



Milldale Stages 14-17 Fast Track Application Landscape Package

Fulton Hogan Land Development

14 August 2026

B&A

Urban & Environmental

Prepared for

Fulton Hogan Land Development Ltd

Prepared by

Easson Shen, Landscape Architect
Joseph McCready, Associate Landscape Architect (NZILA)
Cam Wallace, Partner (RUDIA)

Reviewed by

Cam Wallace, Partner (RUDIA)

Document date

14 August 2026

Barker & Associates Contacts

09 375 0900 | admin@barker.co.nz | barker.co.nz PO Box 1986, Shortland Street, Auckland 1140 | Level 4, Old South British Building 3-13, Shortland Street, Auckland

Kerikeri | Whangārei | Warkworth | **Auckland** | Hamilton | Tauranga | Havelock North | Wellington | Christchurch | Wānaka

Contents

<u>4</u>	PART A
5	Introduction
6	Site Context
7	Site Photos
8	Landform, Slope and Aspect
9	Landscape Precedents
10	Cultural Narrative
<u>11</u>	PART B - TE KOROWAI O MARAEARIKI
12	Landscape Strategy
13	Landscape Principles
14	Landscape Elements
15	Concept Development
16	Masterplan
<u>17</u>	PART C - LANDSCAPE DRAWINGS
18	Overall Masterplan
19	General Arrangement Plans
34	Landscape Pallette



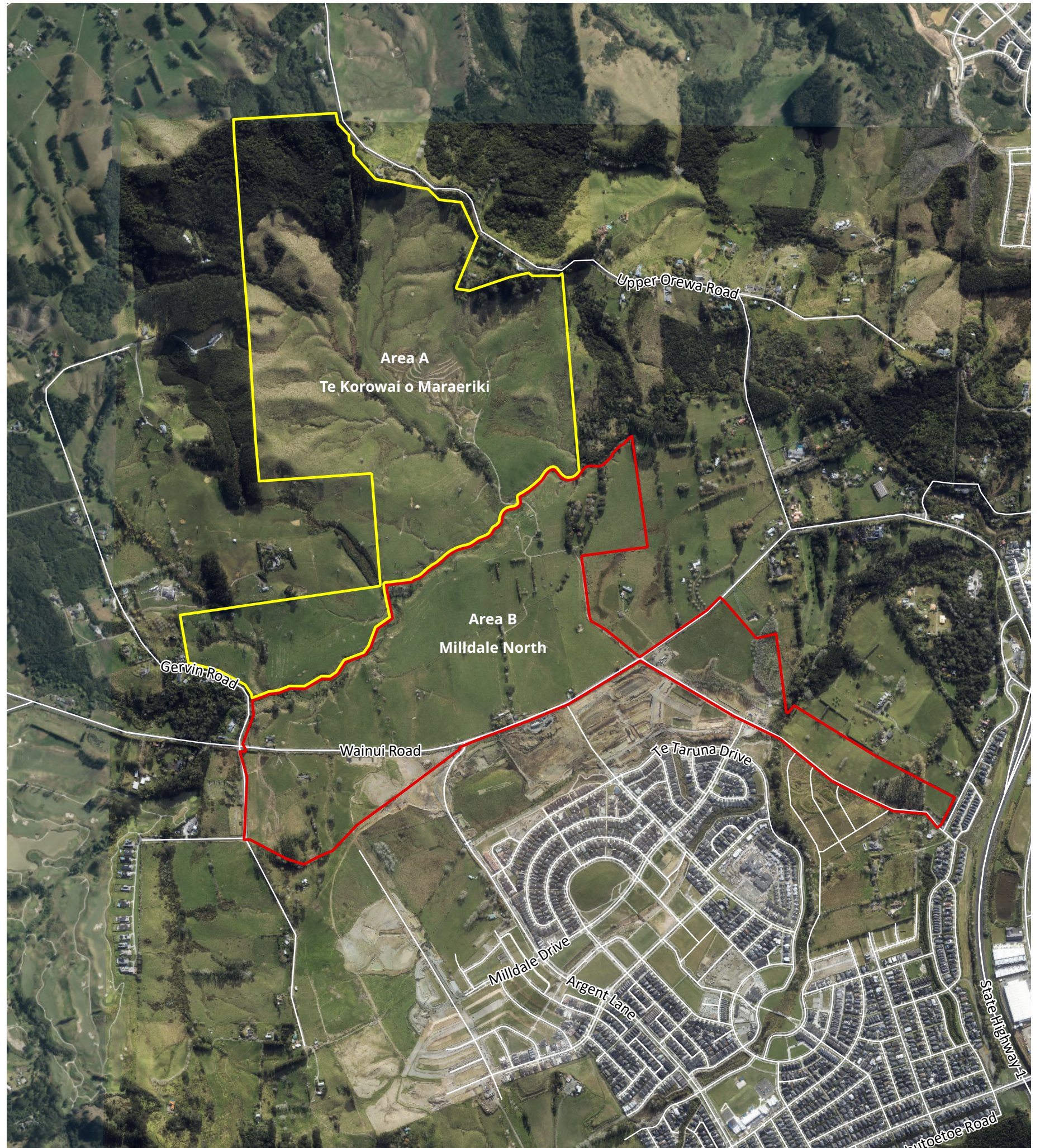
Part A - Introduction

1.0 Purpose

This document sets out the Landscape Concept for Fulton Hogan Land Development's (FHLd) proposal for the Milldale Stages 14-17 development, an extension of the emerging neighbourhood of Milldale which has been under development over the past decade.

The wider project also includes a voluntary proposal to establish of a 130-hectare ecological regeneration and recreation project (Area A) on existing pasture adjacent to the Ōrewa Awa immediately north of the development area (Area B) in partnership with mana whenua. Mana whenua have gifted the name Te Korowai o Maraeariki to this project.

This document sets out the rationale for the landscape proposal across the entirety of the development and builds on previous stages of Milldale which have already been designed, approved and constructed. Through the development of this project it has been identified that Te Korowai o Maraeariki will also be required to support some enabling infrastructure and off-set areas to address landform changes south of the Ōrewa Awa. This document demonstrates how these can be integrated with the wider landscape strategy for this area.



2.0 Site Context

2.1 Location

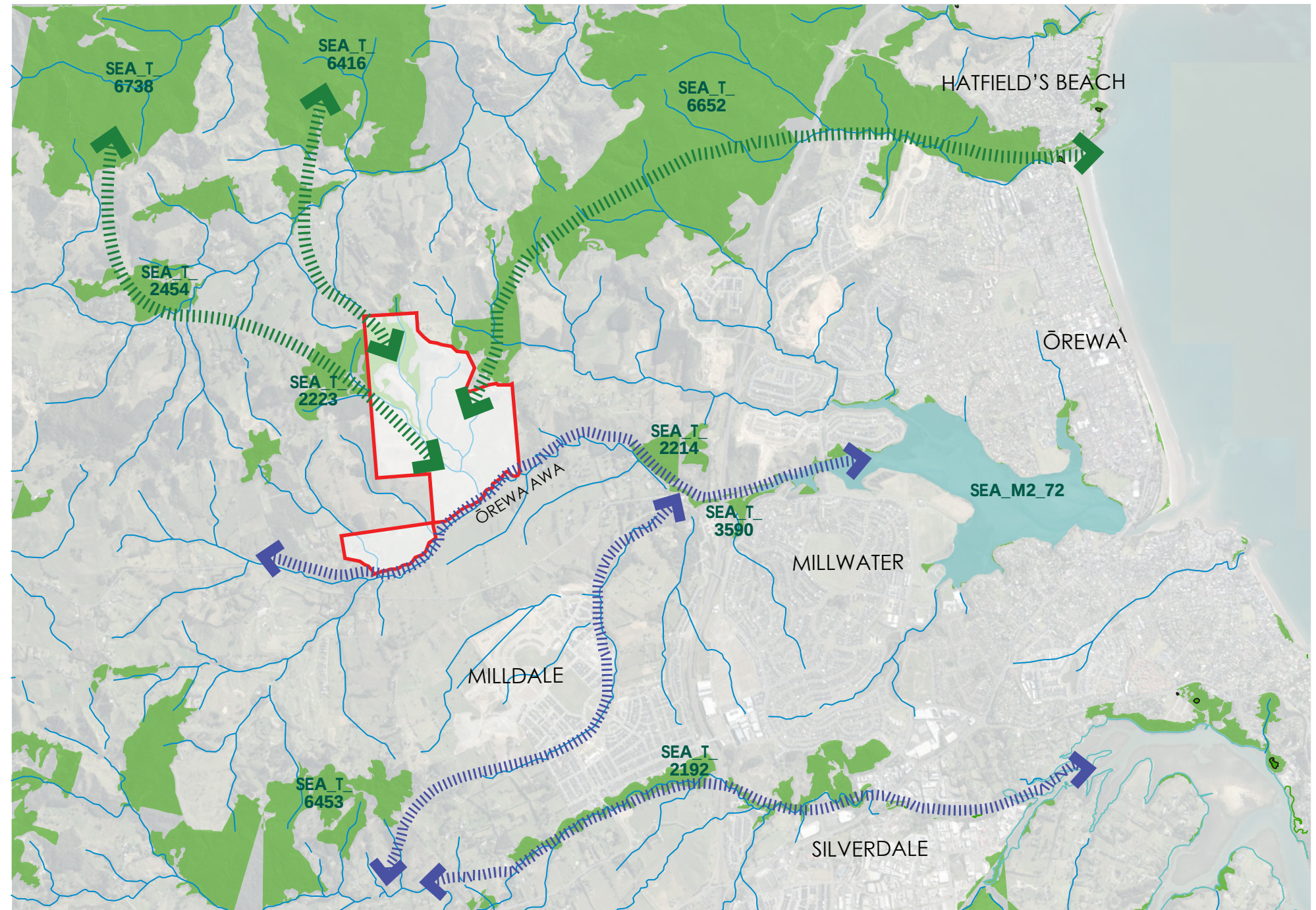
The Site straddles approximately 1.7km of the northern and southern banks of Ōrewa Awa from Gervin / Cemetery Roads in the west and terminating close to Upper Ōrewa Road in the east. Parts of the Site also straddle Waterloo Creek which converges with the Ōrewa Awa in the vicinity of its crossing by State Highway 1.

