



NZILA RESENE PRIDE OF PLACE  
LANDSCAPE AWARDS 2019

# RES2

Landscape Design:  
RES2 Residential – Multi Unit  
Long Bay

Submitted by  
Boffa Miskell

Boffa Miskell 



# Long Bay

## Context

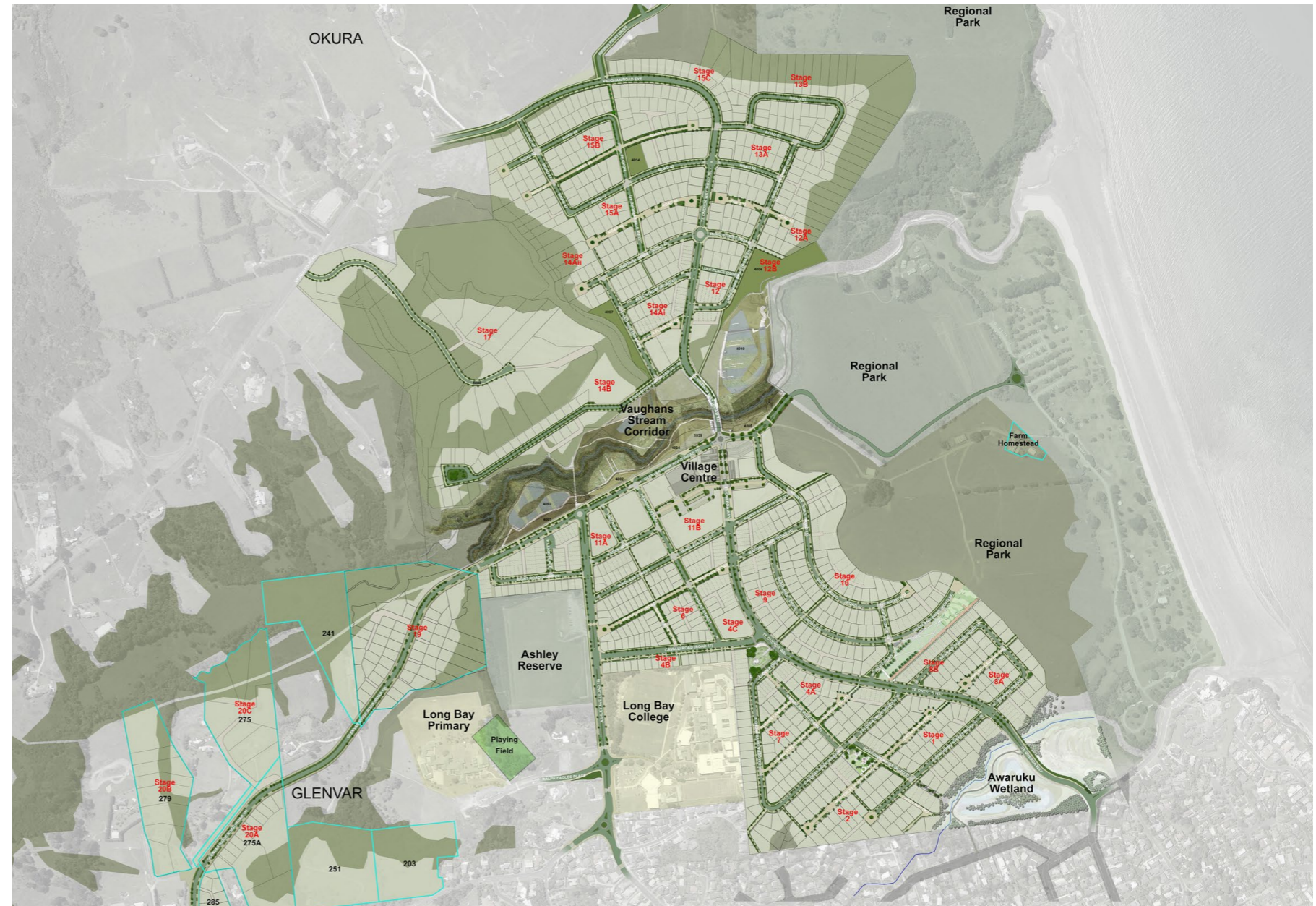
The Long Bay development is a complex and unique project which involves the urbanisation of this large-scale landholding by a single developer in a sensitive natural environment. This provided the opportunity for landscape and ecology to form the basis of the master planning approach which aimed to strike the right balance between efficient use of land and protection and enhancement of the natural environment.

Encompassing 162 hectares of the East Coast Bays undulating coastal landscape, Long Bay is part of a sensitive and valued natural landscape which includes the Long Bay Regional Park, and the wider Long Bay – Okura Marine Reserve. The coastline and beach to the east of the development is a key part of Long Bay's character, as is the Vaughan's Stream which bisects the site and the Awaruku Stream, which forms the southern boundary between this new community and the existing Torbay suburbs.

