



Beachlands South Masterplan Sustainability Strategy

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This report has been prepared by Studio Pacific Architecture, Jasmax, Studio Woodroffe Papa, and Woods Bagot on behalf of the Beachlands South Partnership Ltd. It is to be read in conjunction with the Beachlands South Plan Change Masterplan Design Report.

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We wish to acknowledge the input from the wider consultant team who have contributed their knowledge to the design development to date.

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Ngai Tai ki Tāmaki – Mana whenua

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Unio – Planning

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‘We have to start moving beyond targets. We have to start moving beyond aspiration. We have to start moving beyond statements of hope and deliver signs of action.’

– Prime Minister Jacinda Ardern on the Net Zero Carbon Target for 2050

Introduction

Beachlands South places sustainability, biodiversity and resilience at its heart. A place that is to be defined by its symbiotic relationship with the natural environment and which embodies principles enabling and upholding mental, social, cultural and physical wellbeing. This will be a place where people can live and sustain themselves.

Purpose

This document sets out the sustainability credentials for Beachlands South and includes the objectives, proposed initiatives and performance targets required to fulfil the development's vision. It forms part of the Beachlands South plan change submission, signifying the high environmental aspirations of the development.

Why is this strategy important?

The last decade (2011-2020) was the warmest on record.¹ To counter the trend of rising temperatures we need to see a sustained decline in the pollution that we put into the atmosphere. Under the United Nations Paris Agreement, New Zealand committed to keeping its 2030 net emissions (gross emissions less carbon sequestration from forestry) at least 30% below its 2005 gross emissions.² BRANZ identify that the built environment accounts for up to 20% of New Zealand's greenhouse gas emissions. The construction industry has a sizeable and important role to play in reducing emissions to help New Zealand meet its net-zero carbon targets.

Context

The strategy takes into account national and international frameworks, initiatives and recommendations on climate change and building a low-carbon, climate friendly Aotearoa. This includes the New Zealand Climate Change Commission's report Ināia tonu nei: a low emissions future for Aotearoa, MBIE directives established under their publications Building For Climate Change, the Whole-of-Life Embodied Carbon Emissions Reduction Framework and Transforming Operational Efficiency, and the United Nations 17 Sustainable Development Goals.

Ināia tonu nei is a call to all of us to take climate action today, not the day after tomorrow.³



2015 United Nations Sustainable Development Goals (SDGs)

¹ State of the Global Climate 2020 (WMO-No.1264), World Meteorological Organization (2021)

² BRANZ Bulletin 651 Zero Carbon Building, June 2020

³ He Pou a Rangi, Climate Change Commission | Ināia tonu nei: a low emissions future for Aotearoa (June 2021)

Project Background – Beachlands South Vision

A Sustainable Vision

Beachlands South is a place defined by its symbiotic relationship with the natural environment.

Seamlessly extending and connecting with the existing town of Beachlands, it draws upon the existing rural coastal character of the area.

It is an innovative, regenerative and low-impact development that is sustainable and resilient and will thrive for many generations to come.



Artist's impression - public path network through ecological corridors

Key areas

The sustainability strategy for Beachlands South is a holistic approach that encompasses six key focus areas:

- 1. Water Management and Water Sensitive Design**
- 2. Biodiversity and Ecological Regeneration**
- 3. Health, Wellbeing and Culture**
- 4. Low-carbon Development**
- 5. Renewable Energy and Energy Efficiency**
- 6. Transport – Modal Shift and Healthy Streets**



1. Water Management and Water Sensitive Design

An innovative and resilient three waters (water supply, stormwater and wastewater) management strategy to ensure long-term benefit to the development, the wider community and surrounding natural environment.

2. Biodiversity and Ecological Regeneration

Protect and enhance existing ecological systems and improve ecological connectivity throughout the site and with the wider landscape. This includes extensive restorative and regenerative planting, especially around waterways, creating new habitat areas for fauna and flora and a healthy environment for residents and visitors to enjoy.