It sits within a wider network of Significant Ecological Areas (SEAs). These SEAs form a critical framework for ecological connectivity and resilience at the landscape scale.

The proposal is therefore strategically positioned to help fill an existing gap in a network of terrestrial and marine SEAs which pass through or around the urban area of the Hibiscus Coast. The SEAs and their values include:

- SEA_T_2192 (Stepping stones, migration pathway and buffers; threat status and rarity);
- SEA_T_2214 (Threat status and rarity; uniqueness or distinctiveness);
- SEA_T_2223 (Stepping stones, migration pathway and buffers; uniqueness or distinctiveness);
- SEA_T_2454 (Representativeness);
- SEA_T_3590 (Stepping stones, migration pathway and buffers; threat status and rarity);
- SEA_T_6416 (Representativeness; stepping stones, migration pathway and buffers; threat status and rarity);
- SEA_T_6652 (Representativeness; stepping stones, migration pathway and buffers; threat status and rarity; uniqueness or distinctiveness);
- SEA_T_6738 (Representativeness; stepping stones, migration pathway and buffers; threat status and rarity); and
- SEA-M2-72 (Orewa Estuary - wading bird habitat).

Further to the south (south of Wainui Road and west of Endersley Rise), is the emerging residential neighbourhood of Milldale. Significant portions of this neighbourhood have been progressively developed over the past decade.



2.2 Site Photos



Steeply incised banks are a key feature in many locations across the site. This areas offer elevated views along key waterways.



The Ōrewa Awa flood channel extends over 50m in width as passes along the site. At its base sits a smaller stream which meanders through the channel interspersed with exotic specimen trees.



An expansive area of flat land rises towards Wainui Road. Areas of open pasture are interspersed with farm drains, shelter belt planting and tracks.



Gently rolling open pasture defines much of the site.

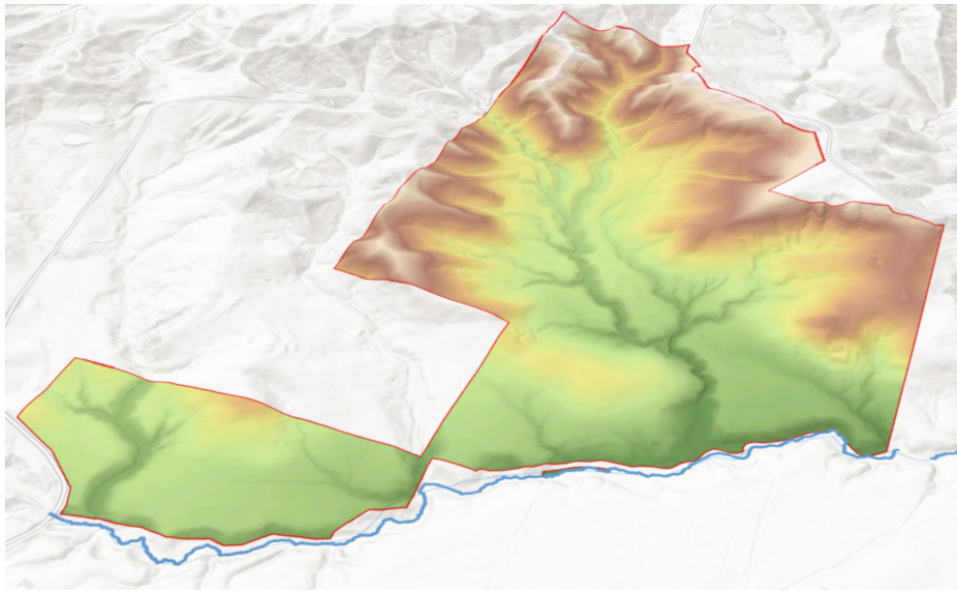


Large areas of the site (including those south of Wainui Road) have already undergone significant change through earthworking and vegetation removal to support the development of other stages of the development.



Western areas of the site near Gervin Road feature a patchwork of wetlands and incised stream corridors.

2.3 Elevation and Landform



Lower Higher

The gullies of the Ōrewa Awa and un-named tributaries of the Ōrewa Awa form the definining landscape elements across the site. These contrast with the ridgelines which descend from the vicinity of Upper Ōrewa Road.

Overall the site descends from a height of around 90m ASL at its heighest point down to around 10m ASL at the Ōrewa Awa.

2.4 Slope

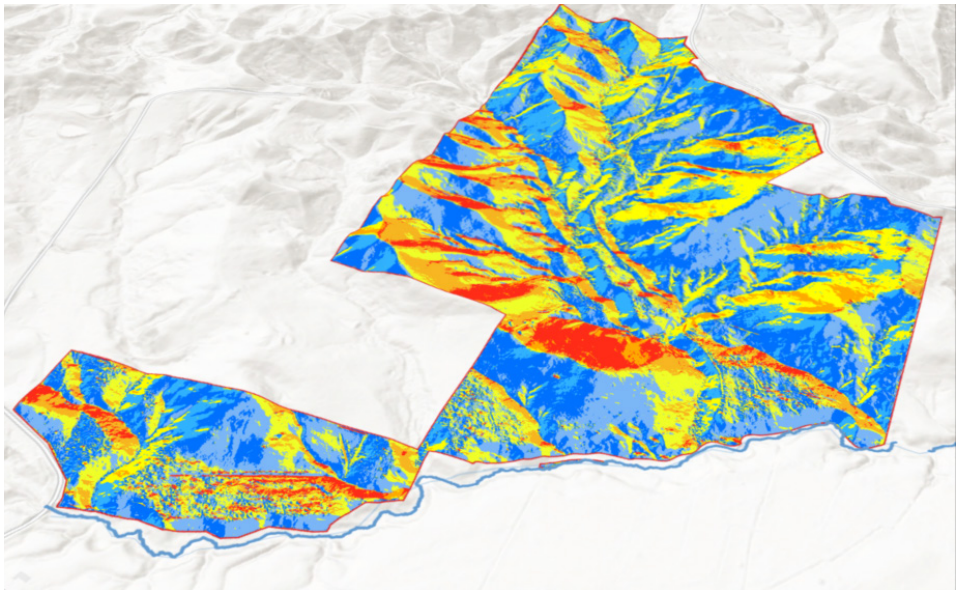


Steeper Flatter

The gullies of the Ōrewa Awa and un-named tributaries of the Ōrewa Awa are generally characterised by steeply incised banks. The northern and north-western portions of the site also feature steeply sloping terrain of greater than 20 degrees. Much of this area sits within the existing SEA which extends into the site.

There are several larger, relatively flat areas immediately north of the Ōrewa Awa which may be suitable for a number of ecological or recreational uses (not limited to revegetation).

2.5 Aspect



Southerly Northerly

The majority of the site is orientated on southern facing slopes. Depending on the associate slope of the land, this may have some impact on the types of species which may thrive in these locations. South facing slopes may be more appropraite for species which prefer greater amounts of shade and moisture, while north facing slopes would beter suit species that do well in warmer, drier conditions.

2.6 Landscape Precedents

The wider Milldale development has been progressively developed in stages over the past decade. As part of this development, extensive landscaping and revegetation has been undertaken and establishes the precedent for the streetscape and open space network proposed across Milldale North.



Generous riparian margins have been established and extensively revegetated to support stormwater, ecological and amenity outcomes.



Wide pedestrian accessways which incorporate low-level planting are provided across Milldale to help connect residents with key amenities.



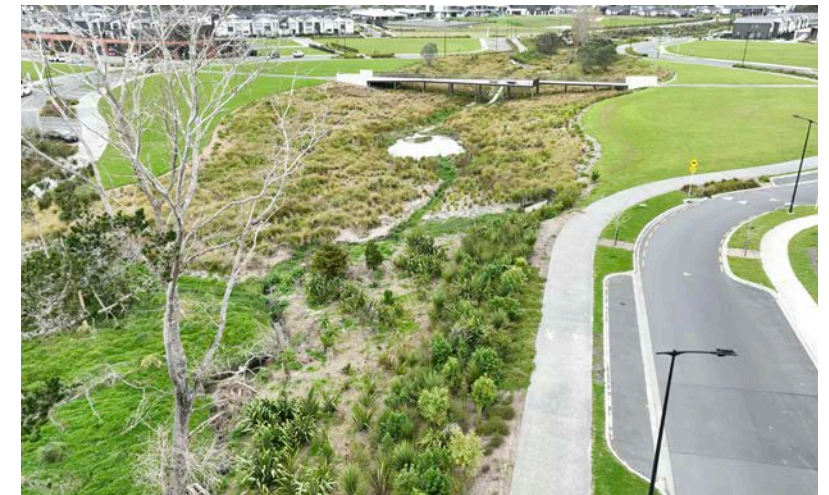
Existing stages of development completed across Milldale have an established and consistent planting palette which should inform future stages.



Landscaped Reinforced Earth (RE) Slopes have been used to help manage topographical changes across the development to date.



Neighbourhood Parks have been integrated as part of a wider open space network based around the existing stream network across Milldale.



Waterloo Creek forms a major landscape element through Milldale with extensive riparian plantings, recreational spaces, active mode connections and the retention of some existing mature vegetation.