Following extensive public engagement and a long court and council process to develop the 2011 structure plan, a carefully master planned development has now been rolled out culminating in 2,500 homes, a village centre, a comprehensive stormwater treatment system and 28ha of new park and reserve land including a heritage protection area.

Boffa Miskell first became involved in the Long Bay development at the initial structure plan phase over a decade ago, when the company provided landscape planning and ecology input. In early 2009 Boffa Miskell became more deeply involved in the project when it was engaged by Todd Property Group to form an integral part of the master planning team for the development. Providing landscape design and ecological advice, Boffa Miskell worked alongside Construct Urban Designers, Surface Design and Woods as the engineers to create the final masterplan being implemented today.

Following this masterplanning phase, Boffa Miskell continued involvement in the project, leading the development of the designs for the public landscapes of the over twenty stages of the development. This included the design detailing, documentation and contract management for planting implementation in streets, walkways, wetlands, riparian margins and revegetation as well as developing weed and pest management for landscape protection areas.



Boffa Miskell's ecology consultants also had a key role in the delivery of the project, undertaking extensive research on stream habitat and quality, lizard relocation and habitat creation, and providing input on many aspects of the overall design, to ensure that the overarching goals of ecology and sustainability were a constant design driver

Over the past 10 years Boffa Miskell has worked closely with The Plant People to implement these designs and procure eco-sourced plant material for both the street planting and riparian/revegetation planting. As the primary landscape contractor they have planted over 630,000 eco-sourced native plants have been implemented

to date with over 34 ha of planting implemented across the entire development.

## The Landscape

A key driver for the design of the Long Bay development was establishing a framework for reconnection of the ecologically fragmented landscape.

The farming activities which had previously occupied the land at Long Bay had led to isolation of the native plant and animal communities, with small pockets of remnant native forest and degraded riparian



environments separated by pasture. Ecologically speaking this isolation cut off plant and animal populations from their wider environment, which in turn limits biodiversity.

As a result, there was significant opportunity to reconnect these fragmented ecosystems through the provision of landscape Protection Areas (PA) and by doing so closely linking the urban form and infrastructure with the physical dynamics of the Long Bay landscape and its ecology to create a 'sense of place'. To develop the form of the masterplan the landscape was analysed in both a conceptual and functional way.

Conceptually, we can understand the landscape of Long Bay as a gradient - from coastline to headwaters and from naturally occurring to man-made habitats. The resulting gradient is an abstracted replay of the valley sequence, the story of the valley as it unfolds to reach the coast – headwater, upper, middle and lower riparian habitats.

At a functional level, the landscape narrative of a gradient is 'played out' through the design of the Vaughan's stream and Awaruku stream stormwater treatment areas. A series or sequence of sustainable storm water devices links this restored landscape with engineering and green infrastructure to achieve storm water management outcomes. The designs are closely linked with the riparian margins and the receiving environment – streams, tide and ocean, and the associated native ecology – fresh water fish habitat, birds and lizards.

This landscape gradient also applies to the public realm and streetscape. The concept of Shared Space plays a role in reconciling the conventional approach to car-orientated development with the opportunity to utilize streets as places for people and vehicles to share. 'Garden Streets' within local neighbourhoods create the gradient between car and transit oriented connector roads to local streets which focus on the needs of the local community for usable outdoor space whilst still allowing for essential vehicular access.

The resultant masterplan and development therefore seeks to combine the requirement for the delivery of an urban form that responds to the demands of contemporary society whilst providing for ecology, landscape, and people-orientated spaces as fundamental components of the new community.

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**“LONG BAY IS AN EXEMPLARY CASE STUDY OF HOW TO DEVELOP STREETS WITHIN A NEW GREEN-FIELD NEIGHBOURHOOD THAT RESPOND TO THE NATURAL CONTEXT AND CREATE ATTRACTIVE RESIDENTIAL ENVIRONMENTS.”**

