

# Smart Building - The Eco City in Action

The new “hub” development in Henderson will be another example of sensible sustainable design.

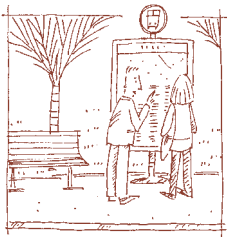


# It's time to have a heart

IN WAITAKERE CITY

## The project will

help create a vibrant, safe and prosperous city centre



## How?

By placing a wide range of services in the heart of Henderson more people will come to the new CBD.

Private investors will be attracted to the new CBD, because they can see Council's commitment to the area.

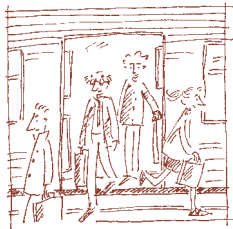
## Why is this important?

More people will create more business activity, additional retail spending and stimulate employment growth.

Vibrant street activity and offices over-looking public areas will make the area safer.

More private investment will increase business and improve the amenity in the CBD.

reduce car travel to and from the Henderson town centre



The new site will be easy to get to by bus, train and cycling.

The design will be pedestrian and cycle friendly.

Less car travel reduces air pollution and congestion.

There will be fewer car parks needed, leaving more green space for people to enjoy and for stormwater cleansing.

Walking and cycling keeps people fit and healthy and can reduce stress.

It will be easier to get to the station or the CBD from the western side of Henderson Valley Road, making people more likely to walk. As a result the area will be safe and vibrant.

## The project is designed to

utilise renewable forms of energy



## How?

Solar hot water heating.

The possible installation of vertical wind turbines on top of the building. (Subject to funding.)

Photovoltaic (solar) lighting of public spaces. (Subject to funding.)

## Why is this important?

Using the sun's energy makes sense and is cost effective.

Waitakere City is committed to the creation of renewable energy generation in the city. This will be an important demonstration project.

Solar power is a renewable source of energy, this will be an educational demonstration project.

integrate art throughout



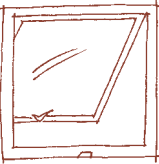
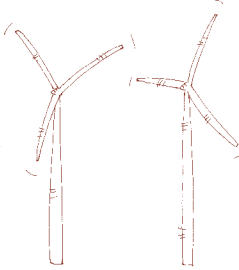
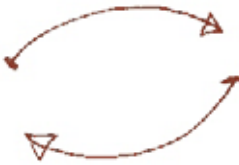
Two lead artists have been appointed to work with the architects.

Integrating arts in the buildings will produce a stunning and inspiring result, reflecting the values of the community and the Council.

reflect the cultural and natural heritage

Iwi consultation and site investigations by the architects, artists and landscape designers were undertaken and have influenced the building design.

Reflecting the cultural and natural heritage of Waitakere City will help create an inspiring building.

The project is designed to	How?	Why is this important?
be educational	Sustainability demonstration projects will help educate and inspire others.	The Council aims to be a catalyst for a change in the approach to commercial and residential building design.
be energy efficient  	<p>Making use of natural light, by having a shallow floorplan and appropriately located windows.</p> <p>Using efficient T5 lights with occupancy and daylight sensors.</p> <p>Good orientation towards the sun and provision of thermal mass.</p> <p>Installing high levels of thermal insulation.</p> <p>Night time cooling by pumping air through the concrete floor slabs.</p> <p>"Mixed mode" ventilation system.</p> <p>Reverse cycle heat pumps for heating and cooling.</p> <p>Energy efficient appliances and LCD computer screens.</p>	<p>Lighting is one of the biggest users of energy in office buildings and most employees prefer natural light.</p> <p>This ensures that lights are only on when they are needed. Efficient lights also generate less heat resulting in less energy used for cooling.</p> <p>This will result in a cooler building that will not require full air conditioning.</p> <p>This reduces heating costs in winter and cooling costs in summer.</p> <p>The high mass materials in the building will store "coolness" meaning that less energy is used for cooling in the daytime.</p> <p>Having a mixed mode system means that the mechanical ventilation system only runs when it is needed.</p> <p>Heat pump technology is very efficient.</p> <p>This saves energy and the LCD screens also generate less heat, which will result in lower cooling costs.</p>
manage stormwater sensitively 	<p>A green roof. (Subject to funding)</p> <p>Keep impermeable areas to a minimum.</p> <p>Installing stormwater treatment devices, such as rain gardens and swales to pick up water from the car parks.</p>	<p>A green, planted roof will absorb and cleanse rainwater, reducing both flooding and water pollution in streams. It will also act as noise and thermal insulation and provide habitat for bird and insect species.</p> <p>Impermeable surfaces short-circuit the natural water cycle because rain water cannot soak into the ground. Water picks up pollutants from paved surfaces like carparks, causing pollution in nearby streams. Impermeable surfaces can also increase flooding further downstream.</p> <p>This will slow, clean and absorb stormwater.</p>
be water efficient	<p>Low flow taps, showers and water efficient urinals.</p> <p>Using rainwater for toilet flushing.</p>	<p>By being water efficient as a city we can delay the development of new sources, such as dams and pipelines.</p> <p>This saves town supply water and helps with stormwater management.</p>
reduce environmental impact through the right choices of materials	<p>Using only timber from sustainable sources. For us this means New Zealand grown plantation timbers or Forest Stewardship certified timber.</p> <p>Using water based, low VOC (volatile organic compounds) paints and finishes wherever possible.</p> <p>Considering the life cycle costs and impacts in all our material choices.</p>	<p>Many timber species commonly used in construction come from old growth forests that are not sustainably managed. We want to make sure that we don't contribute to the destruction of these forests.</p> <p>VOCs are harmful to people and the environment.</p> <p>Many materials have hidden environmental costs, such as high energy use during production and transport, toxic emissions during manufacture or they may become hazardous waste when they are disposed of.</p>

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**During construction we will make sure that**

**environmental impacts are limited**

**How?**

Ensuring that contractors manage stormwater sensitively.

Ensuring that waste is kept to a minimum and that it is appropriately managed. This includes reuse, recycling and safe disposal. The contractor will be required to provide a waste management plan.

**Why is this important?**

During earthworks silt can easily wash away when it rains causing siltation in streams and harbours.

146,000 tonnes of construction waste is dumped every year in Auckland. A large proportion of this waste can be avoided, reused or recycled.

**As part of the Council's ongoing operations we will**

**reduce staff vehicle use**

**How?**

Completing a "Business Travel Plan". A business travel plan works on reducing staff travel through initiatives such as car-pooling, teleworking and encouraging staff to use public transport, walk or cycle.

**Why is this important?**

If staff are to reduce car travel, they will need help and encouragement.

**make our vehicle fleet more efficient**

A vehicle audit and a new vehicle policy will be completed before we move to the new building.

The Council wants to save money and set an example of responsible fleet management.

**keep working on our corporate sustainability programme**

Our corporate sustainability programme addresses issues such as energy, resource and water efficiency, the way we treat our staff and the economic impact we have on our community.

The Council wants to make a positive contribution to our community.

**evaluate our success**

A pre and post occupancy evaluation will be undertaken to assess if the implemented measures were successful.  
(Subject to funding.)

There is limited data on the benefits of sustainable building available in New Zealand. This evaluation will help build up this data and help the Council and others with future projects.



**Where to from here?**

- Consents will be lodged in February 2004
- The construction contract will be awarded in mid 2004
- The development will open in 2006

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