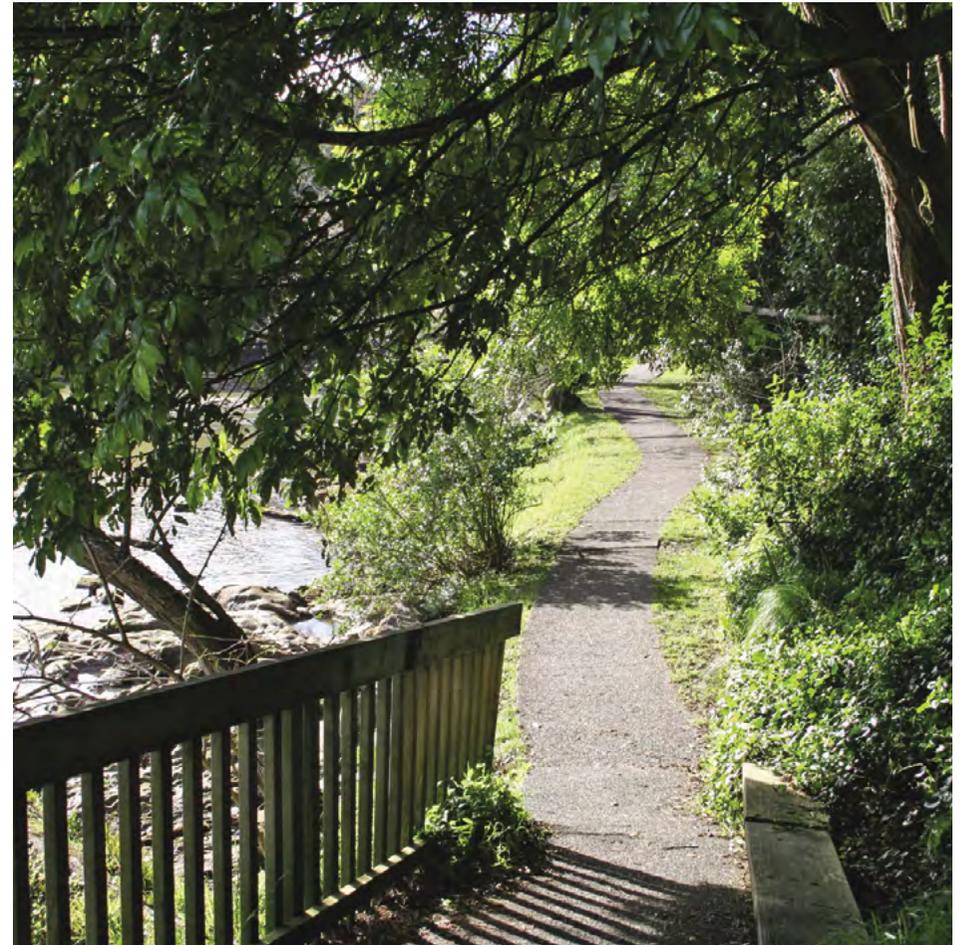
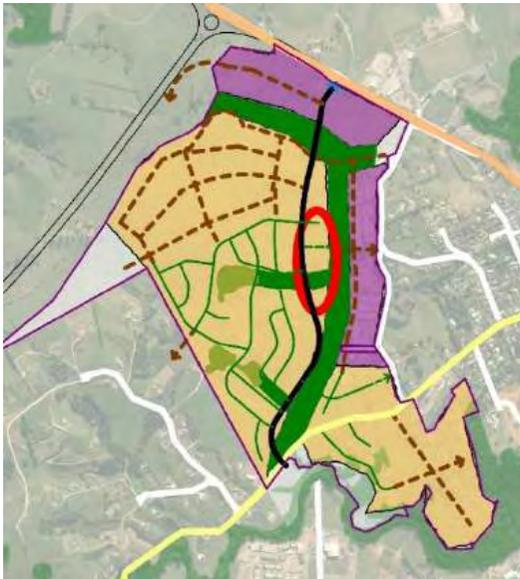
6. Create a contained and hierarchical horizontal mix of uses

- Urban form with a hierarchy of density and height toward the Neighbourhood Centre or visual natural amenity;
- Enhanced natural features can divide up the overall scale of the development, reflecting the areas of different topographical characteristics; and
- Key natural features of the river tributary can be enhanced and used as a visual buffer.



7. Create a legible multi-modal movement network

- Provide pedestrian, cycle and vehicle options;
- Provide connection and integration options for potential future changes in land use;
- Provide equitable access to neighbourhood public open spaces; and
- Provide walkable options to public transport connections.



8.0 THE STRUCTURE PLAN (CONT.)

8.2 STRUCTURE PLAN ELEMENTS

8.2.1 Transport

Development of the Structure Plan responds to the movement network features, opportunities and constraints discussed in the report above including the location of the proposed western collector Road, limited access from several boundaries of the Structure Plan area, opportunities to enhance the capacity and safety of the transport network and enhance connections to public transport.