Auckland Urban Design Manual

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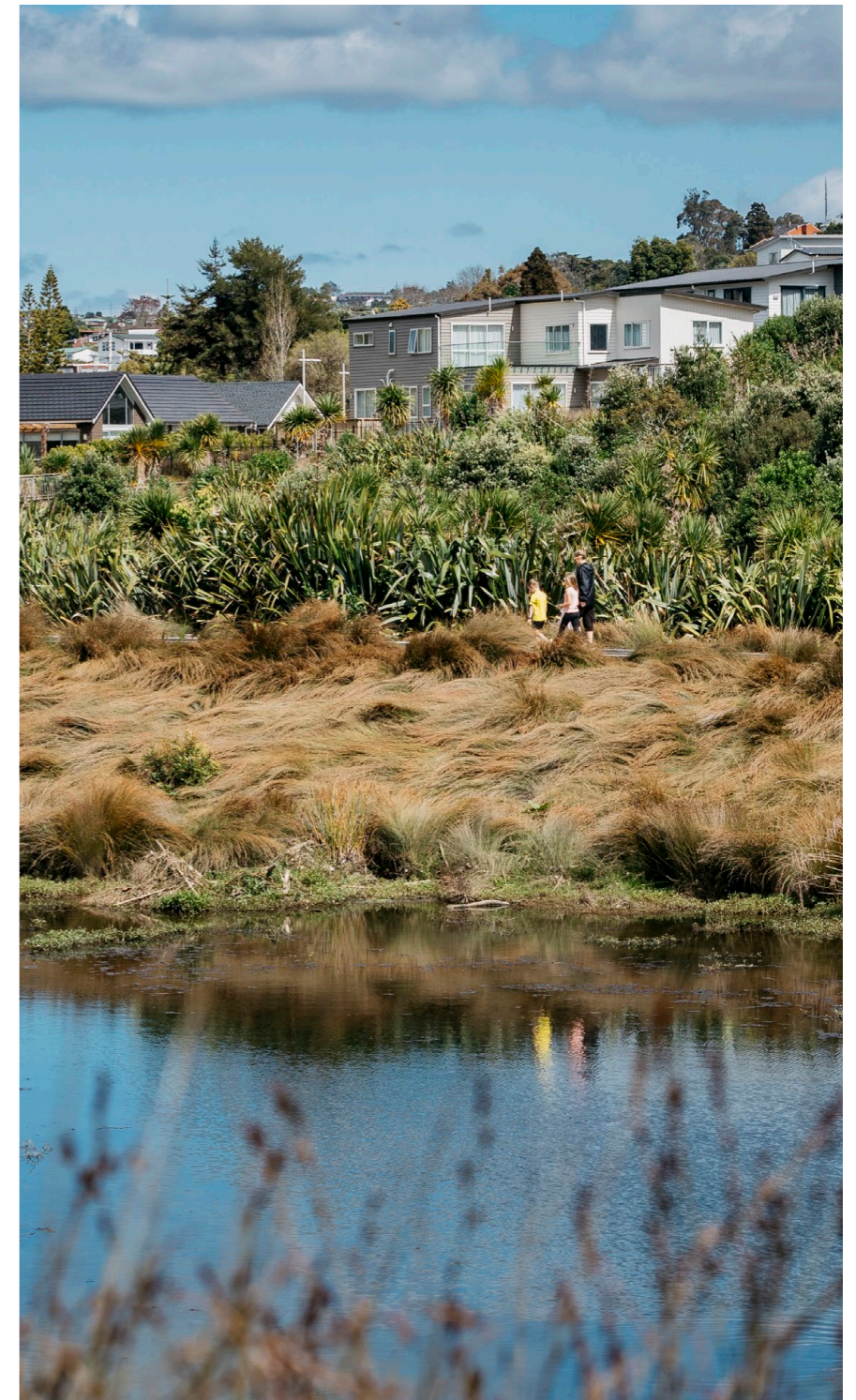
**“LONG BAY REPRESENTS ONE OF NEW ZEALAND'S FEW EXAMPLES WHERE LAND USE PLANNING AND CATCHMENT MANAGEMENT PLANNING HAVE BEEN DEVELOPED SIMULTANEOUSLY”**

Stuff, 17 November 2015

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**“THE PRIMARY DRAW OF THIS RESIDENTIAL DEVELOPMENT IS ITS LOCATION: ADJACENT TO THE LONG BAY REGIONAL PARK AND THE LONG BAY-OKURA MARINE RESERVE. THE NEED TO ENSURE THE PROTECTION OF THE ENVIRONMENT FROM THE EFFECTS OF STORMWATER RUN-OFF WAS A KEY TO THE PROJECT'S SUCCESS. THE DEVELOPMENT CROSSES TWO CATCHMENTS, WITH HIGH-QUALITY STREAMS IN BOTH.”**

Landscape Architecture New Zealand, Issue 27





# Essential Criteria

## 1. Clarity

Since 2009, Boffa Miskell has assisted Long Bay Communities Ltd in the master planning, landscape design and environmental management of a new urban development at Long Bay.

Over this time we have worked closely with the client and wider project team to ensure that each stage of development delivers the outcomes sought during the masterplan phase, that is combining the requirement for a contemporary urban form whilst providing for ecology, landscape, and people-orientated spaces as fundamental components of the new community

## 2. Sense of place

A key driver for this development was establishing the framework for ecological reconnection, the development closely links the urban form and infrastructure with the physical dynamics of the Long Bay landscape and it's ecology to create a 'sense of place'. The landscape is designed to strongly integrate ecologically with the natural gully, stream and coastal environs through extensive planting which is carefully selected and placed.