3. Health, Wellbeing and Culture

A built environment that embodies principles that foster the physical, mental, social, cultural and economic wellbeing of residents and visitors of Beachlands South. This includes design principles that align with Te Ao Māori values, providing neighbourhoods with strong emotional, visual and physical connections with nature, and including employment opportunity areas and public amenities that promote communities that can sustain themselves.

4. Low-carbon Development

A low carbon development, with significantly reduced embodied and operational energy for buildings and infrastructure, alongside the enhancement and introduction of significant on-site carbon sequestration through native planting.

5. Renewable Energy and Energy Efficiency

An all-electric, renewable energy sourced residential development with on-site energy generation, energy efficient infrastructure and buildings, reduced water and operational energy demand.

6. Transport – Modal Shift and Healthy Streets

A movement network that prioritises active modes of transport such as walking and cycling, shifting away from car-dependent transportation, making streets safer, quieter and healthier.



Artist's impression showing examples of sustainability features / key areas



Elevated view looking northwest towards Auckland CBD and Rangitoto

Sustainability Initiatives

The following tables identify initiatives that progress the vision and objectives within each of the focus areas. A potential delivery strategy is indicated for each initiative including identifying the developer's role in how these initiatives will be delivered and whether the initiative has been incorporated into the plan change and/or whether the initiative is a matter to be considered post plan change and potentially as part of subsequent development.

Legislation and best practice in sustainability is an evolving landscape. Therefore, with many of these initiatives, the monitoring and adoption of the most up to date guidance and industry targets will be required.

Ref.	Initiative	Description	The Developer's Role (in partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
1.1	Access to sustainable potable water supply	Ground water sourced from existing aquifers and treated on site.	D		
1.2	Reduce water wasteward	Rainwater collection tanks at residential dwellings and commercial buildings for re-use - to reduce demand on potable water supply.	S		✓
1.3	Reduce water wasteward	Set targets for reduced water consumption in commercial and residential buildings.	S		✓
1.4	Reduce water wasteward	Smart meters for managing demand and auto billing. Reasonable use is encouraged through water tariffs above an agreed baseline. The more you use the higher the unit cost. Central infrastructure that is installed by developer, managed and maintained by private contractor.	S		✓
1.5	Reduce water consumption fixtures in new houses		S		✓
1.6	Reduce water consumption fixtures in new houses	Mitigate irrigation requirements for public parks and open spaces through planting endemic, drought-tolerant species and employing sustainable management procedures.	S		✓
1.7	Reduce water consumption fixtures in new houses	Neighbourhood rainwater collection devices for use in commercial and public spaces - for example, sports fields and community gardens.	S		✓
1.8	Improve the quality and manage the flow of the water runoff that enters the streams and coastal marine receiving environment	Water detention - extensive stormwater attenuation across the site including stormwater wetland devices and detention basins. Reduce source and erosion of stream banks and mitigate lowering of stream beds.	D	✓	

The Developer's Role (RPG)



Deliver

Responsible for delivering the specific element within the development. An active leadership role and provision of funding, with the potential for other delivery entities to be involved.



Strategic Input

Involvement in the front end planning and strategy, which may include identifying performance targets. Delivery to be implemented by others.



Contribute

This role recognises that the initiative may be delivered by a range of organisations. It may involve attending meetings and providing comment and/or providing dedicated resources.

Incorporated into Plan Change (Tick box)



The initiative has been incorporated into the plan change design; further design development and delivery needs to align with this.

Post-Plan Change Initiative (Tick box)



Further work is required to define the targets/requirements/details of the initiative. These will be done post-plan change.

1. Water Management and Water Sensitive Design



Objectives

A water sensitive design that integrates development into the ecological water flow. This approach avoids environmental degradation, maintains and enhances the viability of the existing water catchment and stream network, and contributes to healthy soils and biodiversity whilst enhancing the receiving environment by reducing the number of contaminants flowing into the sea.