The preferred transport network within the Structure Plan area is shown in Figure 13 opposite.

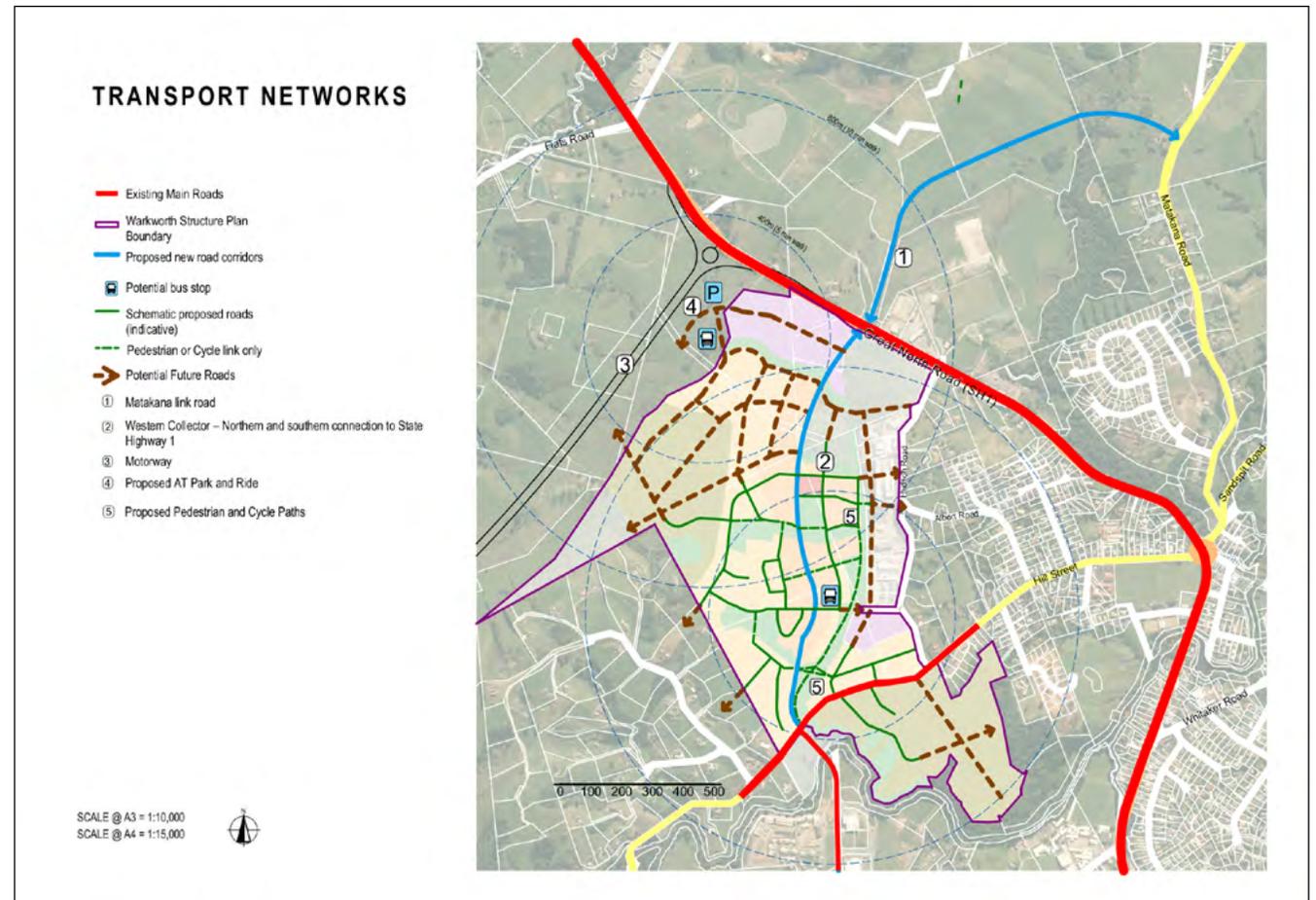


Figure 13: Showing the Preferred Transport Network for the Structure Plan Area

The following comments are made with respect to the preferred transport network:

- The Western Link Road is proposed to be a 25m-31m road, with provision for two lanes of traffic in each direction, separate cycle lanes and footpaths and landscaping. The road would only need to accommodate one lane of traffic in each direction initially.
- The southern intersection with the Western Link Road and Mansel Drive is proposed to be signalised given the increased volumes of traffic.
- No other upgrades to intersections external to the Structure Plan area would be required.
- The proposed local road network provides access and supports walkable and connected neighbourhoods that appropriately provides for all modes. The network connects and distributes traffic to the Western Link Road.
- The width of the local roads would be approximately 17m, which would provide sufficient widths for rain gardens, wide berms and on-street parking and footpaths. Cyclists would share with road users on the local road network, which is considered appropriate given the lower volume of traffic anticipated.
- The Western Link Road has the potential to become a future bus route and there would be sufficient space in the road reserve to accommodate a bus stop in the future.
- Opportunities for connections to a future park and ride to the north west of the Structure Plan area could be provided through the local road network in the northern part of the site.