By allowing the idiosyncrasies of Long Bay to be enriched, the development as a whole delivers a place-based response. While the landscape design complements the urban design, it also strives to establish an identity of its own as a 'natural' contrast to the built environment. The landscape is then conceived as the connecting fingers that bind this special place together

## 3. Performance

Client satisfaction with our performance to deliver the Long Bay Landscape over more than 10 years is evident in the fact that they are proud to be co-named in this award application. Boffa Miskell has delivered high quality design and delivery for Long Bay Communities Ltd from the initial mater planning phase through to physical completion of planting within over 17 separate stages of development. All stages of work have been delivered on time and our professional services fees have been within budget.

Feedback from Long Bay residents on the quality of the development includes comments on the peaceful and quite quality of the place which makes them feel instantly relaxed.



## 4. Value

The success at Long Bay is the relationship between quality of life and quality of place, and the role that the urban form and landscape framework play in creating a unique sense of identity at Long Bay. This identity celebrates the distinctiveness of the place by respecting and reinforcing the existing natural and cultural heritage, ecological systems and connections to outstanding adjacent landscapes.

The development has created a community that is connected and legible, in harmony with the natural environment, ecology focused, provides for community interaction, recreational opportunities and ongoing education. Long Bay has become a lasting environment that celebrates Quality of Life and Quality of Place and delivers a sustainable community where people want to live now, and in the future.



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## 5. Innovation

Innovation is demonstrated through the seamless integration of catchment planning and urban design. The land use zoning applied to the development is an example of Water Sensitive Design thinking being integrated into the planning process right from the very start. The upper catchments, with the more sensitive stream environments, have lower density development; while higher density development has been allowed in the lower catchment.

The use of WSD has served the Long Bay environment well and is protecting important natural assets. But it has also provided clear evidence that achieving high environmental standards can easily be incorporated as an enhancement to thoughtful neighbourhood design, not a burden.

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## 6. Execution

Through the abundance of successfully established plants in both the streetscape and revegetation/riparian areas of the site, this project demonstrates years of specification refinement by Boffa Miskell for the implementation of ecologically based restoration planting and amenity streetscape planting. Our recommendation to let the street tree propagation contract early and for the whole development has ensured the vast number of large grade specimen trees have been available to implement the overall design vision for the development.

Our close working relationship with both Long Bay Communities Ltd and The Plant People has ensured a smooth process for documentation and contract management. Eco sourced plant material has been able to be provided as species list have been provided well in advance of the required implementation