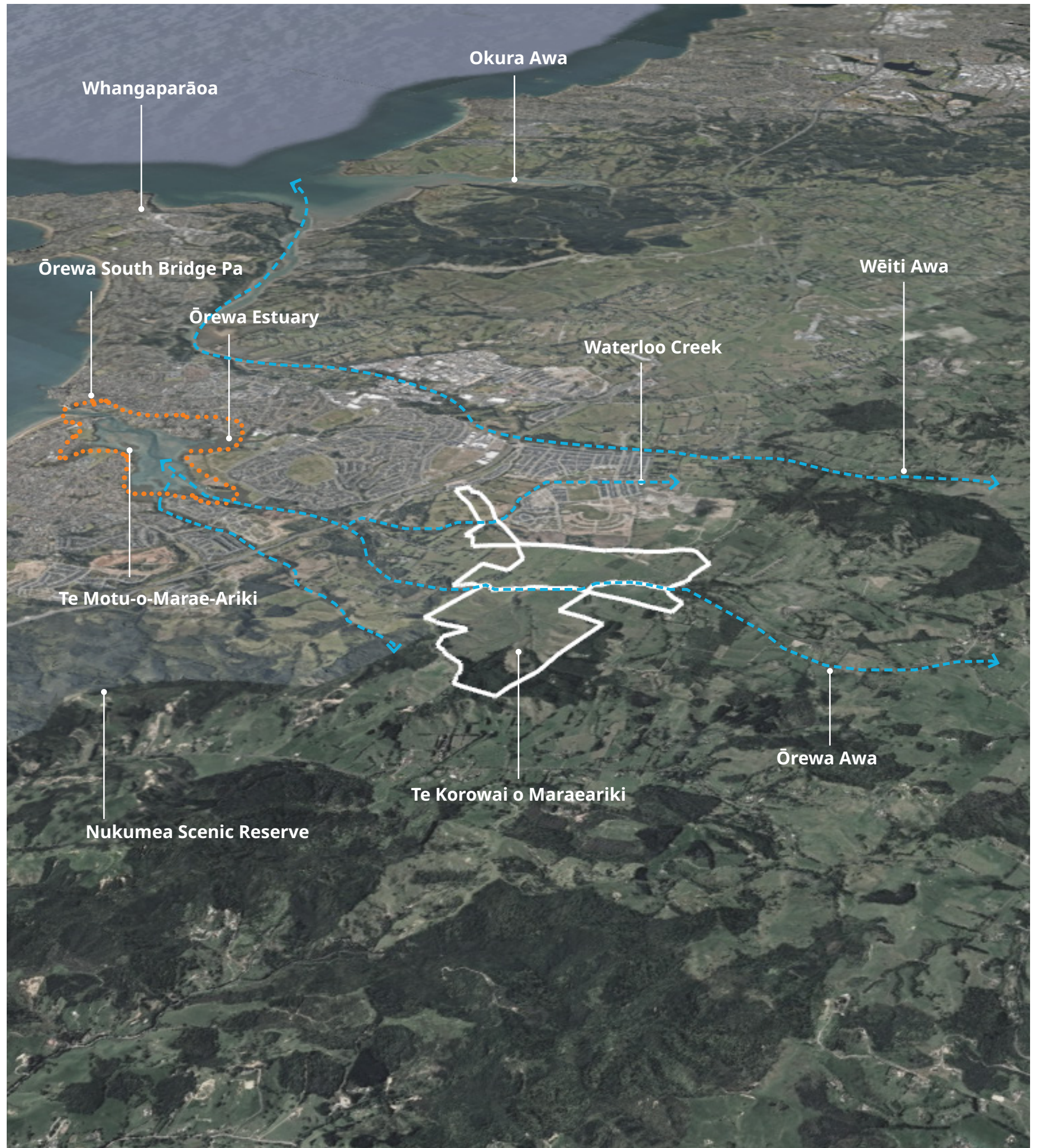
4.0 Cultural Narrative

Milldale Stages 14-17 forms part of the wider cultural landscape of Te Kawerau ā Maki and Ngāti Manuhiri. Their relationship with the area is derived from whakapapa, ahi kā, rangatiratanga and successive generations of kaitiakitanga.

The Site therefore needs to be considered as part of the broader Wainui-Ōrewa-Wēiti landscape, including its whenua, waterways, ecological systems, views and cultural associations. The resulting landscape response needs to recognise and reinforce these relationships.

The Ōrewa Awa is the principal cultural and landscape feature associated with the Site. It is identified as an ancestral awa, an important former mahinga kai and a resource of high cultural value that provides a strong basis for the cultural narrative of this project. Its current degraded condition also provides a significant opportunity for the development to contribute to the restoration of its mana and mauri. The landscape response should establish the awa as a key organising element of the wider open-space network, supported by substantial riparian planting, habitat restoration, connected ecological corridors and water-sensitive design measures. Planting should predominantly comprise eco-sourced indigenous species, including native flowering and fruiting species that support habitat and reinforce the character of the wider cultural landscape

It is intended that the area north of the Ōrewa Awa, **Te Korowai o Maraeariki**, will involve the retiring of existing rural farm land for the comprehensive revegetation of this area. This area will be developed in ongoing partnership with Te Kawerau ā Maki and Ngāti Manuhiri, with tikanga and mātauranga Māori helping to inform the detailed design process and resulting outcomes.





Part B - Te Korowai o Maraeriki

5.0 Landscape Strategy

This section sets out the Landscape Concept for FHLD’s proposal to establish of a 130-hectare ecological regeneration and recreation project on existing pasture adjacent to the Ōrewa Awa in partnership with mana whenua as part of the development of Milldale North. Mana whenua have gifted the name Te Korowai o Maraeariki to this project.

5.1 Vision & Outcomes

An overarching vision has been developed to help guide the design of Te Korowai o Maraeariki:

“Restoring land to life: a thriving native landscape that strengthens the ecological and cultural values of the Ōrewa Awa, supports climate resilience, and delivers an enduring amenity for the Milldale community.”

The project is designed to enhance biodiversity, restore natural systems, and provide public access to nature. By re-establishing indigenous ecosystems, the project will strengthen biodiversity, enhance ecological connectivity between existing Significant Ecological Areas, and provide significant carbon sequestration to support Aotearoa’s climate change goals.

In parallel, the project is designed to create enduring social and cultural value. The restored landscape will serve as a high-quality public amenity, incorporating walking tracks, cycling trails, and lookouts to enhance recreation, wellbeing, and connection to place. The inclusion of an eco-sourced nursery and predator-free programme will further ensure authenticity, ecological integrity, and opportunities for community engagement and education.



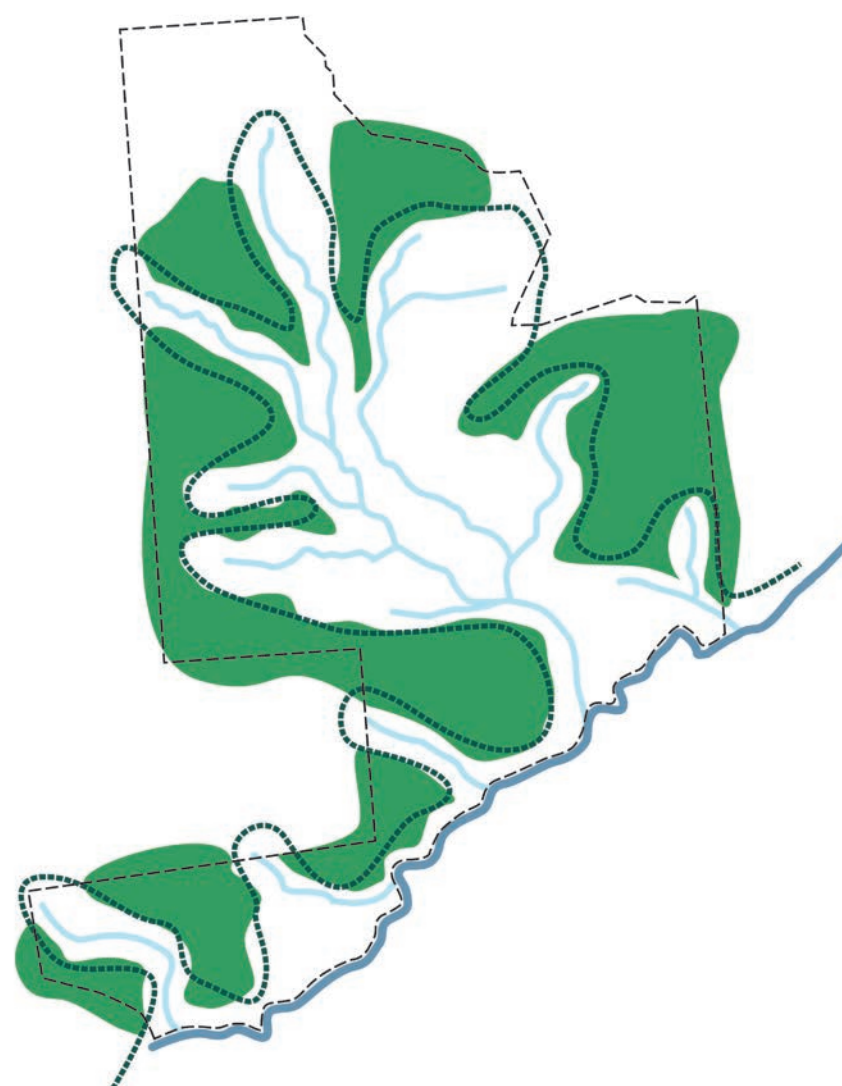
Part of the site as it exists today ...

5.2 Landscape Principles



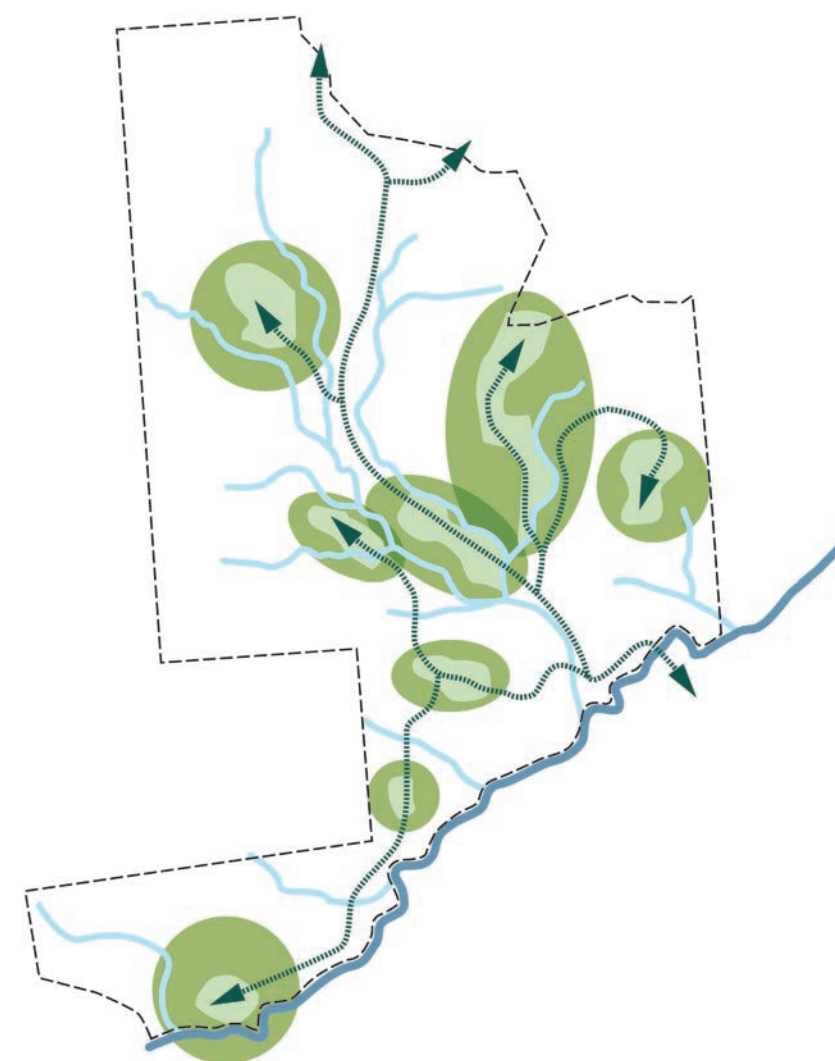
TE WHAKANUI | CELEBRATING THE ŌREWA AWA

The Ōrewa Awa forms a strong natural edge between the northern landscape and the wider Milldale North development. Generous riparian margins provide breathing room on both sides, reinforcing the river as a defining landscape feature.