8.2.2 Infrastructure

Water and Wastewater

Development of the Structure Plan responds to the infrastructure network features, opportunities and constraints discussed in the report above.

Urban development within the Structure Plan area can be supported by infrastructure, subject to the following:

- In terms of water supply, the majority of the development can be Structure Plan area can be serviced by a gravity reticulation network supplied by the View Road reservoir. A boosted pressure zone at elevations above RL 50m contour will be required in order to ensure minimum levels of service are met.
- The Structure Plan proposes to upgrade the existing wastewater network, including a new pump station at the south-east corner of the Structure Plan area to connect to a further pump station, towards Watercare's treatment plant at Snells Beach. An interim connection point will be necessary until 'pump station 2' is operational in 2022.

Stormwater Management

In terms of stormwater management, the Structure Plan will manage the effects of development's storm water quantity, quality and conveyance outcomes through the implementation of best practise and by implementing a series of at source and centralised retention and detention devices and treatment devices.

Stormwater flows will be directed to outlet along the Mahurangi River tributaries by a combination of reticulated network and surface swales.

8.0 THE STRUCTURE PLAN (CONT.)

The hydraulic and hydrological modelling undertaken in the Structure Plan area has estimated the fully developed peak flows from the 10% AEP and 1% AEP storm events will have less than minor effects on the existing streams within the catchment.

Overland flows will be conveyed to the Mahurangi River by maintaining flows within the Structure Plan road corridors and the proposed 30 metres (minimum) wide green corridor proposed.

8.2.3 Natural Environment

Development of the Structure Plan responds to the natural environment features, opportunities and constraints discussed in the report above.

The Structure Plan proposes to maintain and enhance the existing vegetated areas and the permanent watercourses within the Structure Plan area, both of which contribute to the ecological values of the area. Improvements to the existing vegetated area will be incorporated into future developments on the site, including fencing off areas that are not currently and undertaking weed removal.

It is likely that some intermittent streams, which are limited in extent, will need to be filled or piped. Resource consent would be required in accordance with the requirements of the Unitary Plan. While this will remove some of the existing natural features of the Structure Plan area, the watercourses are of low ecological value and mitigation would be provided by the proposed enhancement works to the vegetated areas and permanent watercourse.

8.2.4 Open Space and Recreation

Development of the open space strategy for the Structure Plan responds to the natural environment features, opportunities and constraints discussed in the report above.

The Structure Plan integrates the existing natural features of the site and establishes a connected and usable open space network. The Structure Plan indicates roads running alongside existing and enhanced areas of bush or waterways wherever possible. This creates a strong awareness of these areas and also allows them to be enjoyed by the public. Houses across the road from these open or natural spaces address the road and as such overlook these areas. Protected riparian areas are proposed on either side of the permanent watercourse.

The main link road through the site follows the Mahurangi River for a significant length, allowing its natural and landscape amenity to be enjoyed.

A significant road linking the area to Matakana Road is proposed to run in proximity to the edge of the open fields of the sports grounds, this will provide direct access to this open space that is currently behind a light industrial land use and not fully visible.

Flat and useable neighbourhood parks are provided for in central locations that are accessible from the higher density zones consistent with the Council's Open Space Provision Policy. This assists in forming a focus of the development and providing amenity in the higher density areas, where there is a greater need for it.

8.2.5 Landscape

The landform of the Structure Plan area has been a key factor in informing the layout and land use of the Structure Plan. Any urban development within the Structure Plan area will alter the existing landform and this is generally anticipated given that the area has a Future Urban zone and therefore envisages urban activities occurring on the land. Within this context, the key outcomes sought for the Structure Plan from a landscape perspective are considered to be as follows:

- That the broad profile of the terrain and ridgeline are to be perpetuated, albeit with subtle modification to allow for roading and allotment development;
- That any existing areas of indigenous vegetation of substance are to be conserved as far as practicable; and
- That the primary riparian corridors are to be retained and reinforced with restorative efforts.

The Structure Plan responds to these considerations by:

- Retaining the broad topography of the Structure Plan area, particularly the Stubbs Farm ridgeline;
- Orientating roads primarily across the natural contour rather than perpendicular to it;
- Conserving and integrating the most intact pockets and belts of indigenous vegetation;
- Acknowledging the best-developed natural watercourses and emphasising these as a structuring element;
- Concentrating the highest densities of potential development in the lower-lying topography;
- Configuring the layout of the Structure Plan area to optimise opportunities for high-quality urban environments, strong landscape identity and high levels of amenity; and,

- Integrating, where practicable, the edges the Structure Plan area with adjoining areas so that natural patterns and open space corridors can continue seamlessly, and be strengthened where possible.

8.2.6 Land Use

Building on the matters outlined above, and all of the opportunities and constraints outlined in Section 7 of the report above, the preferred Structure Plan proposes a mix of residential and business land.