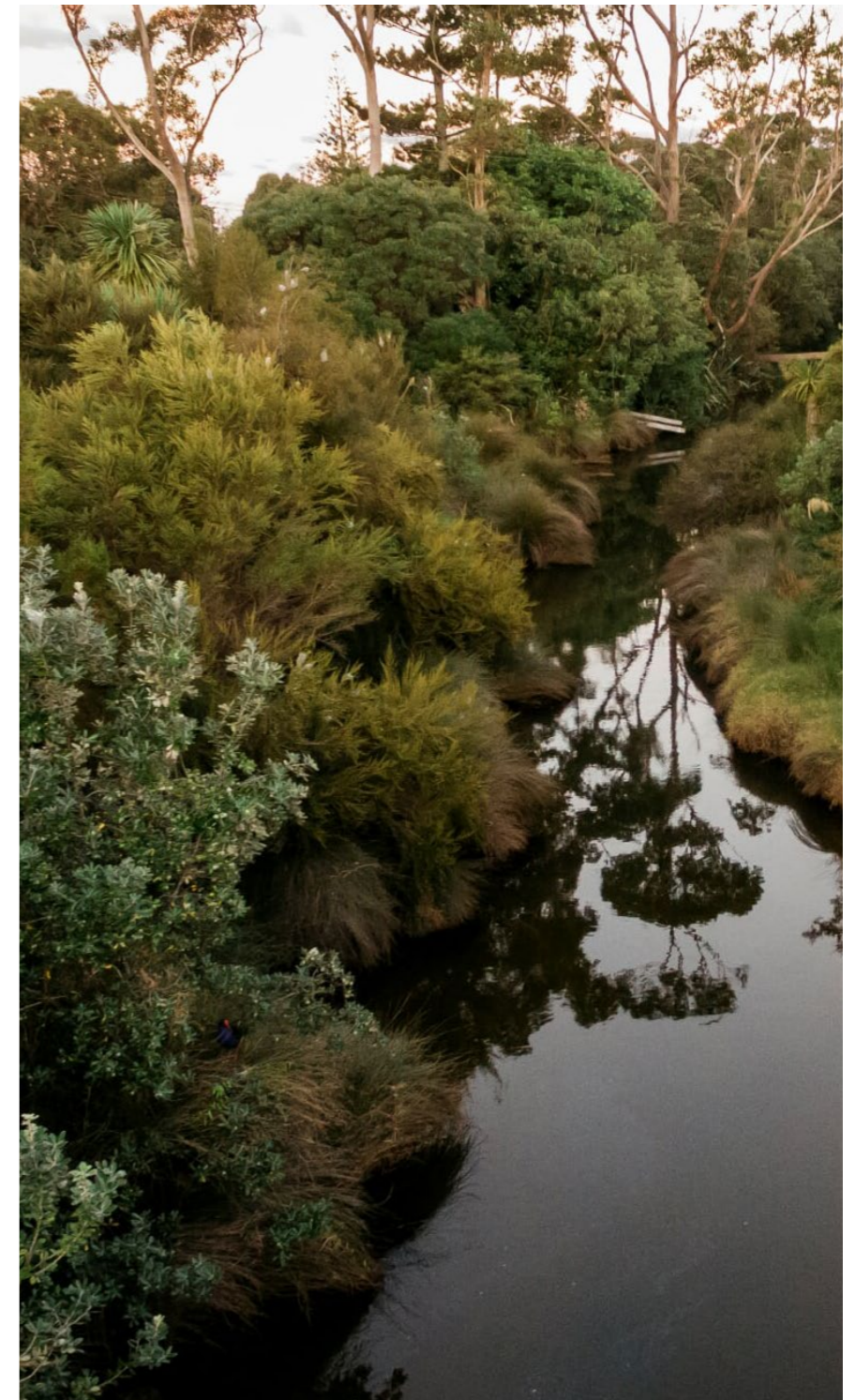
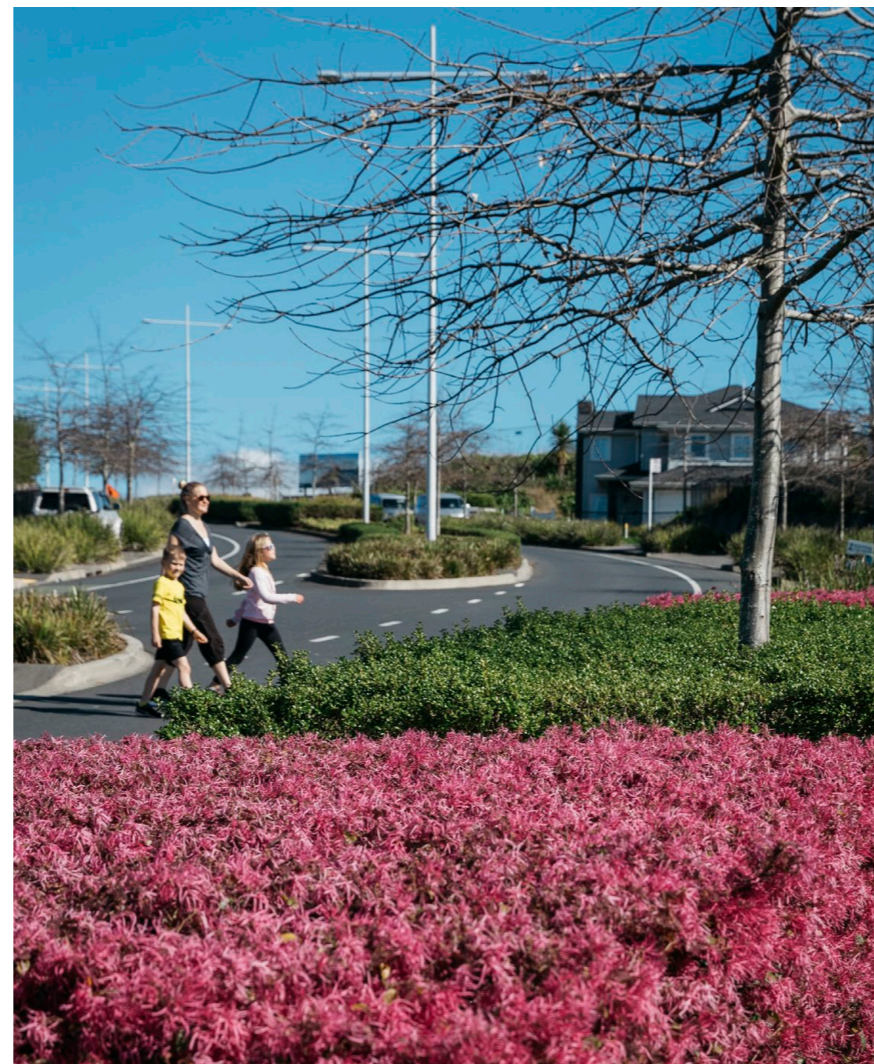
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## 7. Plantsmanship

Streets: In this urban development, private lawn areas are minimal and lawn mower ownership is low. Planting of the streetscape was essential to enhance the sense of place, enable a streetscape that provided for low maintenance, hardy plant species and accommodate the necessary planting for extensive raingardens. Over the 10 years of construction implementation Boffa Miskell has continually refined and enhanced the plant species selection for each stage in responses to the success of particular species, and the varied needs of residents and the requirements of the Auckland Council.

