



**AGENDA FOR AN EXTRAORDINARY MEETING OF THE COUNCIL TO BE HELD IN THE  
CIVIC CENTRE, 6 WAIPAREIRA AVENUE, LINCOLN, WAITAKERE CITY,  
ON TUESDAY, 31 AUGUST 2004, COMMENCING AT 1.30 PM.**

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**1 APOLOGIES**



**2 TE ATATU MARAE DEVELOPMENT GROUP**

**PURPOSE OF THE REPORT**

The purpose of this report is to update the Council on the progress of the Te Atatu Marae Development Group.

**ISSUES**

The Te Atatu Marae Development Group was established by the Council in late 2003. It was given a Terms of Reference which tasked it with progressing work on the Te Atatu Marae Project in advance of a Trust structure being established. In particular it was asked to address issues around funding, concept development, and regulatory matters and land tenure. The Development Group was asked to report back to Council in August 2004.

The Development Group has completed work in all of the areas set out in the Terms of Reference, and has submitted its report to Council Officers. The Group has met all of the work programme and timing issues tasked by Council; however, due to internal workload issues, staff have not been able to complete their full evaluation of the work presented by the Development Group. It would be helpful if Council could defer its consideration of the issues until November 2004.

Discussions relating to this deferment have been held with members of the Te Atatu Marae Development Group, and the Group is happy for Council to extend its consideration until November 2004 to allow officers to complete their evaluation.

**RECOMMENDATIONS**

1. That the Te Atatu Marae Development Group report be received.
2. That the receipt of the report of the Te Atatu Marae Development Group be noted and that Council consideration of the report be deferred until November 2004 to enable Council staff to complete their evaluation of the report and the Marae concept.

Report prepared by: Ross McLeod, Director: Corporate & Civic Services



### 3 WAITAKERE CENTRAL - SUSTAINABLE DESIGN FEATURES

#### **PURPOSE OF THE REPORT**

The purpose of this report is to seek Council's approval for funding and the business case for additional sustainable design features proposed in the Waitakere Central development.

#### **BACKGROUND**

At its meeting of 5 February 2004 the Council considered the preliminary developed design for Waitakere Central. The sustainable building components were a major feature of the report and were discussed in some detail. At this meeting it was resolved in relation to the sustainable design elements of the project:

- “• *That the Council provides for the full degree of cutting edge sustainable design components to be incorporated into the building in the absence of a sponsor or external funding subject to the approval of satisfactory business cases for each component; and*
- *That the Council confirms its approach to ventilation in the building being of a mixed mode type as developed by the design team.”*

44/2004

#### **STRATEGIC CONTEXT**

##### **Urban Strategy**

Henderson is one of the three major town centres in Waitakere City and is recognised as a key centre in the urban strategy. It is the city's most centrally located town centre. It is located on the rail corridor and has the largest percentage of retail floor-space and community facilities. There has been significant recent investment, notably at Westfield's West City Mall, Sel Peacock Drive retirement complex, Council's Aquatic Centre and the Henderson Valley Film Studios. There is significant opportunity for further development and redevelopment within the Henderson town centre. Good planning and co-ordination are essential to ensure Henderson consolidates its critical position as a key working environment and employment locality, hence furthering Council's objectives in creating a sustainable City.

The Waitakere Central project will play a pre-eminent role in catalysing the redevelopment of the Henderson town centre, providing a cornerstone of transit oriented development within the town centre, as well as defining Henderson as the Central Business District of Waitakere City. An analysis of the benefits of the Civic Centre and UNITEC/Waitakere Central Library components of the Waitakere Central redevelopment has identified significant economic, social and economic benefits to the City from the projects.

##### **Three Waters**

The Waitakere Central site sits within one of the Twin Streams project catchments – the Opanuku Catchment. The site is within close proximity of the Opanuku Stream (approximately 250 metres as the stormwater flows) at the lower part of the catchment. The Twin Streams project is a key part of Council's Three Waters platform, and the opportunity exists for the management of the three waters as part of the Waitakere Central Project to impact in a positive manner on the outcome of the project. Particular opportunities in relation to stormwater re-use and treatment of stormwater to the highest standards are available as part of the project, as well as the opportunity to showcase cutting edge technologies through the use of materials and design techniques that minimise damage to the quality of stormwater runoff from the site.