KOROWAI | CLOAK

Layers of native vegetation extend outward, wrapping around the wetlands, waterways and their riparian margins. This vegetated korowai protects and enhances the ecological and landscape values of natural features within the landscape.



TE TAI AO TŪHONO | BLUE GREEN NETWORK

Awa, wetlands, forest and open green spaces are linked by an integrated network of walking tracks. This connected landscape offers diverse visitor experiences while expanding recreational and everyday amenity opportunities for residents.

5.3 Landscape Elements

Drawing on the vision and principles, the site needs to be designed not only as an ecological sanctuary but also as a community and visitor destination, carefully balancing access and protection. The site will also provide significant landscape and recreational amenity for the residents of Milldale (and wider Hibiscus Coast area). The intent is to provide opportunities for active recreation, passive enjoyment, and environmental education, with infrastructure sited and designed to minimise ecological impacts. Key elements to deliver the vision and principles include:

1 Native Forest Regeneration

- Establishment of indigenous canopy and understory through large-scale planting.
- Strengthen ecological corridors and connect wider SEA's
- Eco-sourced species selected for resilience, habitat value, and climate suitability.
- Soil restoration and ongoing ecological management.

2 Wetland and Riparian Enhancement

- Reinstatement of natural hydrological patterns.
- Enhancement of inland wetlands and riparian margins for aquatic biodiversity and water quality improvement.
- Creation of habitats for native bird species and freshwater fauna.

3 Onsite Native Plant Nursery

- Eco-sourced propagation to supply all planting needs.
- Long-term role as a community resource for restoration and education
- Contribution to local employment and skill development.

4 Walking Trails

- A network of walking tracks will wind through regenerating native forest, wetland edges, and ridgeline areas.
- Trails will be graded for accessibility, ranging from easy family-friendly loops to more immersive nature walks.
- Interpretive signage will highlight cultural narratives, plant succession, wetland functions, and predator-free initiatives.

5 Lookouts and Viewing Platforms

- Strategically placed lookouts will provide panoramic views of the restored forest, wetland systems, and surrounding Significant Ecological Areas.
- Potential programmes for schools, iwi/hapū, and community groups will embed hands-on ecological learning, linking cultural knowledge with contemporary restoration science.

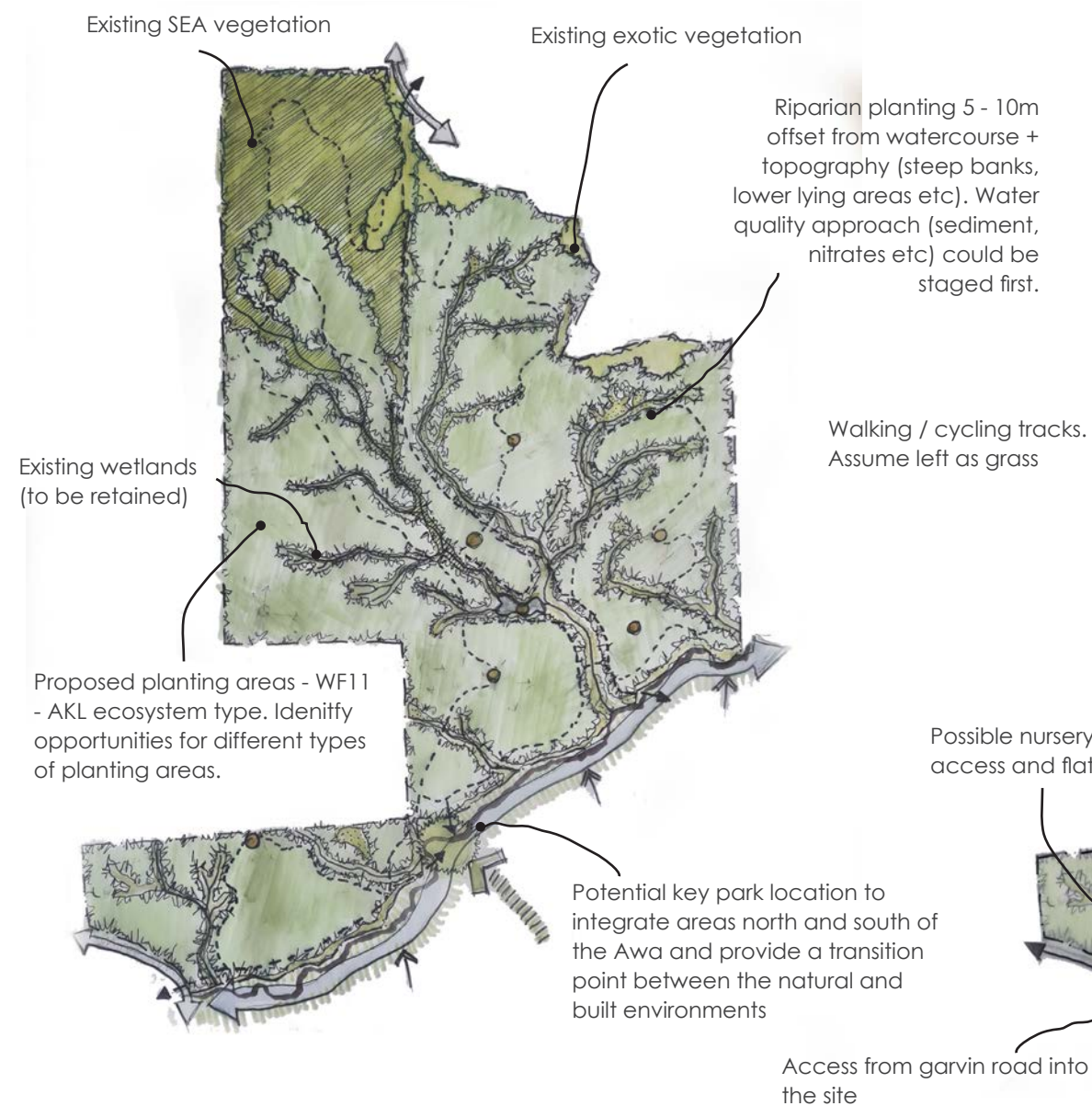
6 Community and Cultural Engagement

- Amenity infrastructure provides a platform for iwi-led storytelling and cultural expression, such as pou whenua and interpretive panels
- Cultural Harvest Opportunities (pa harakeke and pā hue)
- Opportunities exist for volunteer programmes (e.g. track building, planting days, predator monitoring) that foster stewardship and long-term guardianship.
- Regular community events (e.g. guided walks, planting festivals) will create a living connection between people and place.