Revegetation: Plant selection across the project respects the natural coastal character and greatly enhances the biodiversity of the area. Species selection was carefully considered to ensure natural regeneration occurs through all revegetation areas. Some of the initial revegetation and riparian planting is into its eighth year of establishment and continues to function as a successful planting composition.

Riparian: Riparian planting mimics the natural ecosystems found within lower, mid and upper reaches with species selection carefully situated to reflect the subtle changes in the environment or function.





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## 8. Environmental stewardship

The integration of masterplanning, landscape design and environmental management has created an holistic and integrated open space network that serves both ecological as well as landscape/amenity and passive recreational functions:

Enhancement of all areas of existing indigenous riparian habitat through enrichment plantings with appropriate native species;

Establishment of a number of new riparian margins within the catchment including Awaruku Stream, Vaughans Stream, Stream 1B, 1C & 1D and Stream 2.

Provision of habitat for native species requiring grassland areas, such as inanga [for spawning] and native skinks;

Restoration of self-sustaining ecosystems within the rehabilitated, linked and revegetated areas, including the processes of natural regeneration, succession, nutrient cycling and evolving habitat opportunities;

Enhancement of the long-term water quality of both Vaughan's Stream and Awaruku Stream (avoiding adverse effects upon the Long Bay Marine Reserve) through the increased native riparian and wetland treatment plantings.

Enhancement of the amenity of the Long Bay development area by way of planting within public open spaces, private landscaped yards (mid-block batters) and within the streetscapes.

Implementation of on-going ecological management of the protected, restored and revegetated sites by way of weed and pest control.

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## 9. Significance and influence

The overall goal of the project was to provide an integrated urban form, ecological framework and landscape framework that combine to collectively create a stimulating network of green spaces, streets, places and habitats.

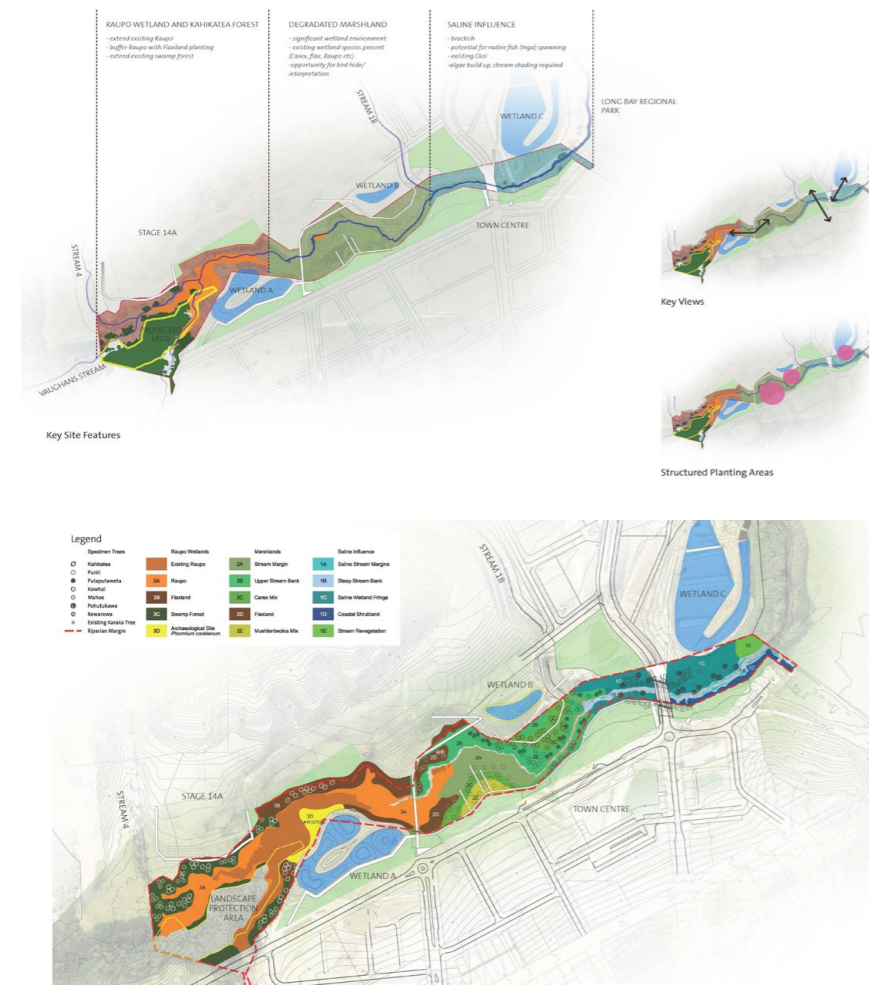
The way in which the framework and this development collectively provides substantial benefits which far exceed the sum of the individual parts demonstrates on a large scale how a 'green infrastructure' can be layered throughout a new urban development.