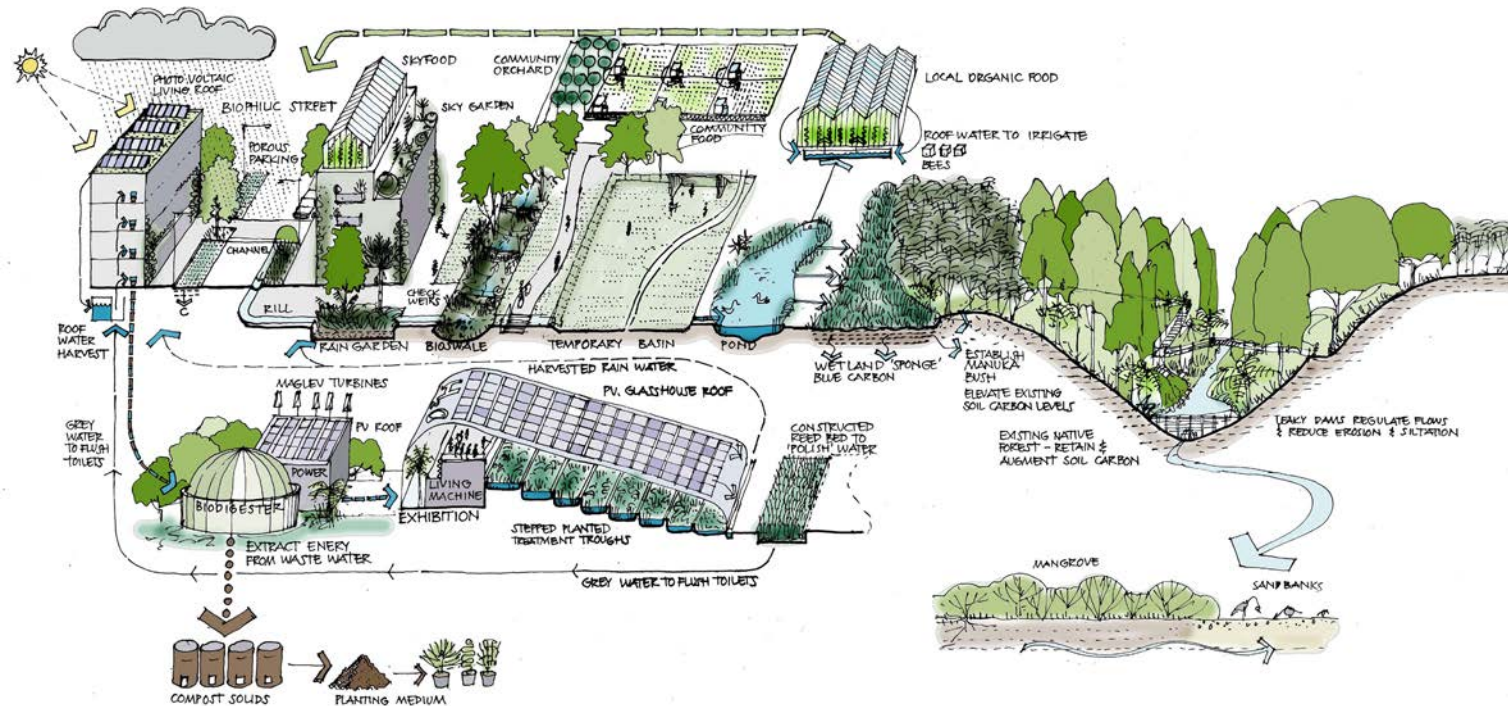































Illustration courtesy of Studio Engleback

Initiatives

Water Supply and Stormwater					
Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
1.1	Access to sustainable potable water supply	Ground water sourced from existing aquifers and treated on site.			
1.2		Encourage / promote rainwater collection tanks at residential dwellings and commercial buildings.			
1.3	Reduce water use/demand	Set targets for reduced water consumption in commercial and residential buildings.			
1.4		Smart meters for managing demand and auto billing. Reasonable use is encouraged through water tariffs above an agreed baseline. The more you use the higher the unit cost. Central infrastructure that is installed by developer, managed and maintained by private contractor.			
1.5		Reduced-water consumption fixtures in new houses			
1.6		Mitigate irrigation requirements for public parks and open spaces through planting endemic, drought-tolerant species and employing sustainable management procedures.			
1.7		Neighbourhood rainwater collection devices for use in communal and public spaces – for example, sports fields and community gardens.			
1.8	Improve the quality and manage the flow of the water runoff that enters the streams and coastal marine receiving environment	Water detention – extensive stormwater attenuation across the site including stormwater wetland devices and detention basins. Reduces scour and erosion of stream banks and mitigates lowering of stream beds.			