Broadly, the majority of the Structure Plan area is proposed for medium density residential activities given that the majority of the Structure Plan area is unsuitable for business activities by virtue of the steep topography of the land. Business activities are provided for in areas that are flatter or away from key ridgelines and close to the primary transport network.

With these factors established, the Structure Plan includes a Neighbourhood Centre that would provide for the local convenience needs of the community within a walkable distance. This ensures that future residents are able to walk to access day to day goods and services and supports the quality compact growth model. The Neighbourhood Centre is located adjoining the Western Link Road, being the primary arterial road within the Structure Plan area. The Western Link Road and proposed Neighbourhood Centre create a strong focal point within the development, which together with the open space network, surrounding land uses flow from. Radiating from the Neighbourhood Centre zone and indicative Open Space network is a band of residential zones, with Mixed Housing Urban located closest to the Link Collector and Centre, after which is Mixed Housing Suburban transitioning to Single House zone at the rural edges. This transition in density reflects the relative accessibility of the areas to services and potential future public transport and the more challenging topography in the west.



8.0 THE STRUCTURE PLAN (CONT.)

Business - Light Industry zoning is proposed at the northern extent of the Structure Plan area, which extends the existing Business - Light Industry zone at Hudson Road. The Business - Light Industry zone will provide future employment opportunities for the local population. This also provides an appropriate interface to State Highway 1, where residential would not be a desirable use from an amenity and reverse sensitivity perspective.

In terms of the interface between uses and boundaries, the following is noted:

- Residential land uses are proposed adjoining the proposed Puhoi to Warkworth section of State Highway 1 - A separation will be provided between the residential properties and the future motorway such that any amenity or reverse sensitivity effects would be less than minor.
- The Residential zones are proposed to adjoin the Viv Davie-Martin Drive area - this provides an appropriate transition to the lower density countryside living area and the existing dwellings are at least 20m setback from the boundary with the Structure Plan area.
- The Single House zone is proposed to the South of Falls Road, which is separated from the Mansel Drive industrial area by the Mahurangi River and open space network.

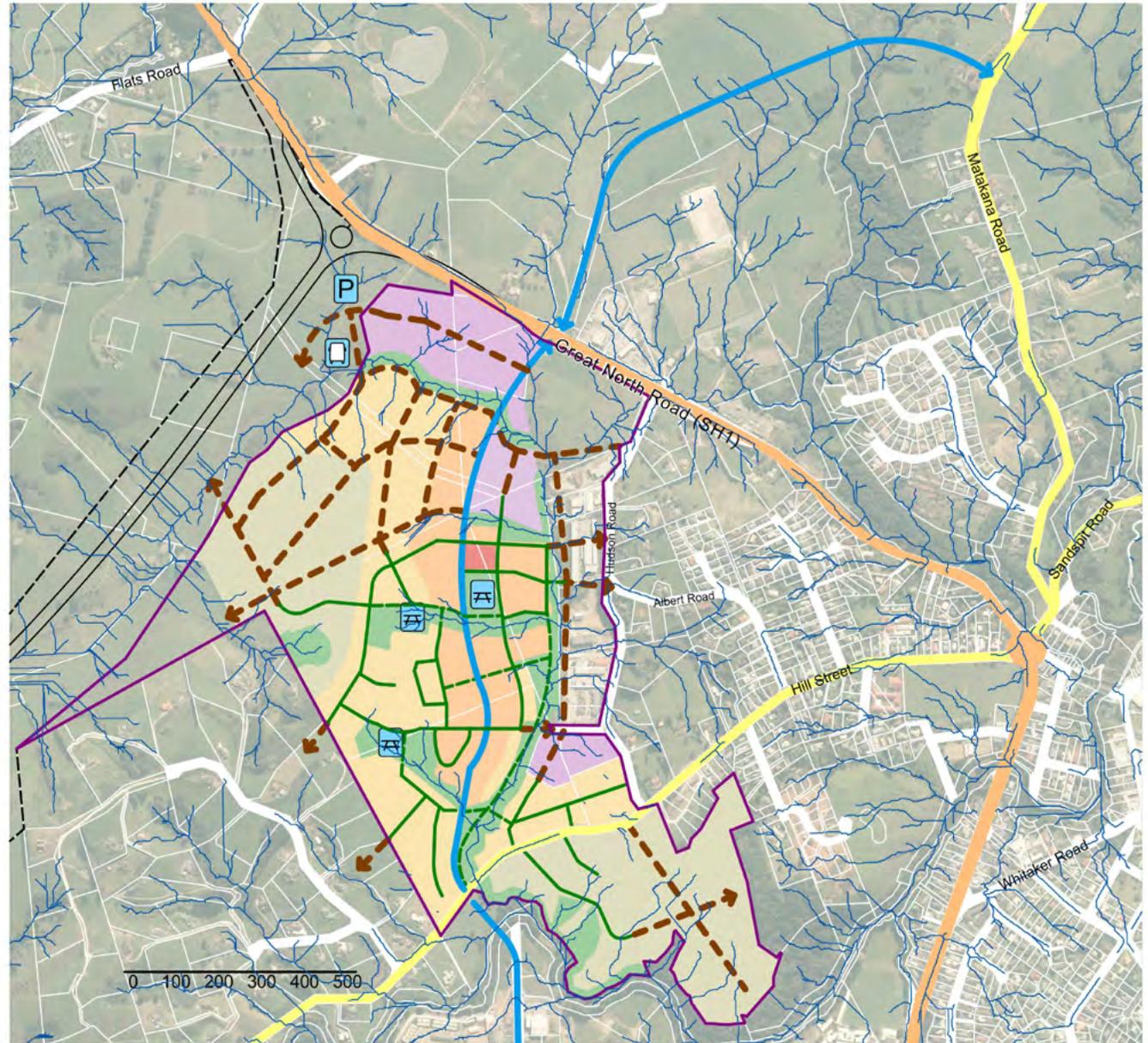
- The Residential - Mixed Housing Suburban zone is proposed to adjoin the proposed Light Industrial zone applying to the Watercare treatment plan and industrial use to the east. Appropriate controls apply in the Light Industry zone apply to manage the potential amenity and reverse sensitivity effects arising at this interface including controls for particular activities (bars etc), height in relation to boundary, noise controls, yards and landscaping.