## **Sustainable Energy and Clean Air**

The Council's 2020 vision for sustainable energy and clean air is that Waitakere City will be an energy cell not an energy sink and that air quality supports good health. In practical terms this means that energy generation will exceed energy consumption. Clearly therefore the Waitakere Central project is an opportunity to start to make inroads into this target. While the limitations of the site mean that it cannot be a major focus of energy production, the opportunity does exist to incorporate some energy producing devices within the complex, which will, in part, offset the consumption of energy on the site.

With regard to Air Quality, the initiatives demonstrated by the project around public transport use and pedestrian friendly environments in particular provide for maintaining the quality of the air in the vicinity of the site. Further work underway as part of the Corporate Sustainability initiatives around the Council's fleet vehicles also provide the opportunity to reduce the contribution made by the Council operation to reductions in air quality, in particular through vehicle emissions.

## **Zero Waste**

The Waitakere Central project is an excellent opportunity to take leadership with regard to Council's Zero Waste platform. Re-use and recycling of demolition materials and use of materials for the new buildings which have minimum waste by-products through their manufacture and use are key opportunities. In addition, given the high visitor usage and through traffic the opportunity to promote re-use and recycling in the development area is possible.

## **ISSUES**

### **Sustainable Design Elements**

The design for Waitakere Central includes a range of cutting edge sustainable building features. The inclusion of all of these features will see the development being a world class sustainable building.

The key sustainable features included in the project are outlined below:

- Mixed Mode ventilation system combining natural ventilation with a heat pump for heating and cooling;
- Inclusion of significant thermal mass and insulation to reduce heating and cooling requirements in the building;
- Re-use of existing on-site materials in the building;
- Stormwater re-use in toilets;
- Low flow and water efficient taps, shower heads, toilets and urinals;
- Swales and rain gardens in the car park;
- Solar hot-water heating for showers;
- Use of native plants integrating with the adjacent natural ecosystems of the Opanuku Stream;
- Use of Environmental Choice certified materials, such as paint, where-ever possible;
- Use of materials with low embodied energy through their manufacture;
- Timber from sustainable and/or plantation forests;
- Creation of pedestrian friendly linkages throughout the site;
- Provision of secure cycle storage and showers to facilitate cycle/pedestrian access by employees;
- Use of low energy lighting and automatic lighting management systems;

- Inclusion of a Building Management System to control energy usage in the building; and
- Close integration between the council administration, the Railway Station and Bus Interchange to maximise public transport usage.

While the above features are included within the design budget, three elements - the green roof, wind power and photovoltaic lighting have been identified as being subject to external funding. These are discussed in further detail below:

### Green Roof

The design allows for the inclusion of a green roof on the Civic Wing of the building, accessible from the 3<sup>rd</sup> floor. The estimated cost of the Green Roof is \$450,000. As well as providing stormwater mitigation in a key catchment within the City, it will provide a leading edge demonstration project of sustainable stormwater management. Green roofs are considered to be a significant step forward in sustainable urban stormwater management.

At the preliminary design stage it was anticipated that the green roof could likely be funded by Infrastructure Auckland. A funding application was lodged with Infrastructure Auckland but they responded that despite the fact that the proposal met their funding criteria, they were being wound up and a decision was made not to proceed with any further stormwater grants.

An analysis of the benefits of the Green Roof component is outlined below:

Environmental	Economic	Social	Cultural
<ul style="list-style-type: none"> <li>• Stormwater discharge from the building is of better quality.</li> <li>• Delay of stormwater discharge and associated reduction in downstream flooding.</li> <li>• Reduction of stormwater discharge.</li> <li>• Reduction of urban heat island effect.</li> <li>• Absorption of CO2 emissions and provision of habitat by plants on roof.</li> <li>• Slight reduction in energy use because of insulation value of the green roof.</li> <li>• Value of a local demonstration project through better educated staff and professionals</li> </ul>	<ul style="list-style-type: none"> <li>• Savings in the overall stormwater infrastructure in the catchment, caused by lower and cleaner discharge to the system.</li> <li>• Small energy saving in the building because of insulation value of the green roof.</li> <li>• Increase in life of roof membrane due to longer material lifespan (green roofs last up to twice as long as conventional roofs)</li> <li>• Intangible benefit through 'green image' of Waitakere City Council.</li> <li>• Value of a local demonstration project through better educated staff and professionals making more cost effective decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced downstream flooding and improved water qualities have social benefits for local communities.</li> <li>• Local "Eco City" demonstration project can contribute to community pride.</li> <li>• Positive effect on Council's image within local community and professional community, nationally and internationally.</li> </ul>	<ul style="list-style-type: none"> <li>• Waitakere City's cultural identity included a strong emphasis on practical environmental action and on doing things differently. The green roof will reinforce this identity.</li> <li>• Stormwater issues are of particular importance to iwi and there are therefore indirect benefits through the green roof's stormwater benefits (see also environmental benefits).</li> </ul>