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
1.9		Integrate detention systems, rain gardens and open swales at source (along streets and within the open spaces) to capture road run-off, reduce flood flows and filter contaminants before entering streams and soaking into the ground.			
1.10		Achieve water quality standards into the receiving environment.			
1.11		Encourage infiltration where possible to help with shallow groundwater recharge and provide additional baseflows to streams. Provide guidance to reduce impervious coverage and channelisation in public spaces and across the site. Encourage the use of permeable paving and other WSD measures.			
1.12		Assess hydraulics of new stream reaches formed (e.g. after the removal of the artificial golf course ponds) and develop a toolbox kit of in-stream features to create healthy stream reaches meandering within a fixed corridor.			
1.13		Stabilise stream banks with native planting to reduce erosion, stream turbidity and sediment flow into the estuary.			

Wastewater					
1.14		Beachlands South wastewater treatment plant (WWTP) to serve the new precinct. Biological nutrient removal process followed by disinfection. Filtered water flows into stream. Central infrastructure installed by developer; managed and maintained by private contractor.			



Drone view, looking west over Waikōpua Estuary



2. Biodiversity and Ecological Regeneration

Objectives

Significantly enhance the project site's biodiversity net gain compared to its current land-use levels. This includes planning for ongoing protection, maintenance and management of green/blue infrastructure on site to ensure biodiversity net gain remains a continued legacy.

















Well-protected, connected and regenerative natural areas provide a wide range of benefits, including local fauna and flora habitat, positively impacting on the wider ecological network and in turn the local community.

Supplementing the existing significant ecological areas (SEA) with extensive native vegetation will further attract birdsong and reinforce a sense of place and the custodianship of these spaces.



View looking south towards Whitford, across Waikopua Estuary

Initiatives

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
2.1	Ecological protection, restoration and regeneration – ensure that people and the built environment better integrate with the natural landscape and ecology.	Establish regenerative and protective buffer zones/esplanades to existing waterways and significant ecological areas with regenerative native planting and protective measures for vulnerable ecological areas.			
2.2		Establish a Beachlands South community environmental stewardship and education programme. Including an onsite plant nursery for planting to begin in the early phases.			
2.3		Comprehensive network of green links and reserves that connect homes and neighbourhoods and village hubs with open spaces and ecological areas, enabling a strong connection to nature.			
2.4		Interconnected green spaces that form a local ecological network that contributes to the wider regional connection between the Hunua Ranges and the Waitematā Harbour.			
2.5	Increase biodiversity	Extensive native planting of different habitat types will provide valuable flora and fauna habitat for a variety of species, reduce erosion, improve soil structure and form local ecological corridors – including restorative planting palettes for inland forest, coastal margin, riparian margin, wetland, etc.			
2.6	Pest, fire and erosion risk management	Provide a Biodiversity Management Plan – including possible measures such as limiting dog and cat access to sensitive areas, e.g. coast intertidal zones and breeding areas – as part of a long-term management plan for the ecological enhancement areas within the plan change area.			

3. Health, Wellbeing and Culture



Objectives

In Barton and Grant's (2006) health map for the local human habitat⁴ they identify that the determinants of health and well-being include our individual characteristics, economic and employment conditions, and social and environmental contexts. A myriad of factors and stakeholders contribute to our health and wellbeing, which is created and fostered in our homes, our public spaces, buildings, neighbourhoods and communities. The following are some examples of how health and wellbeing can be fostered in Beachlands South.