The proposed land use pattern contributes toward future housing needs and allows the retention of landscape features such as bush areas and waterways to be incorporated in the overall design and not used as saleable land as might be otherwise. The mix of zones will provide for a wide range of houses choices and levels of affordability.

The Business - Light Industry and Neighbourhood Centre zones provide opportunities for public or private operators to establish community facilities in a well-connected way to the residential areas, which would further enhance amenity.



-  Warkworth Structure Plan Boundary
-  Proposed new link road corridors-Refer also Transport Networks Drawings
-  Proposed AT Park and Ride
-  Proposed Neighbourhood Park
-  Schematic proposed roads (indicative)
-  Schematic proposed pedestrian and cycle connection (indicative)
-  Potential Future Roads
-  Existing Watercourse
-  Residential - Single House Zone
-  Residential - Mixed Housing Suburban Zone
-  Residential - Mixed Housing Urban Zone
-  Business -Light Industry
-  Business - Neighbourhood Centre Zone
-  Open Space - Informal Recreation Zone
-  Warkworth Structure Plan Boundary



SCALE @ A3 = 1:10,000
 SCALE @ A4 = 1:15,000

8.0 THE STRUCTURE PLAN (CONT.)

8.3 STAGING AND IMPLEMENTATION

8.3.1 Staging

As discussed in Section 6 of the report above, the FULSS identifies Warkworth North as being development ready in 2022. Staged land release and the normal time lags for design, consenting and construction will ensure that development meets this timeframe if the Structure Plan and Plan Change is progressed in early 2018.

The proposed staging is driven by the delivery of infrastructure. In relation to water, as the additional demand would come online in stages, there would be an opportunity to introduce gradual network improvements. The staging generally progresses from south to north, which aligns with the intended construction of the Western Link Road and the delivery of the waste water and water supply upgrades necessary to service the development.

All five stages are proposed to be rezoned as part of the Private Plan Change request. However, Stages 1-4 are proposed to be accelerated by Turnstone Capital Limited and will be subject of various resource consent applications in the near future.

The proposed staging plan is shown in Figure 14 opposite.