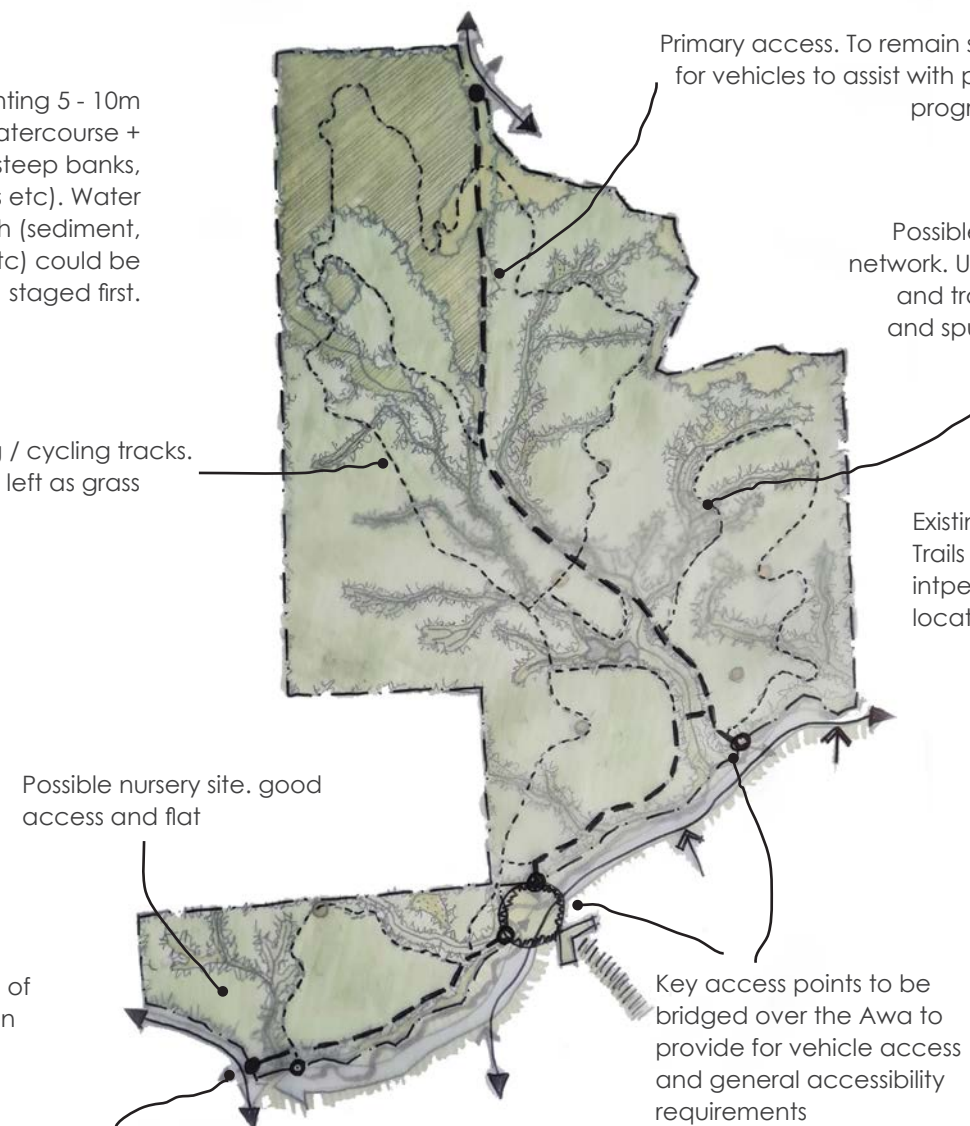


5.3 Concept Development

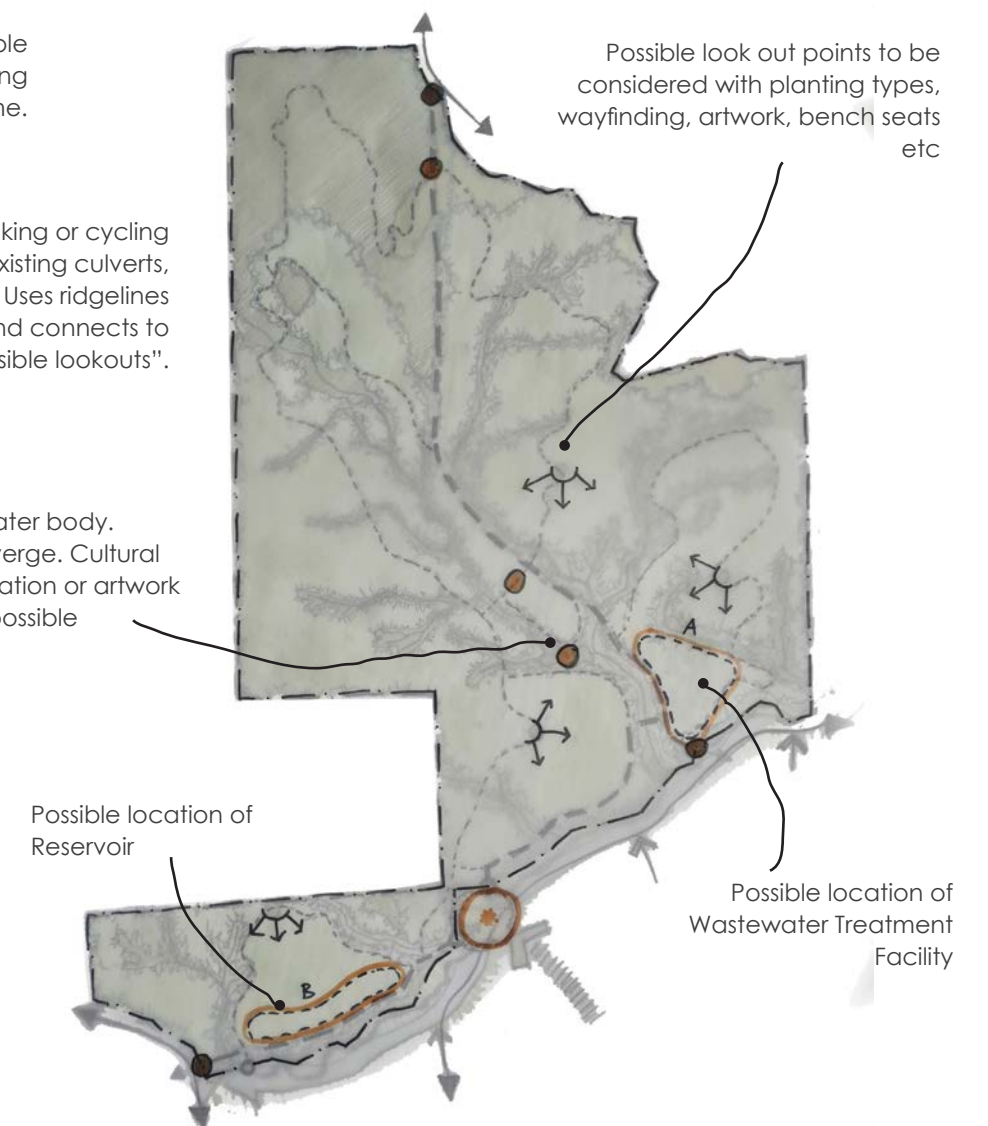
PLANTING

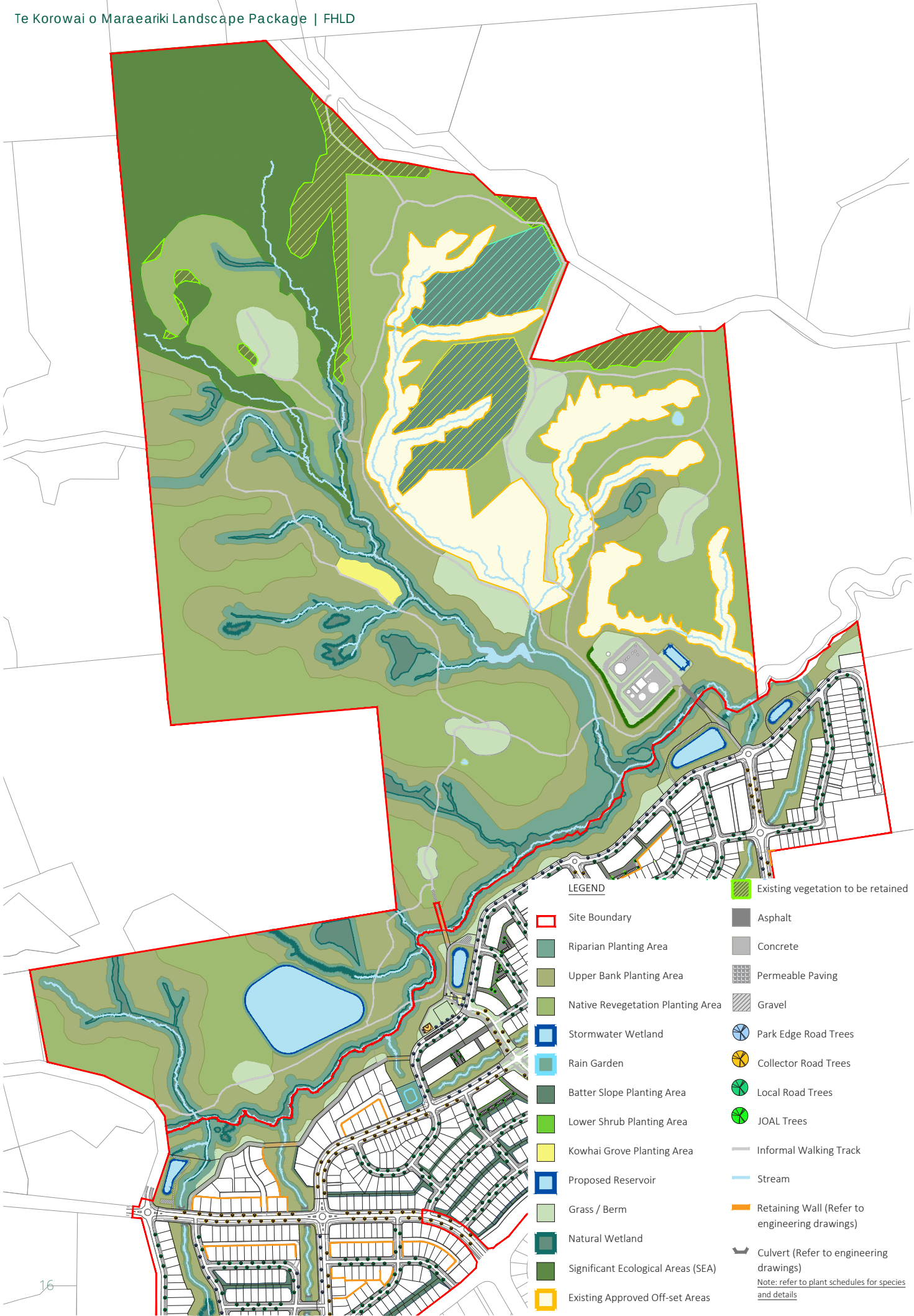


MOVEMENT & ACCESS



INFRASTRUCTURE, WAYFINDING AND NODES





6.0 Te Korowai o Maraeariki Masterplan

The development of the revegetation strategy for Te Korowai o Maraeariki has been informed by the sites relationship with SEA_T_2223 which encompasses an indigenous kauri, podocarp, and broadleaved forest (WF11 ecosystem type). The overarching vision, from an ecological perspective, is to therefore progressively restore and extend this ecosystem type.

Four main planting areas have been identified and developed to support the ecological, amenity and recreational benefits that Te Korowai o Maraeariki could support. This approach responds to existing landscape features and ground conditions, such as wetlands, whilst ensuring a wide variety of native species can be accommodated consistent with the supporting ecological recommendations. The species selected (refer to Section 8) are also intended to enhance and support native fauna including lizards, bats and avifauna. Some open areas of pasture are also proposed to be retained, including at prominent high points, to provide a different experiential outcome and provide for extended views within Te Korowai o Maraeariki and beyond to the wider landscape.

Te Korowai o Maraeariki Feature	Area (Ha)
Significant Ecological Area	15.86
Existing Vegetation (to be retained)	4.80
Existing Offset Areas	13.45
Natural Wetlands	3.45
Grass / Open Field	5.77
Kowhai Grove Area	0.43
Riparian Planting Area	11.95
Upper Bank Planting Area	25.23
Native Restoration Area	39.99
Wastewater Wetland Area	3.56
Proposed Wetland Offset Area	2.67
Tracks	1.36
Water/ Ponds	0.24
Water Reservoir	2.54
Miscellaneous (e.g. structures, bridges, WWTP)	1.64
Total	132.94

The general strategy for revegetation for much of Te Korowai o Maraeariki will be to adopt a nursing crop approach using manuka and kanuka. This will begin to establish prior to slower-growing native trees to provide shelter from the sun and wind, control weeds, and moderate the microclimate to favor the establishment of more shade-tolerant species. This will help to reduce upfront costs and labour associated with establishing the vegetation, whilst mimicking the natural succession of native forests. Riparian and wetland areas will be planted out earlier to align with associated stages of development across Milldale North.