Connection to Nature

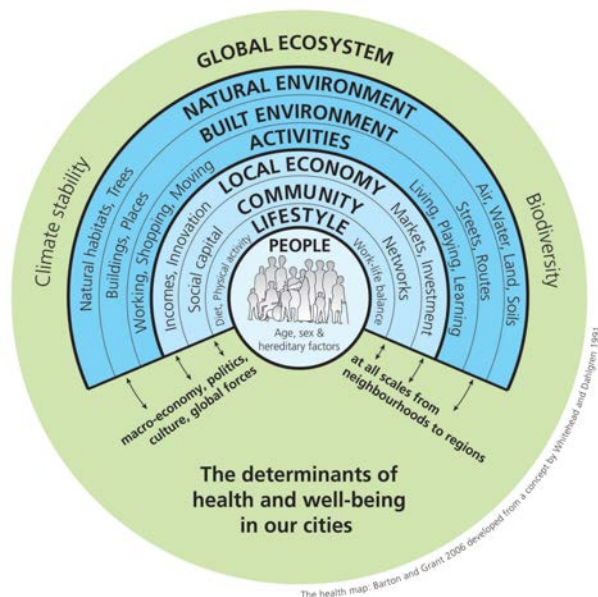
Access to green spaces and natural areas are associated with a wide range of health benefits such as lower levels of anxiety and depression and improved physical and mental recovery from stress and fatigue. Beachlands South aims to enhance the wellbeing of residents and visitors by bringing people closer to nature through emotional, visual, and physical connections between the built and natural environment.

Cultural Values and Identity

A sustainable development is one that acknowledges the mana whenua of the site and incorporates the cultural values of the iwi into its vision, principles, design and construction. This includes working in partnership with the mana whenua, incorporating their values into the kaitiakitanga of the whenua, takutai and moana.

Employment and Public Amenities

Operating, managing, maintaining and caring for this new precinct, its infrastructure, landscape and community facilities will create employment opportunities in addition to the commercial opportunities that will be created. Being able to work from home and/or work within the area means fewer trips beyond Beachlands South and less pressure on the Whitford Maraetai Road. Local schools and social infrastructure will provide walkable neighbourhoods that are sustainable in many ways.



⁴ Barton, H. and Grant, M. (2006). The Journal for the Royal Society for the Promotion of Health, 126 (6), pp. 252-253

Initiatives

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
3.1	Cultural and heritage values	Incorporate Te ao Māori cultural values identified in the Cultural Values Assessment (CVA) into the design.	D	✓	✓
3.2		Prepare and implement a Cultural Landscape Plan that reflects and responds to cultural and heritage values of the site.	S C	✓	✓
3.3	Healthy food and medicinal plant species	Community Gardens – provide community garden areas for fruit and vegetable growing.	S		✓
3.4		Mahinga kai – include native species that allow for harvesting of food and resources for cultural practice. For example, harakeke and kawakawa.	S		✓
3.5		On-site native plant nursery for extensive revegetation and forest sequestration planting – include rongoa species – potential to collaborate/partner with mana whenua.	S		✓
3.6	Provide areas for community amenities and facilities that promote health and wellbeing, a sense of community and accessibility for all.	Provide areas/opportunities for amenities that are flexible for the community. In particular, those that address a need identified within the existing Beachlands Community. For example, community spaces for hire, studio spaces, etc.	S	✓	✓
3.7		Provide opportunity for active and passive park spaces for sports, play and recreation – in accordance with Auckland Council Open Space Policy – with its extensive green network Beachlands South could provide more than the usual development.	S	✓	✓
3.8		Provide opportunity for primary and secondary schools.	S		✓

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
3.9	Incorporate biophilic design – physical and visual connections to nature	Ensure all residents live in close proximity to natural and ecological areas and where possible incorporate universal access to these spaces.	S	✓	✓
		Urban and landscape design that includes: – access and views to coast and motu – planting in all precincts – regular connections to green space	D		✓
3.10	Promote active lifestyles	Provide a network of walking and cycling paths that support sport and recreation and daily activity – encouraging healthy choices, e.g. walk rather than drive. To be developed further at resource consent stage with CPTED principles.	S	✓	✓
3.11		Walkable neighbourhoods – including a walking and cycling network (streets and off-road facilities) that connects homes with public amenities, workplaces, education facilities, etc.	S	✓	✓
3.12		Convenient and secure cycle and scooter parking at public amenities.	D		✓
3.13	Provide comfort	Establish comfort and wellbeing standards for dwellings' performance that ensures fresh air and reduces energy use to provide consistent thermal comfort, e.g. naturally ventilated buildings.	S		✓
3.14		Avoid the climate warming-induced effects of urban heat islands by planting trees for shade and shelter and using permeable surfacing where appropriate.	D		✓