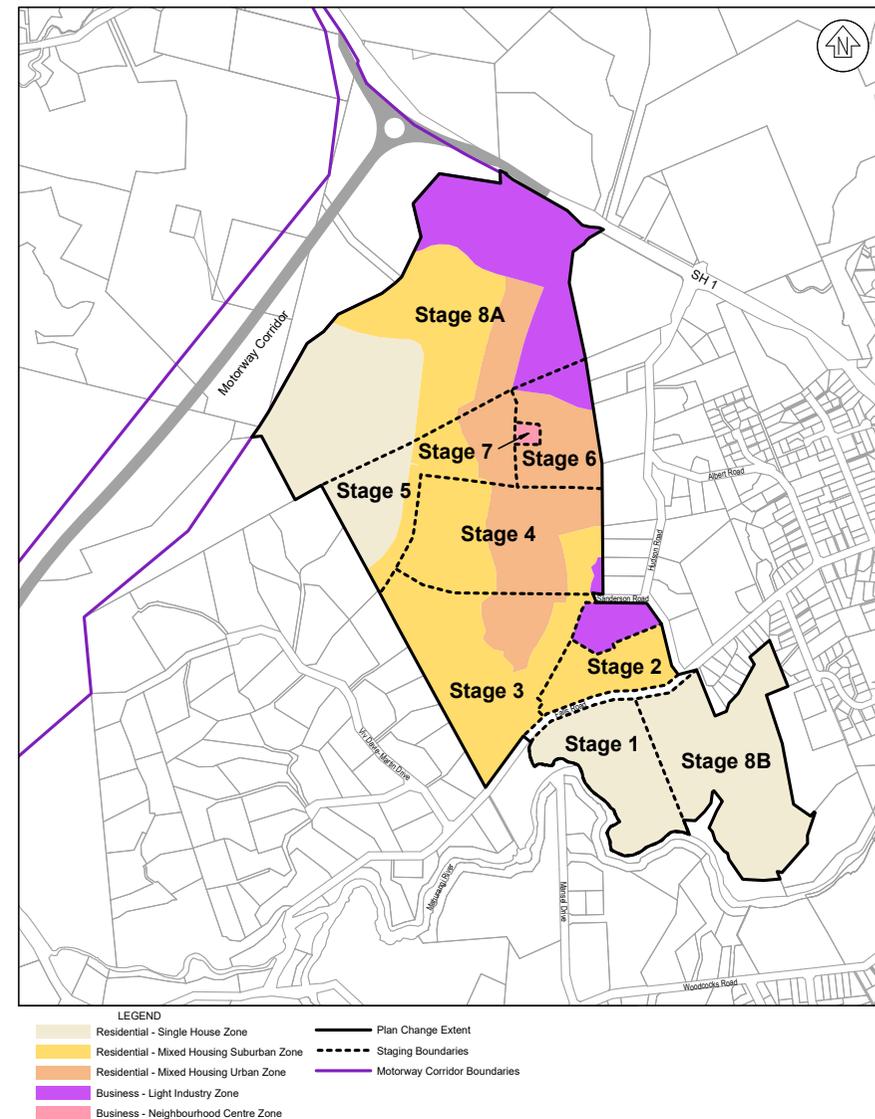


Figure 14: Showing the indicative staging of development in the Structure Plan Area.

8.0 THE STRUCTURE PLAN (CONT.)

8.3.2 Funding

The proposed public open space and infrastructure works are shown on the proposed Structure Plan. The primary responsibility for funding these outcomes lies with developers and not the Council, although the Council and central government agencies will also have a variety of responsibilities to provide some aspects of physical and social infrastructure, where they would have wider network benefits.

The Council funds and delivers public infrastructure projects through the collection of Development Contributions and Rates, and other case-by-case mechanisms including Infrastructure Funding Agreements entered into with developers. The decision making for regional prioritisation of public projects is made by the asset owners. The prioritisation, delivery, timing and funding of public infrastructure projects are then set in the Long-term Plan. The Long-term Plan is reviewed every three years, with the next review scheduled for 2018. This work commenced in late 2017 with the release of the Mayoral Proposal. Figure 28 illustrates how infrastructure is funded. The council would fund only “A” and may fund projects from “B” during the Long-term Plan processes. Generally, developers need to fund infrastructure in two cases - where it is local infrastructure, “C” or “D”, or where it is regional infrastructure out of sequence, “A” or “B”. Where infrastructure is out of sequence, developers are typically expected to meet the cost of the infrastructure and ensure that the installed infrastructure is future-proofed, i.e. the installed infrastructure does not need to be replaced when other in or out of sequence development occurs.

In terms of transport infrastructure, for Warkworth North, the proposed Western Collector Road would be jointly funded by Turnstone Capital Limited and Auckland Transport as it relates to Stages 2-4 and would be subject to a separate

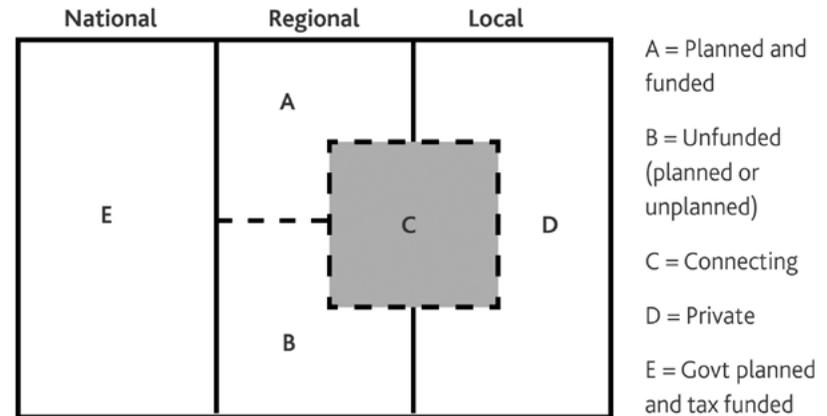


Figure 28: Funding for infrastructure

Source: Auckland Council, Whenuapai Structure Plan

Infrastructure Funding Agreement. The signalisation of the Mansel Drive and Falls Road intersection and all local roads would be privately funded.

In terms of the required water and wastewater upgrades, additional capacity would be provided in the network above that required for the development. The additional capacity would be able to service the wider Future Urban area. Turnstone Capital Limited proposes that the costs of providing these wider network benefits be offset by a reduction in the Development Contributions and connection fees payable on the development to ensure infrastructure is equitably funded.