The project has been used as a design exemplar in the Auckland Design Manual and Code of Practice.





# Ecology and Sustainability



## Ecology underpins the design response by:

- Increasing the amenity and biodiversity values of the existing ecological condition by restoration/revegetation habitat improvement and creation
- Creating new stream alignments, lizard habitats and Inanga spawning areas
- Improving stormwater treatment of the Awaruku catchment
- Enhancement of the Vaughan's Stream – Long Bay coastline axis as a habitat corridor and ecological connection

## Key Outcomes

The key ecological outcomes gained as a result of the extensive riparian and revegetation planting include: Increased extent and quality of indigenous terrestrial vegetation cover, with improved connectivity and ecological functionality; increased extent and condition of freshwater habitats as a result of riparian revegetation; and long-term protection and management of indigenous vegetation and selected open grassland habitats occurring within the site.

Overall, this has increased the biodiversity within the Long Bay development area through increasing the available habitat and level of protection afforded to the biota utilising the wider area. Where previously streams had no riparian planting or were damaged by cattle and had sediment runoff, they are now benefiting from established riparian planting with thriving numbers of native fish including the banded kokopu.

## Designing Streets as Public Spaces

The streetscapes and public open spaces of Long Bay form a network of landscape elements which work together to integrate built form and connect the community through safe and pleasant routes.

In the early stages of the project Boffa Miskell worked closely with Long Bay Communities Ltd and the masterplanning team to develop a hierarchy of streets that provided both visual and physical connections to the open space network and wider natural environment and in doing so ensuring legibility for pedestrians, cyclists and vehicles.

There is a clear hierarchy of streets, with a primary and secondary road network, and each type of road designed to fulfill a different function. All streets are designed to consider a range of road users, particularly cyclists and pedestrians.

'Shared space' street environments known as Garden Streets are also utilised to blur the distinction of street function, integrating transport, pedestrian links, landscape amenity, and infrastructure.

These 'shared spaces' provide for pedestrian and bike priority over automobile movement, and streets are useable open space with enhanced landscape amenity.

Stormwater is brought intermittently to the surface as a landscape element (raingardens) and to passively irrigate planted areas. Private and public garden spaces overlap to provide a comprehensive landscape treatment and a more domestic scale which creates a clear point of difference to other streets.

The 'Garden Street' concept has been to design a 'kit of parts' which includes visitor parking, stormwater treatment devices, amenity planting and multi purpose hard landscaping. These 'parts' can be arranged in a variety of ways depending on the context which is reflected in the diversity of the layout of the Garden Streets between stages.

## Development Blocks

Mid-block batter slopes have been used as a successful grade management tool, minimising the need for retaining walls between development blocks. Established during the masterplan phase, the mid-block batters have been implemented throughout all stages of development.