4. Low Carbon Development



The greenhouse gas emissions that buildings and infrastructure account for can be broadly divided into two categories:

Embodied carbon

The emissions accounted for by the structure of a building itself – the manufacture of construction materials, transport of materials to site, construction methods, construction waste, maintenance and end-of-life disposal.

Operational carbon

The emissions that come from use of the building. These are primarily the fossil fuel component in energy used for space heating, water heating, ventilating, cooling, lighting, food storage, cooking, clothes washing/drying and other appliance use.

BRANZ identify in their Bulletin 651 (June 2020) that there is a wide gap between the carbon footprint of what we are typically building and the carbon budget of what we need to be building. It is imperative to focus on closing this gap, applying this to mainstream construction as soon as possible.

Ways of doing this could include reducing embodied carbon through construction of buildings that are carefully designed, use re-claimed or re-used materials, prioritise timber structure and reduce steel or concrete, and can be disassembled at end of life in accordance with circular economy principles. To reduce operational carbon there is considerable evidence from research by BRANZ and other organisations that one key area of focus for residential construction should be energy and energy efficiency. A new building with net zero operational carbon is 100% powered by renewable energy and

achieves a level of energy performance in-use in line with national climate change targets (approximately 70% less than Code).

Carbon reduction targets are still being developed in Aotearoa, however, in the UK the RIBA 2030 Climate Challenge sets an overall aim to target net zero whole life carbon emissions (or better) by 2030 at the latest. The RIBA has set RIBA Chartered Practices a challenge of achieving the following reductions as soon as possible but as a minimum for projects in operation in 2030:

1. Reduce operational energy demand by at least 60% from current business as usual baseline figures, before offsetting
2. Reduce embodied carbon by at least 40% from current business as usual baseline figures, before offsetting






















Objectives

Create a low-carbon development where inhabitants can enjoy low-carbon lifestyles including addressing the following:

- Minimising earthworks associated with the land use change
- Providing low-carbon transport choice – compact urban development with good public transport, walking and cycling infrastructure – and opportunities to live and work in a local community (mitigating journeys beyond the local area).
- Constructing homes and commercial buildings that have low embodied and operational carbon
- Supporting opportunities to produce local food (mitigate food miles)
- Reducing construction & operational waste
- Balancing carbon production with on-site sequestration. By expanding upon the site's existing significant ecological areas, an extensive green network across the development will form a permanent on-site carbon sink. The predominantly native planting has potential sequestration values over a 100 year period to be equivalent to the embodied emissions for construction of approximately 2500 of the proposed houses. Refer to the appendix for further information on the Beachlands South emission and sequestration targets.

The following initiatives seek to address the above objectives. Alongside these there will be ongoing work to significantly reduce carbon emissions further through optimised design, planning, construction, and operation of the development.

Initiatives

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
4.1	Site earthworks	Optimise cut and fill volumes through working with site contours and using housing typologies to suit.	 		
4.2	Reduce lifestyle carbon emissions associated with transport	A masterplan that enables and encourages travel by walking and cycling and public transport rather than private vehicle use. Extensive walking and cycling network with a high level of service.			
4.3	Buildings, landscaping and infrastructure to reduce their embodied whole of life carbon	Set objectives to appropriate environmental assessment and certification standard. For example, Homestar.			
4.4	Build for the future	Design for disassembly at end of life. Design for flexibility in future use of buildings and spaces. Produce design guides as a tool for measuring resource consent proposals against.	 		
4.5	Construct low-energy use houses	Smaller houses with good orientation for solar gain and insulation that reduces energy demand. Environmental assessment and certification procedure – for example, Green Star 7 or higher. Consider using Life Cycle Analysis modelling.			
4.6	Balance the embodied carbon with on-site sequestration	An extensive planting strategy that includes native vegetation and forests that will be a permanent carbon-sequestering and biodiversity feature of the development. Funding, delivery, governance, and maintenance model/structure to be determined.	 		
4.7		Extensive street tree and berm planting that exceeds current business-as-usual approach.			

