From:	canterbury
To:	Earthquake.InformationOffice
Subject:	FW: Unreinforced Masonry and other Earthquake Prone Buildings--Requirements for Seismic Strengthening
Date:	Tuesday, 20 September 2011 1:58:13 p.m.

From: ross thomson [mailto:roscoejt@hotmail.com]
Sent: Friday, 9 September 2011 9:48 a.m.
To: canterbury; aaron crichton asmuss; andy buchanan; arthur.williamson@canterbury.ac.nz; bob.parker@ccc.govt.nz; Bob Andrews; brendon dowling; chris friend general cable; craig taylor onesteel ak nz; dave@homershams.co.nz; Davy Hawkins; editor the press; editor the star; enterprise recruitment roz grant; forrestgreen@xtra.co.nz; geoff.mayes@ermanz.govt.nz; ginny; graeme clark david browne; Graeme McMaster; graham + linda erikson grey main; grant duncan hammersleys; green.party@parliament.govt.nz; greenparty@greens.org.nz; greg ninness sun.star; hays; Ian Wishart; Jeanette Fitzsimons, Green Party; Jeff Foreman; jim.mcdonald@landtransport.govt.nz; john fahey browns pumps; john.taylor@ccc.govt.nz; john whiting; ninetonoon@radionz.co.nz; kerry.prendergast@wcc.govt.nz; lyn.osmers@ccc.govt.nz; mark holm ipsco; mary mcgrane; mary wilson; megan salole; pang; paula cross tbhs; peter dann; richard jack hawkins; rob o'neill sun.times; rob stock sun.times; ross smith tbhs; Sam Tansley; samuel philip thomson; Sandra Birdling; sarah jade mary; shae hosae; stephen_dinsdale@nzgt.co.nz; steve cox steve cox services; sue spindler and alan stewart; warwick rigby
Subject: RE: Unreinforced Masonry and other Earthquake Prone Buildings--Requirements for Seismic Strengthening

i believe the cart is before the horse...
certainly for importance level III buildings the Zone factor should be as wellington's = 0.42
of interest woodville/pahiatua/masterton/upper hutt are = 0.42.
wellingtoncityby 'magicis 0.40??????????????????????????????
is there a lunch club that is even economising on design spectra to quote mike herlihy of little river...BE Civil (structural) it looks like a hot potatoe's been doing the rounds!!!
FEB lyttleton road tunnell Z = 0.3 gives of the above approx 1.0 G horizontal???
Z = 0.42 gives G = 1.6698???
to quote peter y?h/arrow of CCC. 'if you use wellington's figures in 3604 you'll be undercut!!!
ISN'T WHERE ALL THIS ECONOMY OF DESIGN PROBLEMS CAME FROM IN THE FIRAST PLACE??
the shoddyer the job = the least $/m**2=who gets the work...hey it's not the market ruling it's the bead-counters.end.THOMSON e.mail#1

From: canterbury@royalcommission.govt.nz
To: canterbury@royalcommission.govt.nz
Date: Thu, 8 Sep 2011 14:29:44 +1200
Subject: Unreinforced Masonry and other Earthquake Prone Buildings--Requirements for Seismic Strengthening

The Canterbury Earthquakes Royal Commission will conduct a public hearing in the weeks of 7 and 14 November 2011 in which it will consider evidence and submissions on:

- The legal requirements for buildings that are “earthquake prone” under section 122 of the Building Act 2004, including:
  - the buildings that are, and those that should be, treated by the law as “earthquake prone”, and
  - existing buildings that are or should be required by law to meet a defined minimum proportion of the seismic standards for the design, construction and maintenance of new buildings, and
  - the enforcement of legal requirements for such buildings including the period allowed for compliance.
- The requirements for existing buildings that are not “earthquake prone” but do not meet current legal and best practice requirements for the design, construction and maintenance of new buildings, including whether, to what extent, and over what period, they should be required to meet those requirements.
- Existing and new methods for the seismic strengthening or “retro-fitting” of existing unreinforced masonry buildings.

- The desirability of immediate action in respect of restraining parapets, chimneys, and other high-hazard elements.
- The respective roles of central and local government in respect of earthquake-prone buildings and their seismic strengthening.

The Royal Commission now requests that any evidence or submissions on these issues be emailed to Canterbury@royalcommission.govt.nz by Friday 14 October 2011. The information you provide will be published on the Royal Commission's website www.canterbury.royalcommission.govt.nz unless the Royal Commission is satisfied that there are compelling reasons not to do so.

When that material is received, the Royal Commission will establish a hearing schedule in which submitters will be given a particular day within **the two week period commencing Monday 7 November** on which they can expect to be heard unless the Royal Commission decides the evidence or submissions do not need to be given orally. If there are any days on which you would prefer not to be available, you should advise those dates when providing your evidence and/or submissions.
The hearing venue will be the St Teresa Church Hall, on the corner of Riccarton Road and Puriri Street, Christchurch.

Report on Performance of Unreinforced Masonry Buildings

The Royal Commission has received and will shortly publish on the website a report that relates to the issues set out above: 'The Performance of Unreinforced Masonry Buildings in the 2010-2011 Canterbury Earthquake Swarm'. This report prepared by Associate Professor Jason Ingham of the University of Auckland and Professor Michael Griffith of the University of Adelaide. The issues discussed are of relevance throughout New Zealand.

Unreinforced masonry (URM) is defined as a construction of clay brick, concrete block or natural stone units bound together by using lime or cement mortar, without any reinforcing elements such as steel reinforcing bars. Forty people died in the 22 February 2011 earthquake due to the failure of unreinforced masonry buildings in or near the Christchurch CBD.

The report discusses the architectural characteristics and seismic vulnerability of unreinforced masonry buildings in New Zealand, makes observations about the performance of such buildings in the Canterbury earthquakes and available techniques for seismic upgrading. Section 7 recommends certain structural elements of all unreinforced masonry buildings be improved to meet the requirements for such structural elements in new buildings and that other elements be improved to meet at least 67% of the standard required for new buildings. The authors recommend there be one national standard instead of policies being set by individual territorial authorities.

To ensure that advice given to the Royal Commission reflects international understandings and best practice, the report will be peer reviewed separately by:

- Structural engineer Fred Turner of California's Seismic Safety Commission
- Bret Lizundia of San Francisco-based structural and geotechnical engineering firm Rutherford and Chekene.

Both peer reviews will also be published on the website when they are available.

Yours sincerely
Justine Gilliland
Executive Director