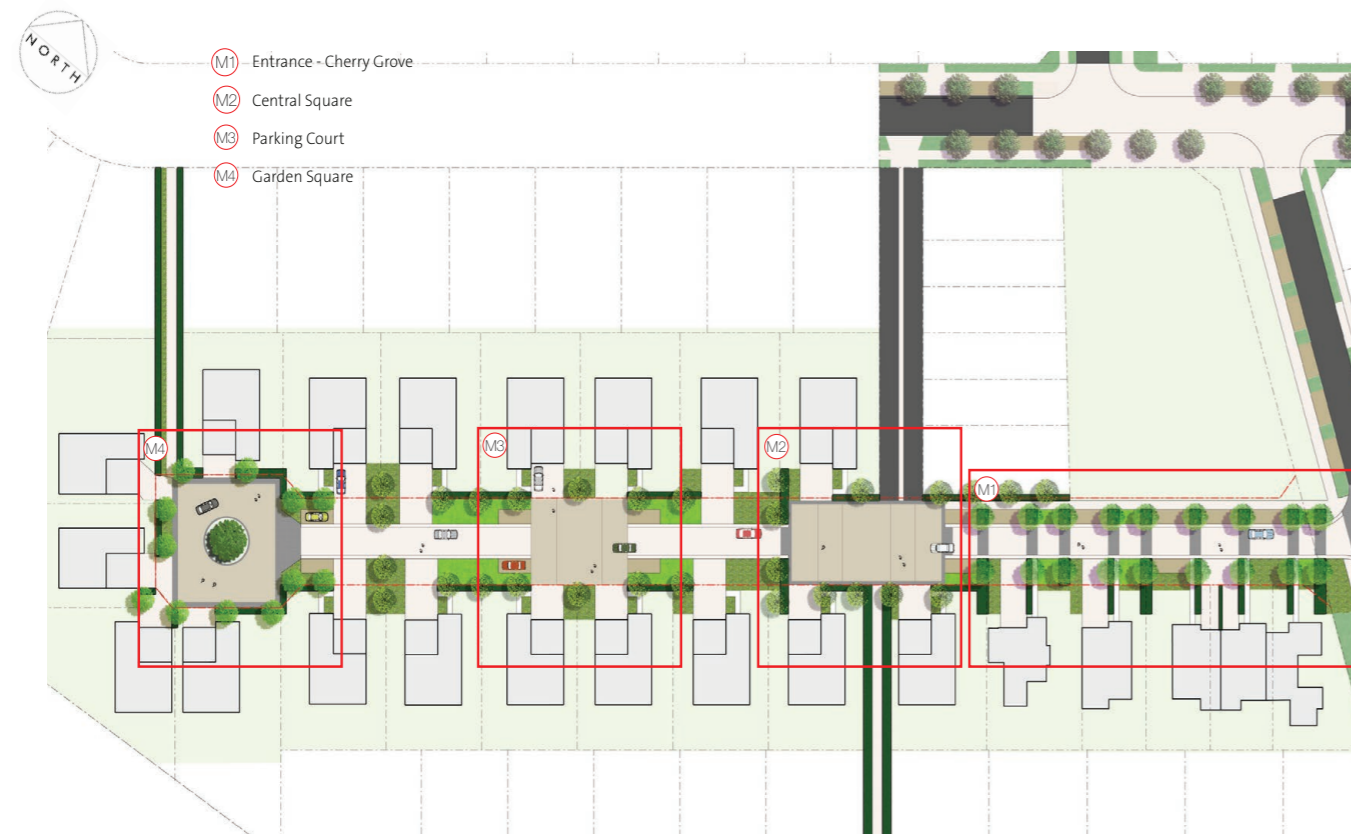
Designed at a slope of 1 in 2.5 these batters do not utilise mechanical stabilisation and instead utilise planting to prevent erosion. Utilising a suitable native species palette, this planting has been successfully established with the assistance of spray on compost/mulch.

Using this design there is minimal requirement for any further modification of the land to allow the houses to be built. Any on site retaining is low, and where possible it is located behind the houses so it does not impact on the street.

The slopes also offer some additional benefits, one of which being how they form an essential part of the onsite treatment of stormwater. The planting of the batter captures and holds stormwater, to allow it to permeate into the ground. Another benefit is optimal habitat they provide for lizards and other invertebrates through extensive areas of native grasses.



Garden Street West: Applied Modules and Layout





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## Revegetation and riparian planting

The pre-development ecological values of most streams within the Long Bay Development were compromised by the general lack of native streamside vegetation and the presence of weeds.

Comprehensive design and management of the margins next to these waterways, through an extensive revegetation programme, has provided a significantly improved landscape outcome with enhanced water quality and the provision of valuable habitat niches and corridors for birds, lizards, plants and invertebrates.

Overall 7.12 ha of wetland and riparian planting has been implemented within the Long Bay development, this includes eight stream watercourses, one being a stream diversion (Stream 1B) which has been carefully designed to create an appropriate stream alignment with pools and riffles to enhance fish habitat and passage.

The concept underlying the approach to the extensive revegetation programme at Long Bay is for the selected areas to mimic the processes of natural colonisation, establishment and succession into mature forest.

The composition and species mix of each of the revegetation types will closely mirror that of naturally occurring similar communities within the local area.

The key areas of revegetation planting are:

- The Long Bay development boundary abutting the Long Bay Regional Park along the north-eastern ridgeline classified as the Park Interface Protection Area (PIPA). The revegetation of this interface has extended the existing native vegetation (currently only on the Regional Park side) up the ridgeline, thereby increasing the terrestrial habitat available as well as providing a buffer to the existing native vegetation.
- Vaughan's Stream escarpment is classified as a Landscape Enhancement Area. Planting of appropriate native species on the full extent of this natural escarpment has served to increase the terrestrial habitat and link it with the adjacent management areas (creating ecological connectivity) and controlling erosion, as well as providing a visual foil to large lot development behind and a vegetated backdrop to integrate development in front.
- The land located between streams 1C and 1D (within Stage 17) is classified as a Landscape Protection (Restoration) Area. The revegetation of the non-riparian portion of this protection area replicates the form of a hillslope forest. This planting assists with stabilising the hillslope, as well as providing a terrestrial habitat link between the two stream reaches.