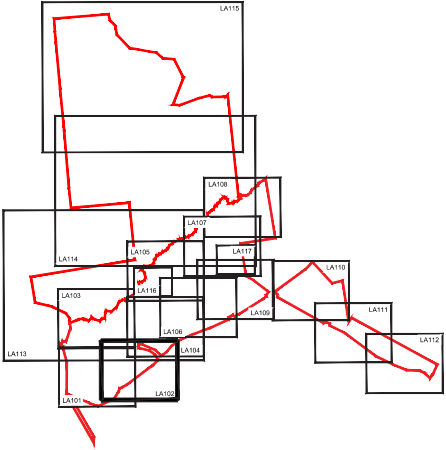
Part C - Landscape Drawings



- LEGEND**
- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details

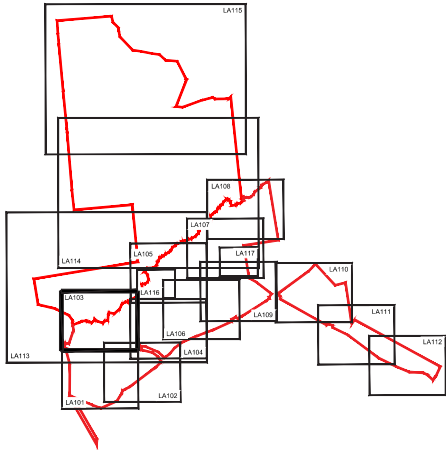






- LEGEND**
- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
Note: refer to plant schedules for species and details

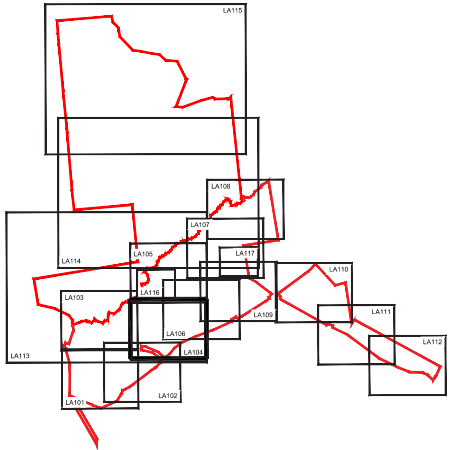




LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details

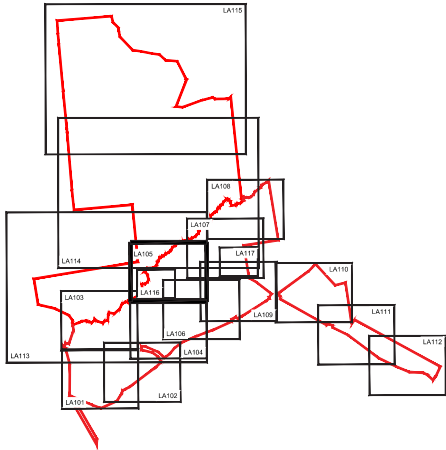
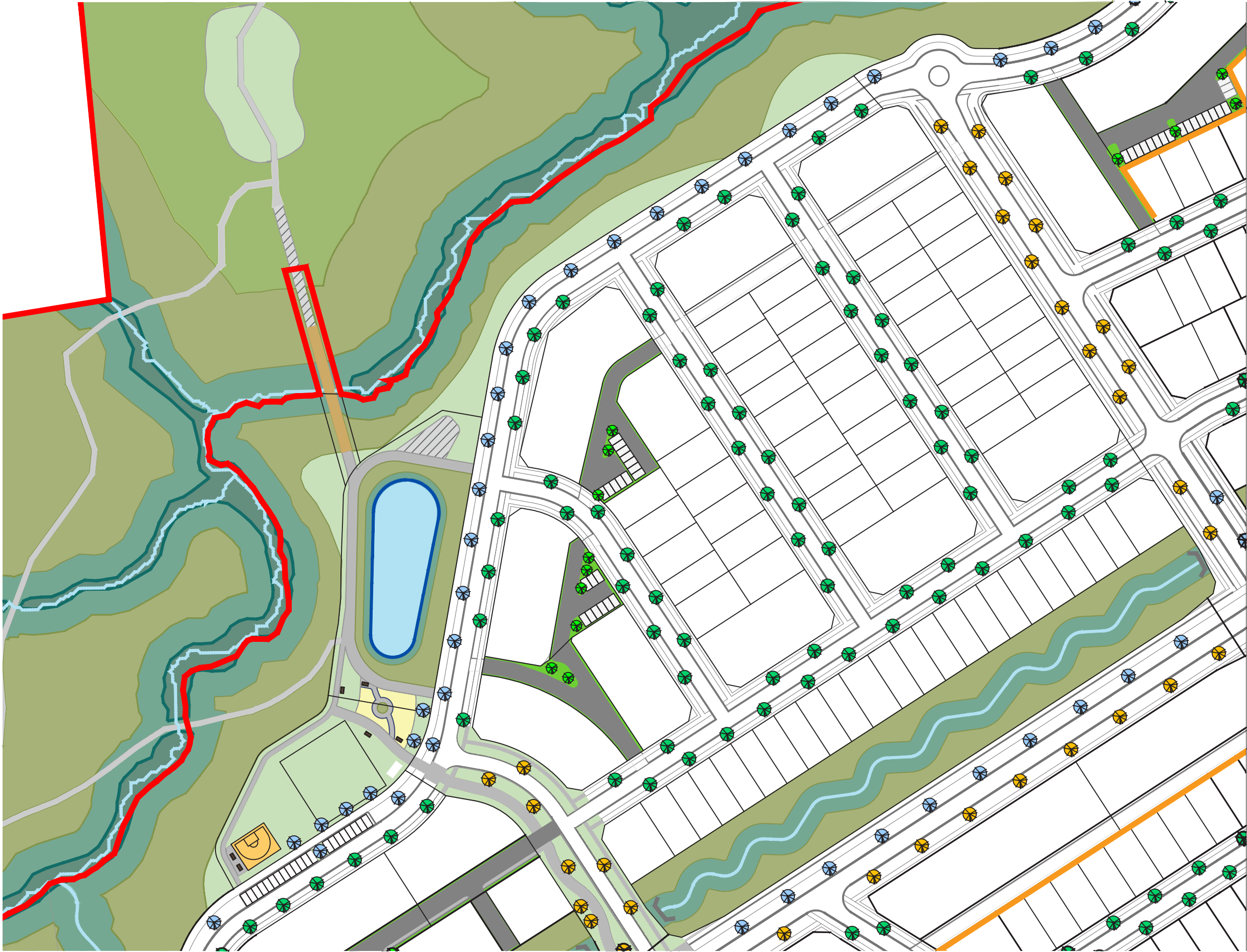




LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details





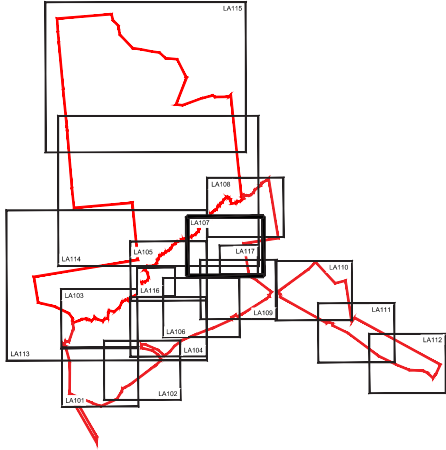
LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details





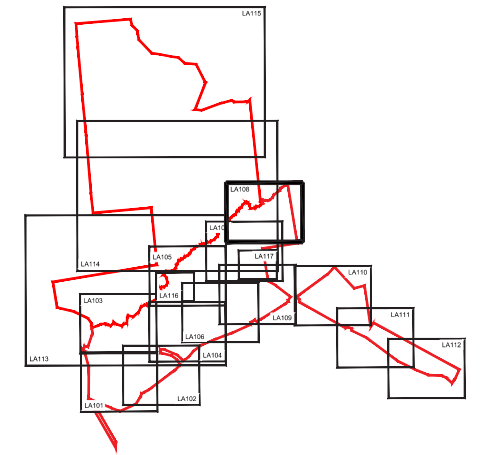
- LEGEND
- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details



LEGEND

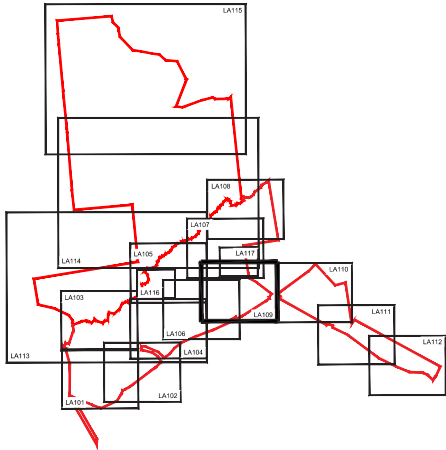
- Site Boundary
- Riparian Planting Area
- Upper Bank Planting Area
- Native Revegetation Planting Area
- Stormwater Wetland
- Rain Garden
- Batter Slope Planting Area
- Lower Shrub Planting Area
- Kowhai Grove Planting Area
- Proposed Reservoir
- Grass / Berm
- Natural Wetland
- Significant Ecological Areas (SEA)
- Existing Approved Off-set Areas
- Existing vegetation to be retained
- Asphalt
- Concrete
- Permeable Paving
- Gravel
- Park Edge Road Trees
- Collector Road Trees
- Local Road Trees
- JOAL Trees
- Informal Walking Track
- Stream
- Retaining Wall (Refer to engineering drawings)
- Culvert (Refer to engineering drawings)
Note: refer to plant schedules for species and details





