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19 April 2013

The Manager
Centres and Urban Renewal
Department of Planning & Infrastructure
GPO Box 39, Sydney NSW 2001

Dear Sir/Madam,

Re: Aurecon additional submission regarding the Newcastle Urban Renewal Strategy

Aurecon is pleased to present the attached additional submission regarding the Urban Renewal Strategy for Newcastle. We believe that the strategy is an exciting development for Newcastle and given its significance in both a regional and state context, all factors must be considered to ensure that the development delivers the expected benefits to the city, in a sustainable manner.

As Newcastle is in a known earthquake zone, our submission provides some suggestions regarding the factors that are necessary to future-proof the development from potential earthquakes. We believe that this can be done economically, by using innovative designs that have built-in resilience to foreseeable earthquakes. We continue to fully support the State Government's initiative and our submissions are designed to facilitate and assist the proposed developments.

Aurecon welcomes the Department's comments on our submissions and looks forward to being involved in this exciting development.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Neil Barr", with a stylized, flowing script.

Neil Barr

Manager Australian and New Zealand Offices



Newcastle Urban Renewal Strategy - Submission

Aurecon, as an International and long term local engineering and consulting firm with a presence in Newcastle for 60 years, has a strong interest in realising that the objectives of the Newcastle Urban Renewal Strategy, are achieved. Such a Strategy needs to consider numbers of discrete, interrelated factors, not the least of which is that Newcastle is in a known earthquake zone.

Aurecon believes that an integrated approach to the foreshadowed development will ensure that the City will be economically future-proofed and have a built in resilience to foreseeable disasters such as earthquakes.

Notwithstanding the significant work we have already completed in Newcastle post the 1989 earthquake; we have recent direct experience working on the rebuilding of Christchurch (2011). Our work follows experience gained from other assignments including the Canterbury (2010) earthquake sequence. There, a huge volume of data was gathered leading to processes and methodologies for urban design that were designed to improve a city's resilience against future seismic events. Aurecon commends the learnings from New Zealand to those driving Newcastle's revitalisation and policy formulation, ensuring that the City is as prepared as possible for any future natural disasters, particularly earthquakes.

Those planning the City's future cannot discount the past, particularly those traumatic events of 1989.

Systematic Approach

Comprehensive systems and processes that have enabled cities to develop additional resilience to future earthquake events are recommended to be deployed for the Urban Renewal of Newcastle.

These include input to land zoning and new building requirements for development in liquefaction prone soils, building design requirements - particularly robust liquefaction susceptibility investigation assessment and mitigation, rock fall assessment methodologies, and structural design in seismically active zones including those like Newcastle, which are significantly undermined.

In addition the assessment of earthquake prone buildings by using, for example, a three tiered rating system, which is used by local government elsewhere, to prioritise strengthening of both heritage and more recent structures is recommended. This is currently the approach being taken by the NZ Government for the Health Precinct master plan in Christchurch, the first of the catalyst projects in the rebuilding of that City.

GIS systems are essential for capturing data that is used as input to all stages of the development from master planning to construction. The vast amount of geospatial data that can be generated by a project of this scale, must be effectively managed.

Understanding Risk

In the management of geotechnical and natural hazards a scientific approach with clear communication to key stakeholders about likelihoods, consequences and associated risks is necessary. Input and expertise regarding risk management that includes natural hazards such as earthquakes and where relevant flooding, will be key to a sustainable development. We recommend engagement with internationally recognised experts on risk and natural hazards who can contribute to the development of a better understanding and management of the project.

The understanding of recent earthquakes such as those in February 2011 in Christchurch, NZ and March 2011 in Japan and the subsequently developed risk mitigation strategies, can be applied to Newcastle.

Engaging with Stakeholders

The key stakeholders for this complex development include the 3 tiers of government (Federal, State and Local) and their agencies, developers (including the University of Newcastle) and most

importantly, the community which includes Newcastle residents and workers but also commuters from outlying suburbs and districts.

Communication with these key stakeholders, at all levels, during the execution of the Strategy is essential and if handled appropriately, potential issues can be either avoided or their impact reduced. The use of skilled professionals who can in plain English explain complex issues to key stakeholders, government officials and members of the public often ensures efficient project delivery.

Identifying and liaising with key stakeholders and having a 'hands on' approach is critical to resolving potential show stoppers and navigating through critical decision gates than enable the development process to continue. This may involve engagement on multiple levels such as the operational aspects of the project, but also when strategic or policy decisions are necessary.

Economic Viability

Earthquake resilience, when considered as part of a well planned development, is inexpensive in capital cost terms. Proven technology to allow buildings to be operational in post-earthquake conditions and not just survivable, has been used internationally. This elevated level of resilience for limited additional capital cost should be, in our considered opinion, an integral part of any master-planned development.

Our Credentials

Aurecon believes it is well qualified and justified to make these comments as it has teams of professionals that were engaged on several natural disasters in Australia and New Zealand over the past few years and we would bring to the table our lessons learned that can hugely benefit in a non-emergency response and strategic reviews.

Aurecon would be proud to assist with these aspects and our credentials in this space, would ensure that the Department of Planning and Infrastructure would receive internationally recognised expertise for the convenience and cost effectiveness of the Newcastle redevelopment.



Christchurch Redevelopment Master Plan