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
4.8	Reduce waste	<p>Auckland Council has an aspirational goal of zero waste to landfill by 2040. That means by recycling, composting food waste, re-using items, re-purposing materials, and preventing waste in the first place.</p> <p>Produce a Waste Management and Minimisation Plan to align with Auckland Council's https://www.makethemostofwaste.co.nz/about To focus on domestic, commercial and construction waste.</p>	S		✔



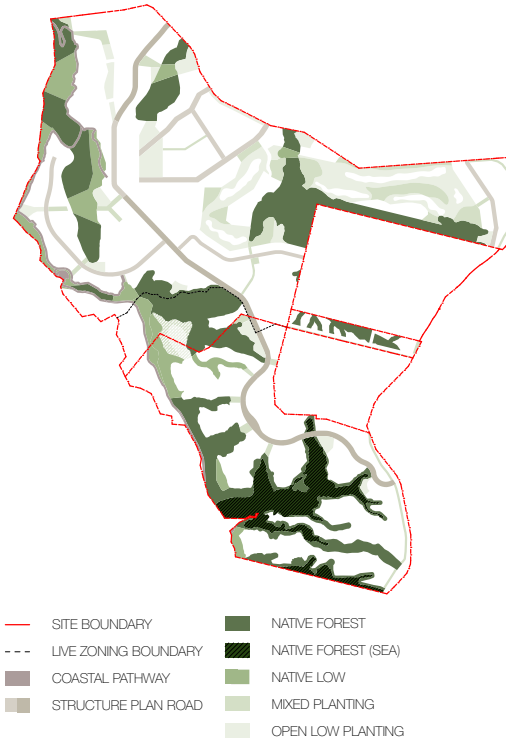
Beachlands South Carbon Sequestration

Permanent On-site Carbon Sink

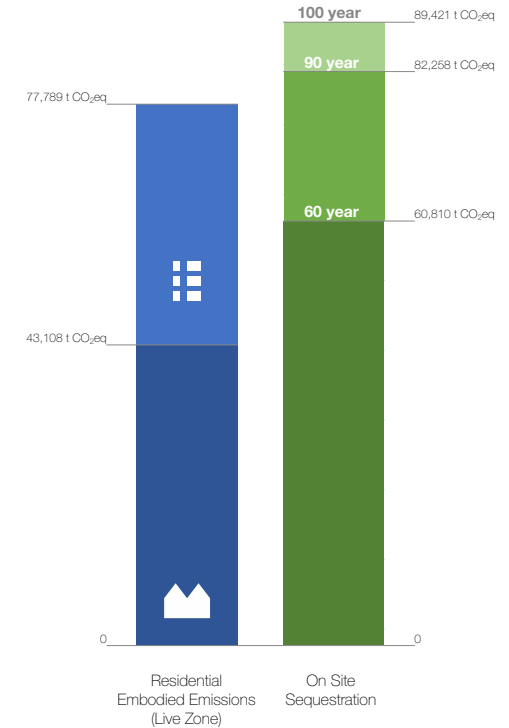
Beachlands South aims to contribute to New Zealand's climate change response by enhancing, establishing & protecting an on-site carbon sink through:

- An extensive network of native ecological planting that adds to existing established forest, with a sequestration value that has the potential over a 100yr period to meet the estimated carbon emissions of house construction anticipated by the proposed site zoning.
- A provision for significantly enhanced open space and road planting measures, which will exceed those anticipated by a business as usual approach.