Environmental	Economic	Social	Cultural
making more environmentally sound decisions about stormwater issues.	about stormwater issues. <ul style="list-style-type: none"> <li>Increased amenity and feeling of working in an organisation that cares may make staff more productive.</li> </ul>		
Overall Environmental Benefit judged to be high	Overall Economic Benefit judged to be low	Overall Social Benefit judged to be medium	Overall Cultural Benefit judged to be medium

The proposal to include a Green Roof fits in with Council's approach to improving stormwater quality through Project Twin Streams; this is based on treating stormwater using a combination of methods as follows:

- Primary Treatment, for example rubbish screens in streams
- Secondary Treatment, such as sediment ponds
- Tertiary Treatment, for example sand filters or infiltration swales

As the Green Roof provides a combination of the above treatment methods, it can be considered as part of Project Twin Streams as a demonstration project, with funding of \$450,000 allocated from the 2004/2005 budget for Project Twin Streams. Capital funding will be generated from financial contributions and as this is a demonstration project that is designed to be self sustaining. Thus it is not proposed to fund depreciation of the Green Roof above normal roofing material depreciation and therefore this proposal will not have an additional impact on rates. It should be noted that overseas studies of green roofs indicate that roof membranes have a life of up to twice that of an ordinary roof.

Based on the above assessment, it is recommended that Council approve the proposal to construct a Green Roof.

### Wind Turbine

The design allows for the inclusion of a wind turbine on the roof of the Administration Wing of the building. This would provide around 2% of the power for the building, although due to wind conditions in the area it may not operate all the time. Discussions with a number of energy organisations have been undertaken about possible funding options; however, because of the very small generation capacity, when compared with the high cost (estimated \$192,000) no funding has been offered by any of the organisations. An analysis of the benefits of the wind turbine is included below:

Environmental	Economic	Social	Cultural
<ul style="list-style-type: none"> <li>Small reduction of greenhouse gas emissions.</li> <li>Value of a local demonstration project through better educated staff and professionals making more sustainable decisions about energy issues.</li> </ul>	<ul style="list-style-type: none"> <li>Small electricity cost saving. Simple payback period in excess of 80 years.</li> <li>Intangible benefit through 'green image' of Waitakere City Council.</li> <li>Increased amenity and feeling of working in an organisation that</li> </ul>	<ul style="list-style-type: none"> <li>Local "Eco City" demonstration project can contribute to community pride.</li> <li>Positive effect on Council's image within local community and professional community, nationally and internationally.</li> </ul>	<ul style="list-style-type: none"> <li>Waitakere City's cultural identity included a strong emphasis on practical environmental action and on doing things differently. The wind turbine would reinforce this identity.</li> <li>It is proposed that the wind turbine is also a work of art. This</li> </ul>

Environmental	Economic	Social	Cultural
	cares may make staff more productive.		would have some cultural benefits.
Overall Environmental Benefit judged to be low	Overall Economic Benefit judged to be low	Overall Social Benefit judged to be medium	Overall Cultural Benefit judged to be low

Based on the assessment by staff, and considering the capital cost of the energy generation from the proposed turbine it is not recommended that Council fund a wind turbine as part of the Waitakere Central complex.

### Photovoltaic Lighting

The landscape design allows for photovoltaic lighting within the civic space at the front of the building. This would see solar powered street lights with associated interpretation outside the Henderson Valley Road frontage of the Civic Building. This feature would provide a high profile showcase for photovoltaic lighting as well as providing useful model for monitoring before possible roll out into other parts of the City. A kilowatt of lighting (sufficient to light 10 streetlights) costs \$22,500. External funding for this has been sought, however to date has proved unsuccessful. As the landscape component is one of the last to be built opportunities for partial funding may still be available and will continue to be pursued.