	Site Boundary
	Riparian Planting Area
	Upper Bank Planting Area
	Native Revegetation Planting Area
	Stormwater Wetland
	Rain Garden
	Batter Slope Planting Area
	Lower Shrub Planting Area
	Kowhai Grove Planting Area
	Proposed Reservoir
	Grass / Berm
	Natural Wetland
	Significant Ecological Areas (SEA)
	Existing Approved Off-set Areas
	Existing vegetation to be retained
	Asphalt
	Concrete
	Permeable Paving
	Gravel
	Park Edge Road Trees
	Collector Road Trees
	Local Road Trees
	JOAL Trees
	Informal Walking Track
	Stream
	Retaining Wall (Refer to engineering drawings)
	Culvert (Refer to engineering drawings)

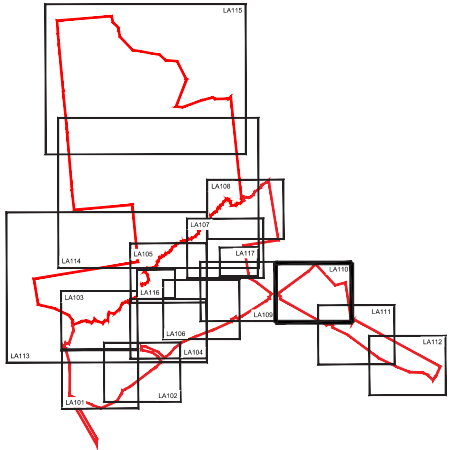
Note: refer to plant schedules for species and details



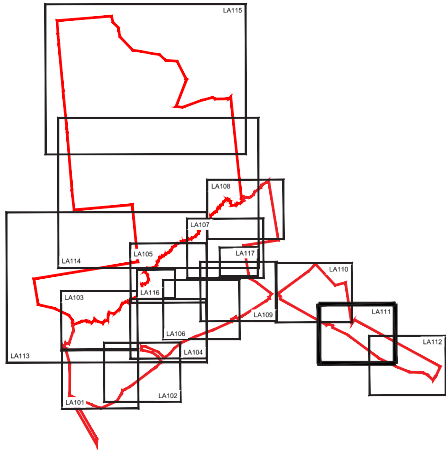
LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details





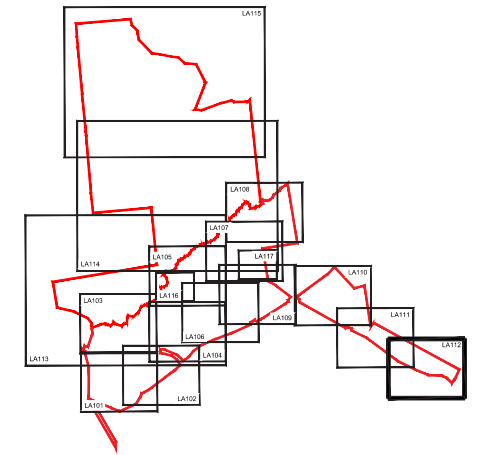
- LEGEND
- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details



LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details





	Site Boundary
	Riparian Planting Area
	Upper Bank Planting Area
	Native Revegetation Planting Area
	Stormwater Wetland
	Rain Garden
	Batter Slope Planting Area
	Lower Shrub Planting Area
	Kowhai Grove Planting Area
	Proposed Reservoir
	Grass / Berm
	Natural Wetland
	Significant Ecological Areas (SEA)
	Existing Approved Off-set Areas
	Existing vegetation to be retained
	Asphalt
	Concrete
	Permeable Paving
	Gravel
	Park Edge Road Trees
	Collector Road Trees
	Local Road Trees
	JOAL Trees
	Informal Walking Track
	Stream
	Retaining Wall (Refer to engineering drawings)
	Culvert (Refer to engineering drawings)

Note: refer to plant schedules for species and details

Revision	A
Job Number	25999



Status	Issued
Sheet	LA-112

B&A
Urban & Environmental



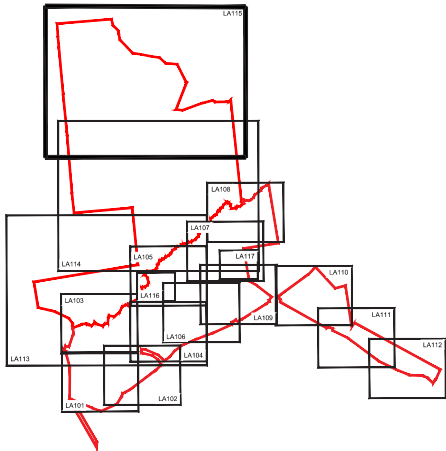
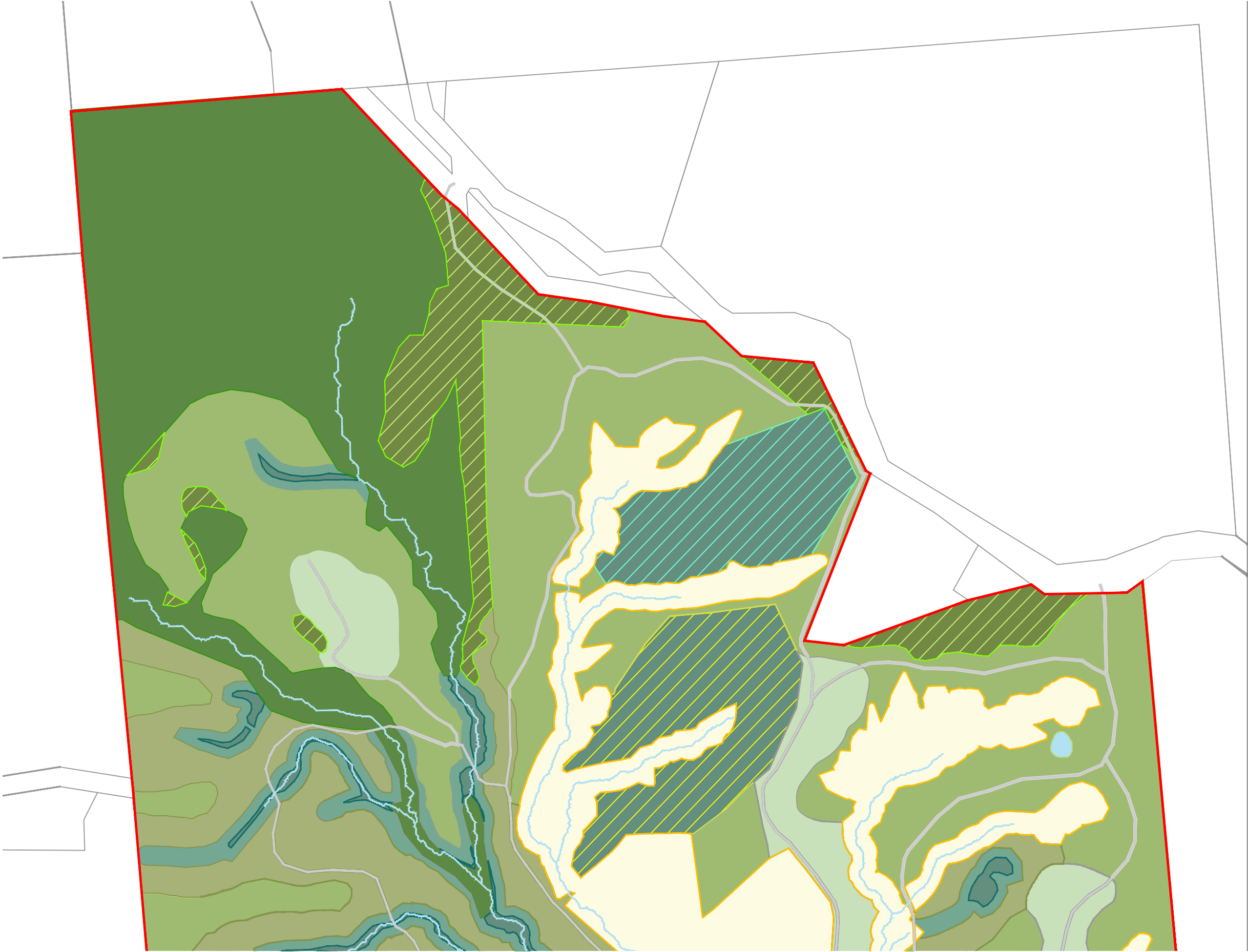
LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details





- LEGEND**
- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details

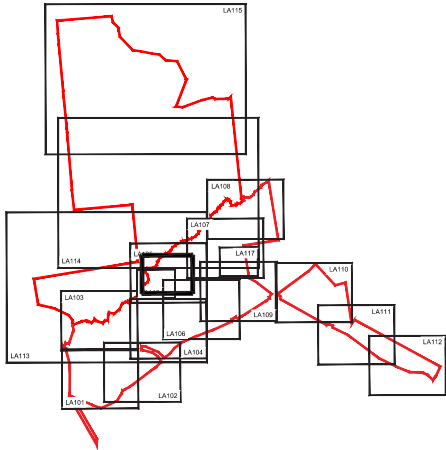


LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details







LEGEND

- Site Boundary
 - Riparian Planting Area
 - Upper Bank Planting Area
 - Native Revegetation Planting Area
 - Stormwater Wetland
 - Rain Garden
 - Batter Slope Planting Area
 - Lower Shrub Planting Area
 - Kowhai Grove Planting Area
 - Proposed Reservoir
 - Grass / Berm
 - Natural Wetland
 - Significant Ecological Areas (SEA)
 - Existing Approved Off-set Areas
 - Existing vegetation to be retained
 - Asphalt
 - Concrete
 - Permeable Paving
 - Gravel
 - Park Edge Road Trees
 - Collector Road Trees
 - Local Road Trees
 - JOAL Trees
 - Informal Walking Track
 - Stream
 - Retaining Wall (Refer to engineering drawings)
 - Culvert (Refer to engineering drawings)
- Note: refer to plant schedules for species and details