APPENDIX 1 - RELEVANT EXCERPTS FROM AUCKLAND COUNCIL 10 YEAR BUDGET

Capital projects listing																										
These figures are current as of 9 September 2016. From time to time, Auckland Council will amend this list to reflect decisions about projects.																										
Theme (\$000)	Group	Location	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2018/2025	Total													
Sportsfield upgrades and development			27,277	63,411	39,586	38,430	9,500	19,000	19,000	19,000	19,000	163,516	254,204													
Major sportsfield renewals (Huapai)	AC	Rodney	57	0	0	0	0	0	0	0	0	0	57													
Multi-sport Facility (Ngati Otara Park)	AC	Otara-Papatoetoe	190	967	1,692	871	0	0	0	0	0	2,563	3,720													
Netball complex, community and events centre	AC	Manurewa	93	0	0	0	0	0	0	0	0	0	93													
Sand fields (Shore Rd/Crossfield Reserve) and lights (Glover Park)	AC	Orakei	7	0	0	0	0	0	0	0	0	0	7													
Showgrounds (Warkworth)	AC	Rodney	1,057	0	0	0	0	0	0	0	0	0	1,057													
Soccer carpark (Bledisloe park)	AC	Franklin	46	0	0	0	0	0	0	0	0	0	46													
Roading-General			75,466	38,191	2,305	2,432	25,743	50,766	48,381	77,737	54,046	261,410	375,067													
Albany Highway upgrade	AT	Regional	4,000	1,083	0	0	0	0	0	0	0	0	5,083													
Araparera Forestry joint venture (Ring fenced)	AT	Regional	2,503	0	0	0	0	0	0	0	0	0	2,503													
Brigham Creek Road Corridor Improvements	AT	Regional	0	0	0	0	1,195	9,406	128	0	0	10,729	10,729													
Double decker network mitigation works	AT	Regional	5,931	6,368	0	0	0	0	0	7,678	0	7,678	19,977													
Encroachment resolution	AT	Regional	0	1,318	1,357	1,397	1,441	1,487	1,537	1,589	1,644	10,451	11,769													
Flat Bush Main Street collector link	AT	Regional	3,472	0	0	0	0	0	0	0	0	0	3,472													
Improvements complimenting development	AT	Regional	843	867	892	918	947	977	1,010	1,045	1,080	6,870	8,579													
Intelligent Transport Systems Infrastructure (JTOC, ATOC, CCTV, Inc	AT	Regional	0	3,791	0	0	4,143	4,275	4,421	4,571	4,726	22,136	25,927													
Land acquisition fund (AT)	AT	Regional	15,000	10,000	0	0	0	0	0	0	0	0	25,000													
Lincoln Road - corridor improvements	AT	Regional	2,549	0	0	0	2,367	12,337	10,971	21,369	3,700	50,745	53,294													
Local road improvements complementing highway initiatives	AT	Regional	0	0	0	0	5,918	0	0	0	0	5,918	5,918													
Long Bay Glensvar Ridge Road	AT	Regional	2,533	2,556	0	0	0	0	0	0	0	0	5,089													
Mill Road improvements (Northern)	AT	Regional	2,107	3,250	0	0	3,551	15,442	27,157	38,220	39,519	123,889	129,246													
Tram Extensions	AT	Regional	1,500	1,700	0	0	0	0	0	0	0	0	3,200													
Warkworth Western Collector	AT	Regional	3,730	0	0	0	0	0	0	0	0	0	3,730													
Wynyard Quarter - integrated road programme	AT	Regional	4,700	0	0	0	0	0	0	0	0	0	4,700													

Please note: budgets will be updated following the current LTP review which will be completed by the end of June 2018.

APPENDIX 1 - RELEVANT EXCERPTS FROM AUCKLAND COUNCIL 10 YEAR BUDGET (CONT.)