An analysis of the benefits of the photovoltaic lighting are outlined below:

Environmental	Economic	Social	Cultural
<ul style="list-style-type: none"> <li>• Small reduction of greenhouse gas emissions.</li> <li>• Value of a local demonstration project through better educated staff and professionals making more sustainable decisions about energy issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Small electricity cost saving. Simple payback period in access of 80 years.</li> <li>• Intangible benefit through 'green image' of Waitakere City Council.</li> <li>• Increased amenity and feeling of working in an organisation that cares may make staff more productive.</li> </ul>	<ul style="list-style-type: none"> <li>• Local "Eco City" demonstration project can contribute to community pride.</li> <li>• Positive effect on Council's image within local community and professional community, nationally and internationally.</li> </ul>	<ul style="list-style-type: none"> <li>• Waitakere City's cultural identity included a strong emphasis on practical environmental action and on doing things differently. The wind turbine would reinforce this identity.</li> <li>• It is proposed that the wind turbine is also a work of art. This would have some cultural benefits.</li> </ul>
Overall Environmental Benefit judged to be low	Overall Economic Benefit judged to be low	Overall Social Benefit judged to be medium	Overall Cultural Benefit judged to be low

Based on the assessment by staff, and when considering the capital cost of energy generation from the proposed photovoltaic lighting, it is recommended that Council fund some photovoltaic lighting in the civic square. Council has already allowed for \$50,000 in the 2004/2005 financial year for demonstration projects of solar and wind powered street lighting in its Annual Plan, with a view to possible more common use in isolated parts of the City in the future. It is considered that the Waitakere Central site is an ideal one for the location of a demonstration project.

### **Colour Steel Roofing**

Since the completion of developed design on Waitakere Central, new scientific information has clearly identified Zinc based roofing (such as zinc alum) as the major cause of zinc contamination in stormwater. Zinc is highly toxic to aquatic life and builds up in sediments. It is one of the key polluting metals monitored by the Auckland Regional Council and there is significant concern about its impact on the environment. Colour steel, has however been identified as being very stable, despite the presence of zinc in its makeup and not a major contributor to zinc entering waterways. While there is an additional cost to colour steel roofing of approximately \$4/m<sup>2</sup> (equating to \$4000 additional cost), it is a product which is of high quality and longevity, and is considered an entirely appropriate product for use as roofing material at Waitakere Central. Significant environmental benefit would be gained from its use, for a very low additional cost, and it is recommended that a decision be made to use colour steel in preference to zinc alum.

### **Purchase of Renewable Energy**

Given the evaluation of the wind turbine option and the limited other opportunities for energy generation in a cost effective manner for the Waitakere Central project, one option for the Council to consider is to achieve it's strategic goals in relation to energy by purchasing electricity for Waitakere Central from renewable energy generated elsewhere. Ideally such generation should be located within the city; however this may not be a viable option initially. The purchase of this electricity from a new renewable source would be at a premium over standard electricity costs. Such a source might be, for example, the proposed wind farm in the Awhitu Peninsula, or a similar facility in Rodney District.

### **RESOURCES**

\$50,000 is allocated in the 2004/2005 financial year for demonstration photovoltaic street lighting projects. \$450,000 is allocated in the 2004/2005 Project Twin Streams budget for the Green Roof. These items may need to be carried forward to the 2005/2006 financial year as both the roofing and exterior works are likely to occur in the latter stages of the construction timeline.

### **CONCLUSION**

Three components of the sustainable building design at Waitakere Central were not included in the budget approved by Council as it was hoped to obtain external funding for part or all of these projects. To date, funding has not been obtained. An analysis of the benefits of the three components has been undertaken, and based on this it is recommended that Council fund the Green Roof and Photovoltaic lighting sustainable building elements, but not the wind turbine.

### **RECOMMENDATIONS**

1. That the Waitakere Central - Sustainable Design Features report be received.
2. That funding of \$450,000 from Project Twin Streams 2004/2005 budget be approved for the development of a green roof on the Civic Wing of the Waitakere Central Project.
3. That Council not proceed with the wind turbine proposal for the Waitakere Central Project.
4. That Council proceed with photovoltaic street lighting in the Civic Square component of the Waitakere Central Project, to be funded from the Wind/Solar Power Demonstration Project 2004/2005 budget.

5. That colour steel roofing be used on the Administration Wing of the Waitakere Central Project in preference to zinc alum roofing.
6. That the Council support the idea in principle of energy purchase from a sustainable supply and that a report be brought back to the Council prior to the commissioning of the new Waitakere Central outlining possible sustainable energy purchase options.

Report prepared by: Lois Easton, Group Manager City Development Projects.



4 **PROPOSED ACQUISITION UNDER THE PUBLIC WORKS ACT-LESSEES INTEREST  
IN LOTS 7 AND 8 DP 110480"**

This report was not available at the time of printing this Agenda and will be circulated separately.