8.0 Landscape Palette

Plant Information					Approximate Growth Rates	
Botanical Name	Common Name	% of Mix	Grade at Planting (L)	Planting Centres (m)	Approx. Height (m) 5yrs	Approx. Width (m) 5yrs
Native Restoration Area						
<i>Agathis australis</i>	Kauri	4%	0.5	1.0	1.5	0.8
<i>Austroderia splendens</i>	Toetoe	3%	0.5	1.0	2.5	2
<i>Beilschmiedia tarairi</i>	Taraire	3%	1.0	5.0	2	1.2
<i>Carpodetus serratus</i>	Putaputawētā	2%	0.5	1.0	3	2
<i>Coprosma robusta</i>	Karamū	3%	0.5	1.4	2	1.5
<i>Cordyline australis</i>	Ti kōuka	1%	0.5	1.4	3	1.5
<i>Dacrycarpus dacrydioides</i>	Kahikatea	3%	1.0	5.0	3	1.2
<i>Dacrydium cupressinum</i>	Rimu	3%	0.5	5.0	1.3	0.8
<i>Dodonaea viscosa</i>	Akeake	2%	0.5	1.0	3	2
<i>Dysoxylum spectabile</i>	Kohekohe	3%	1.0	5.0	2.5	1.5
<i>Hedycarya arborea</i>	Pigeonwood	5%	0.5	1.4	2	1.5
<i>Hoheria populnea</i>	Lacebark	2%	0.5	1.0	4	2.5
<i>Knightia excelsa</i>	Rewarewa	4%	1.0	5.0	3	1.5
<i>Kunzea robusta</i>	Kānuka	20%	0.5	1.4	3	2
<i>Leptospermum scoparium</i>	Mānuka	18%	0.5	1.4	2.5	2
<i>Melicytus ramiflorus</i>	Māhoe	3%	0.5	1.4	3	2
<i>Phormium tenax</i>	Harakeke	2%	0.5	1.4	2.2	2.2
<i>Phyllocladus trichomanoides</i>	Tānekaha	3%	0.5	5.0	1.8	1
<i>Pittosporum tenuifolium</i>	Kōhūhū	3%	0.5	1.0	3	2
<i>Plagianthus regius</i>	Ribbonwood	1%	0.5	1.0	4	2.5
<i>Podocarpus totara</i>	Tōtara	3%	0.5	5.0	2.5	1.2
<i>Pomaderris kumeraho</i>	Kūmarahou	1%	0.5	1.0	2	1.5
<i>Prumnopitys ferruginea</i>	Miro	4%	0.5	1.0	1.5	0.8
<i>Vitex lucens</i>	Pūriri	3%	1.0	5.0	3	2
<i>Weinmannia racemosa</i>	Kāmahi	1%	0.5	1.0	2	1.2
<i>Prumnopitys ferruginea</i>	Miro	5%	0.5	1.0	1.5	0.8
		100%				



Kānuka



Mānuka



Kahikatea



Karamu



Māhoe



Rewarewa



Kōhūhū



Miro



Pigeonwood



Putaputawētā



Pūriri



Kauri



Harakeke



Rimu



Tōtara



Ribbonwood

Plant Information					Approximate Growth Rates	
Botanical Name	Common Name	% of Mix	Grade at Planting (L)	Planting Centres (m)	Approx. Height (m) 5yrs	Approx. Width (m) 5yrs
Upper Bank Planting Area						
<i>Carpodetus serratus</i>	Putaputawētā	10%	0.5	1.0	3.0	2.0
<i>Hoheria populnea</i>	Lacebark	10%	0.5	1.0	4.0	2.5
<i>Leptospermum scoparium</i>	Mānuka	30%	0.5	1.0	3.0	2.0
<i>Phormium tenax</i>	Harakeke	20%	0.5	1.0	2.2	2.2
<i>Pittosporum tenuifolium</i>	Kōhūhū	10%	0.5	1.0	3.0	2.0
<i>Plagianthus regius</i>	Ribbonwood	10%	0.5	1.0	4.0	2.5
<i>Weinmannia racemosa</i>	Kāmahi	10%	0.5	1.0	2.0	1.2
		100%				
Kowhai Grove Planting Area						
<i>Sophora microphylla</i>	Kōwhai	60%	45.0	5.0	4.0	2.0
<i>Carpodetus serratus</i>	Putaputaweta	20%	45.0	5.0	3.0	2.0
<i>Plagianthus regius</i>	Ribbonwood	20%	45.0	5.0	5.0	3.0
		100%				
R.E. Slope Planting						
<i>Phormium tenax</i>	Harakeke	95%	2.5	1.2	2.0	1.8
<i>Apodasmia similis</i>	Oioi	5%	1.0	0.8	1.0	0.8
		100%				
Amenity Planting Areas						
<i>Phormium cookianum</i> 'Emerald green'	Dwarf Mountain Flax	25%	1.0	1.0	1.0	1.0
<i>Lomandra</i> ' Lime Tuff'	Green Lomandra	75%	1.0	0.8	0.6	0.7
		100%				



Lacebark



Mānuka



Ribbonwood



Kamahi



Houhere



Kowhai



Kohuhu



Putaputaweta



Harakeke



Dwarf Mountain
Flax



Oioi



Green Lomandra

Plant Information				Approximate Growth Rates		
Botanical Name	Common Name	% of Mix	Grade at Planting (L)	Planting Centres (m)	Approx. Height (m) 5yrs	Approx. Width (m) 5yrs
Riparian Planting Area						
<i>Blechnum minus</i>	Swamp kiokio	5%	0.5	0.5	0.8	1.0
<i>Bolboschoenus fluviatilis</i>	Kukuraho	5%	0.5	0.5	2.0	1.2
<i>Carpodetus serratus</i>	Putaputawētā	8%	0.5	1.4	3.0	2.0
<i>Cordyline australis</i>	Tī kōuka	12%	0.5	1.4	3.0	1.5
<i>Carex lessoniana</i>	Rautahi	5%	0.5	0.5	1.2	1.2
<i>Carex virgata</i>	Pūkio	5%	0.5	0.5	1.3	1.2
<i>Cyperus ustulatus</i>	Giant umbrella sedge	5%	0.5	0.5	1.5	1.2
<i>Dacrycarpus dacrydioides</i>	Kahikatea	3%	1.0	5.0	3.0	1.2
<i>Juncus edgariae</i>	Wīwī	5%	0.5	0.5	1.2	0.8
<i>Juncus sarophorus</i>	Wīwī	5%	0.5	0.5	1.2	0.8
<i>Laurelia novae-zelandiae</i>	Pukatea	5%	1.0	3.0	2.5	1.5
<i>Leptospermum scoparium</i>	Mānuka	15%	0.5	1.4	3.0	2.0
<i>Phormium tenax</i>	Harakeke	20%	0.5	1.4	2.2	2.2
<i>Sophora microphylla</i>	Kōwhai	2%	1.0	5.0	2.0	1.0
		100%				
Natural Wetland Planting / Wetland Planting Offset Areas						
<i>Apodasmia similis</i>	Oioi	5%	0.5	0.7	1.5	1
<i>Blechnum minus</i>	Swamp kiokio	4%	0.5	0.7	0.8	1
<i>Bolboschoenus fluviatilis</i>	Kukuraho	4%	0.5	0.7	2	1.2
<i>Carex lessoniana</i>	Rautahi	4%	0.5	0.7	1.2	1.2
<i>Carex secta</i>	Pūrei	12%	0.5	0.7	1.3	1.2
<i>Carex virgata</i>	Pūkio	10%	0.5	0.7	1.3	1.2
<i>Cyperus ustulatus</i>	Giant umbrella sedge	12%	0.5	0.7	1.5	1.2
<i>Juncus edgariae</i>	Wīwī	20%	0.5	0.7	1.2	0.8
<i>Juncus sarophorus</i>	Wīwī	4%	0.5	0.7	1.2	0.8
<i>Machaerina articulata</i>	Twig rush	20%	0.5	0.7	2	1.2
<i>Machaerina rubiginosa</i>	Twig rush	5%	0.5	0.7	1.5	1
		100%				



Pūkio



Giant Umbrella Sedge



Rautahi



Kukuraho



Harakeke



Wīwī



Mānuka



Swamp Kiokio



Putaputawētā



Kahikatea



Tī kōuka



Pukatea



Twig Rush



Pūrei



Kōwhai



Oioi

Plant Information				Approximate Growth Rates		
Botanical Name	Common Name	% of Mix	Grade at Planting (L)	Planting Centres (m)	Approx. Height (m) 5yrs	Approx. Width (m) 5yrs
Wastewater Wetland Planting						
<i>Apodasmia similis</i>	Oioi	35%	0.5	0.7	1.5	1.0
<i>Carex secta</i>	Pūkio	15%	0.5	0.7	1.2	1.2
<i>Juncus edgariae</i>	Wīwī	25%	0.5	0.7	1.3	1.2
<i>Cyperus ustulatus</i>	Giant umbrella sedge	25%	0.5	0.7	1.5	1.2
		100%				
Collector Road Trees						
<i>Liriodendron tulipifera</i>	Tulip Tree	N/A	45	as shown	6	3
<i>Ginkgo 'Saratoga'</i>	Maidenhair Tree	N/A	45	as shown	4	2.5
<i>Liquidamber styraciflua 'Wor-plesdon'</i>	Sweet Gum	N/A	45	as shown	5	3
Park Edge Road Trees						
<i>Alectryon excelsus</i>	Titoki	N/A	45	as shown	4.5	3.5
<i>Myrsine australis</i>	Red Matipo	N/A	45	as shown	3	2
<i>Vitex Lucens</i>	Puriri	N/A	45	as shown	5	3.5
Local Road Trees						
<i>Fraxinus griffithii</i>	Evergreen Ash	N/A	45	as shown	4.5	3
<i>Prunus 'Kanzan'</i>	Flowering Cherry	N/A	45	as shown	4.5	3.5
<i>Michelia gracipes</i>	Banana Shrub	N/A	45	as shown	3	2
<i>Lagerstromieia De hubert Puard</i>	Crepe Myrtle	N/A	45	as shown	3	2.5
<i>Cercis 'Forest Pansy'</i>	Judus Tree	N/A	45	as shown	3.5	2.5
JOAL Trees						
<i>Alectryon excelsus</i>	Titoki	N/A	45	as shown	4.5	3.5



Oioi



Pūkio



Wīwī



Giant Umbrella Sedge



Tulip



Maidenhair



Sweet Gum



Titoki



Red Matipo



Puriri



Evergreen Ash



Flowering Cherry



Crepe Myrtle



Judus



Banana Shrub



B&A

Urban & Environmental

Kerikeri | Whangarei | Warkworth | Auckland | Hamilton | Cambridge | Tauranga
Havelock North | Wellington | Christchurch | Wanaka

Level 4, 3-13 Shortland Street, Auckland Central • PO Box 1986, Shortland Street, Auckland 1140
www.barker.co.nz • +649 375 0900