Capital projects listing													
These figures are current as of 9 September 2016. From time to time, Auckland Council will amend this list to reflect decisions about projects.													
Theme (\$000)	Group	Location	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2018/2025	Total
Water supply and, wastewater treatment and disposal			325,528	412,548	431,486	406,194	494,022	590,147	619,640	526,888	451,172	3,519,549	4,257,624
Wastewater treatment and disposal			224,302	228,030	251,395	264,156	291,495	311,708	300,575	342,100	305,481	2,066,911	2,519,243
Wastewater			224,302	228,030	251,395	264,156	291,495	311,708	300,575	342,100	305,481	2,066,911	2,519,243
Capex efficiency	WSL	Regional	-11,805	-12,002	-13,231	-13,903	-15,342	-16,406	-15,820	-18,005	-16,078	-108,785	-132,592
Central Interceptor	WSL	Regional	10,712	2,112	27,268	81,617	128,750	141,595	152,477	187,065	206,100	924,871	937,695
Collection System Expansion	WSL	Regional	81,201	49,067	38,095	37,466	36,375	34,097	31,639	33,629	30,802	242,104	372,373
Collection System Improvement	WSL	Regional	8,332	12,563	12,012	10,071	10,393	11,332	12,346	14,709	15,268	86,132	107,027
Collection System Replacement	WSL	Regional	17,299	18,898	15,101	19,538	24,645	23,292	20,495	20,721	22,504	146,296	182,492
Northern Interceptor	WSL	Regional	4,519	23,508	33,967	24,916	0	27,961	28,940	29,982	0	145,765	173,792
Other projects < \$250k	WSL	Regional	423	223	230	236	243	251	261	270	281	1,772	2,418
Shared Services Plant & Equip Replacement	WSL	Regional	7,574	9,184	8,089	9,391	8,746	10,179	11,220	9,475	6,871	63,970	80,728
Shared Services Process Improvement	WSL	Regional	7,990	4,704	4,017	5,934	6,805	7,495	5,077	5,172	6,342	40,844	53,537
Southern Interceptor	WSL	Regional	0	528	3,259	5,595	0	0	2,469	5,116	5,311	21,750	22,278
Wastewater Treatment Expansion	WSL	Regional	70,904	59,095	59,538	11,692	20,724	23,261	10,494	15,988	5,311	147,008	277,007
Wastewater Treatment Improvement	WSL	Regional	15,566	47,335	47,637	46,996	49,078	32,804	11,431	10,322	7,966	206,235	269,136
Wastewater Treatment Rehab/Replacement	WSL	Regional	8,093	5,846	13,925	19,304	16,459	14,653	28,003	25,092	11,741	129,177	143,117
Waterfront Interceptor	WSL	Regional	0	1,056	1,086	1,119	1,155	1,193	1,235	1,279	1,328	8,394	9,450
WWTP Regulatory Compliance	WSL	Regional	3,495	5,912	401	4,184	3,464	0	309	1,284	1,735	11,377	20,784
Water supply			101,226	184,518	180,091	142,039	202,526	278,439	319,064	184,788	145,690	1,452,637	1,738,381
Water supply			101,226	184,518	180,091	142,039	202,526	278,439	319,064	184,788	145,690	1,452,637	1,738,381
Capex efficiency	WSL	Regional	-5,328	-9,711	-9,478	-7,476	-10,659	-14,655	-16,793	-9,726	-7,668	-76,455	-91,494
Dam Rehabilitation	WSL	Regional	1,696	1,341	1,380	1,421	1,709	1,825	1,951	2,098	2,562	12,946	15,983
Hunua No. 4 Water Supply Scheme	WSL	Regional	23,148	45,687	37,126	0	0	0	0	0	0	37,126	105,962
Other projects < \$250k	WSL	Regional	925	0	543	1,119	9,816	0	0	0	0	11,478	12,403
Raw Water Network Rehab/Replacement	WSL	Regional	514	528	543	559	577	596	617	640	664	4,197	5,239
Shared Services Plant & Equip Replacement	WSL	Regional	4,370	4,051	3,665	3,901	3,814	4,256	4,800	4,471	2,930	27,838	36,259
Shared Services Process Improvement	WSL	Regional	2,673	2,105	2,318	2,779	3,637	2,930	2,431	3,660	21,681	26,459	
Treated Water Network Expansion	WSL	Regional	18,917	64,416	62,221	60,404	93,641	113,771	114,963	86,006	56,426	587,432	670,766
Treated Water Network Improvement	WSL	Regional	2,982	4,021	10,321	11,904	8,163	8,818	9,456	13,723	12,132	74,515	81,518
Treated Water Network Rehab/Replacement	WSL	Regional	15,905	24,735	27,921	45,041	47,233	56,172	69,344	74,657	62,437	382,805	423,444
Waikato Augmentation and Second Pipeline	WSL	Regional	19,738	15,175	6,518	1,119	0	0	0	0	0	7,637	42,550
Water Shared ECS Improvement	WSL	Regional	514	792	1,086	0	1,155	1,193	617	3,837	2,323	10,212	11,518
Water Shared ECS Rehab/Replacement	WSL	Regional	1,336	1,900	2,553	2,350	1,848	1,312	1,975	767	2,788	13,594	16,830
Water Sources Improvement	WSL	Regional	514	528	543	559	577	596	617	640	664	4,197	5,239
Water Sources Regulatory Compliance	WSL	Regional	0	0	625	1,227	1,203	0	0	0	0	3,055	3,055
Water Treatment Plant Expansion	WSL	Regional	987	5,581	3,260	5,830	3,610	0	0	0	0	12,699	19,267
Water Treatment Plant Improvement	WSL	Regional	9,900	20,329	26,339	8,616	33,142	96,265	124,327	895	929	290,514	320,742
Water Treatment Plant Rehab/Replacement	WSL	Regional	2,433	3,040	2,607	2,686	2,771	4,652	4,259	4,349	5,842	27,167	32,640
Total Auckland Council Gross Capital Expenditure			1,951,443	1,960,934	1,598,757	1,603,081	2,034,828	2,424,186	2,215,720	1,848,835	1,672,654	13,398,061	17,310,438

Please note: budgets will be updated following the current LTP review which will be completed by the end of June 2018.