Potential Sequestration Footprint



Estimated Carbon Balance (Live Zoning Housing Construction)



Metrics at a quick glance

Estimated Residential Construction Emissions:

Household Construction of 77,800 tCO₂eq equivalent to approximately 2,900 'Live Zone' Units

Household Construction of 20,300 tCO₂eq equivalent to approximately 450 'Future Urban Zone' Units

Estimated On-site Sequestration Potential:

89,400 tCO₂eq over 100 years

Biodiversity Areas:

Extensive native forest & revegetation planting on ecological footprint

Additional ecological planting & habitat creation on developable land

5. Renewable Energy and Household-efficiency



Space and water heating accounts for approximately two-thirds of household energy use, with homes accounting for a third of national electricity demand.

Objectives

The construction of high-efficiency homes to significantly reduce the operational footprint of the development as well as improving the quality of life of the inhabitants. Additional initiatives such as on-site renewable energy generation, energy and water efficiency and individual lifestyles can further reduce the impact that we have on the environment.

Initiatives

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
5.1	Energy demand reduction	Homes are designed and built to meet high energy-efficient specifications (For example, use Home Star and Green Star environmental assessment and certification).	S		✓
5.2		Homes are designed and built with high thermal performance.	S		✓
5.3		Life Cycle Analysis (LCA) for house typologies.	S		✓
5.4	Locally-generated renewable energy	Where appropriate, include renewable energy generators (such as solar PV panels, solar water heating and/or heat pump hot water) on residential, commercial and civic buildings.	S		✓
5.5	Reduced operational energy demand	Energy-efficient buildings, including optimising passive solar design and determining the best orientation for a building on its site. Energy Modelling and Design Guidance. For example, Green Star, Home Star, Passive House Standard or similar.	S		✓

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
5.6	Energy resilience and micro grid connectivity	Smart energy metering and control systems that monitor and distribute generated electricity across the development, to meet demand on site or exported to grid. Include energy storage and peak demand management and automatic utility billing.	S		✓



6. Transport, Mode Shift and Healthy Streets




Objectives

There is increasing evidence that active modes of transport can improve health and reduce traffic pollution. Active transportation can also provide a more inclusive and affordable form of transport. Beachlands South will provide environmentally friendly and multi-modal transport choices that promote a healthy lifestyle while reducing car dependency. This will be primarily achieved through universal design within the precinct and an emphasis on mode shift from private vehicles.

Initiatives

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
6.1	Provide end of trip facilities	Generous, secure bike parking facilities in village centre, at local amenities and schools. Design guidelines.	D C		✓
6.2		Shower and changing facilities at local businesses.	S		✓
6.3		Secure bike storage for every dwelling. Design guidelines and development conditions.	S		✓
6.4	Promote micro-mobility and active transport	A high-quality, extensive cycling (on and off-road) and pedestrian network to provide safe community connection without a dependency on vehicles, linking homes and neighbourhoods with social infrastructure such as schools, shops and employment.	D S	✓	✓

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
6.5		Low speed environments throughout the development, particularly on local roads, using street design and traffic calming measures.			
6.6		High-quality, 'healthy' streets that prioritise the safety and wellbeing of pedestrians and cyclists.			
6.7	Reduce car-dependency	Have clear and measurable mode shift targets.			
6.8		Car share schemes. Support a car-share scheme provider to operate within Beachlands South. For example, City Hop or Mevo.			
6.9		Produce a Travel Management Plan – to further expand on ways to achieve modal shift. Including shuttle, bus and ferry services/initiatives.			
6.10		Village Centre and other areas zoned commercial and mixed use to attract employment and live-work opportunities to the area and reduce trips required beyond the precinct.			
6.11		Locate density around public transport routes and nodes (e.g. ferry terminal), major movement corridors, village and neighbourhood centres.			

Ref.	Initiative	Description	The Developer's Role (the Partnership)	Incorporated into Plan Change	Post-Plan Change Initiative
6.12		Provide a multi-modal transport spine that will provide a high level of service in terms of frequency and trip duration i.e. the central spine road.	S D C		✓
6.13		Support the enhancement of the existing ferry service. For example, to increase frequency and capacity of ferries.	S C	✓	✓





Artist's impression - Beachlands South Village Centre

