Christchurch City Council

UNDER	**THE COMMISSIONS OF INQUIRY ACT 1908**
IN THE MATTER OF	**ROYAL COMMISSION OF INQUIRY INTO BUILDING FAILURE CAUSED BY CANTERBURY EARTHQUAKES** **KOMIHANA A TE KARAUNA HEI TIROTIRO I NGĀ WHARE I HORO I NGĀ RŪWHENUA O WAITAHA**

SUBMISSIONS ON THE DISCUSSION PAPER: BUILDING MANAGEMENT AFTER EARTHQUAKES

DUE DATE: 27 JULY 2012

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1. Introduction

1.1. These submissions are made by the Christchurch City Council (**the Council**) on the discussion paper "Building Management After Earthquakes" ("the discussion paper"), and should be read in conjunction with earlier related submissions made by the Council.

1.2. The Commission has indicated that what it seeks in submissions in response to the paper is consideration of:

i. how much of a problem an issue is or was in practice.
ii. evidence and analysis underpinning the issue/problem, rather than hearsay or anecdotal views alone.
iii. the pros and cons of the options to address the problem.

1.3. The Council's previous submissions and reports generally provide information on how much of a problem an issue is or was in practice, and there is some evidence provided, or still to be given, about the various issues/problems. These current submissions will comment on the specific issues raised in the discussion paper, but firstly makes some general comments.

2. General Comments on the Discussion Paper

2.1. The discussion paper confuses Building Act 2004 terminology by referring to "notices to fix" when in fact the reference should be to a section 124(1)(c) notice. An example is found at section 2.3 of the discussion paper, although there are also other examples.

2.2. Notices to fix are issued under sections 164 and 165 of the Building Act 2004. They are issued when someone has contravened the Act or regulations and they are not a notice that is issued to address dangerous or earthquake-prone buildings.

2.3. A colloquial name that the Commission could use for a section 124(1)(c) notice is a "repair" notice, to ensure that notice does not get confused with a notice to fix under section 164.

2.4. The discussion paper has repeated some statements made in other reports and submissions that the Council believes are incorrect, and does not mention the submission that the Council has made on these topics. They are as follows:

(a) At section 2.3.1 of the discussion paper, reference is made to the SISIRC Consulting Limited and McNulty Engineering Management Limited report (the SISIRC Report) that stated that planning had been done during the state of emergency to replace the civil defence placards with section 124 notices, but that the Council did not make use of that planning. The discussion paper does not mention the Council's submission addressing why the "pre-planning" was not used (see paragraphs 2.34-2.36 of the Council's Building Assessment After Earthquakes (BAAE) submission).

(b) At section 2.3.1.1, the discussion paper notes that "*changes to the definition of a dangerous building in the [OIC] meant that buildings defined as dangerous could also be considered earthquake-prone, and vice-versa*". The Council's BAAE submission pointed out that the comments to this effect made in both the report by New Zealand Society of Earthquake Engineering on Building Safety Evaluation (NZSEE) and the SISIRC report misunderstood the new definition (see paragraph 2.18, point 20, and paragraph 2.30 of the Council's BAAE submission).

3. Council comments on the various questions

New Zealand's building safety evaluation framework

Q1. *What objectives the building safety evaluation framework should target; should its main objective be ensuring public safety, or should it incorporate other aims? What would the process look like if other objectives were added? What are the risks associated with focussing on one objective over another?*

3.1. At paragraph 2.18 (points 1-4) of the BAAE submissions Council agrees with the NZSEE report that the focus of the rapid building safety evaluation (**BSE**) process is on immediate public safety. Paragraphs 3.9 to 3.11 of the BAAE submissions also suggest that the BSE framework for commercial buildings should be modified and simplified for residential buildings due to the reduced risk they present.

3.2. The discussion paper looks at the whole of the BSE process, including not only the level 1 and 2 assessments but also a detailed engineering evaluation (**DEE**), to be completed after the state of emergency is over. The Council's BAAE submissions support the use of DEEs, but states that owners should be responsible for obtaining these. See paragraph 2.18 (points 1-4) and paragraphs 4.11 – 4.16 of the BAAE submissions. A DEE has the objective of more than just public safety; it provides information for owners about the state of their building, and so it is arguable that the whole BSE framework includes this objective already.

Q2 *How did the building safety evaluation operation after the Canterbury earthquakes highlight any weaknesses and failures in the current system? Can these failures be addressed, or should we move to a different building safety evaluation model? What are the advantages and disadvantages of these models and approaches, and how do they compare with our current framework?*

3.3. Generally, the Council's submissions (the BAAE submission and the Additional URM Buildings submission) support the existing BSE framework but make recommendations for amendments to address the weaknesses and failures in the system, including that Councils should be able to require DEEs, recommend changes to the placards, and that there should be better liability protection for volunteers.

3.4. These submissions do not provide a comparison of different models and approaches, and there has been insufficient time and capacity to look at other models and approaches. The Council suggests that this is something that the NZSEE or the Ministry of Business, Innovation and Employment (which includes the former Department of Building And Housing) could investigate further and provide information to the Royal Commission.

Q3 *Who would be responsible for setting up and/or implementing any new framework? Should the roles and responsibilities in the building evaluation system be set at national or local level?*

3.5. In the Council's Additional URM buildings submissions, the submission was made that central government should provide national direction on earthquake-prone building matters. The Council has also submitted that central government

should give a legislative mandate to the BSE process (see paragraph 2.18, points 7 – 10 of the BAAE submission).

3.6. The Council's position from these submissions is that it accepts there is a role to be played by Local Government in any BSE process, but guidance should be provided at a national level.

Q4 *What are the risks, costs, and benefits of using a building safety evaluation system that uses volunteer engineers who have a liability waiver. Are there any options that address the risks associated with using volunteer engineers that do not discourage them from volunteering?*

3.7. The Council's BAAE submissions address liability of volunteers issues at paragraphs 2.18 and 3.12 – 3.14, but does not look specifically at the risks, costs and benefits of liability waivers, or any options that would address risks but not discourage volunteers. The Council recommends in its submissions that it be made clear that the liability protection in section 110 of the Civil Defence and Emergency Management Act 2002 clearly applies (although the discussion paper seems to accept that it does).

3.8. The Council repeats its submission that liability protection should be available in an emergency, even if it is not a declared state of emergency.

Q5 *What framework should be used to evaluate buildings when a state of emergency is not declared but buildings are damaged (for example, after an aftershock).*

3.9. At paragraph 3.14 of the BAAE submissions the Council submits that liability protection for volunteers should be no different when they respond to an emergency situation when a formal SOE declaration is made or not.

3.10. Although the Council's submission does not address whether the BSE process should be any different in an aftershock situation, the Council does support the use of indicator buildings.

Specific issues with the placard system used in Christchurch

Q1 *What were the issues with how people placed, maintained, and removed the placards? How did understanding or misunderstanding of the placard's meaning affect people's behaviour, think about whether the wording and/or colour of the placards contributed to any problems. What was the extent of these problems, and could they occur in other parts of the country?*

3.11. The issues with placards are addressed in paragraphs 3.1 – 3.8 of the Council's BAAE submissions, and they are also discussed in the Council's report on the 4 September 2010 earthquake (sections 3.2 and 3.5). Both of these documents discuss the placarding processes that Council used and identify the issues that arose from the use of the placards from Council's perspective.

3.12. In Council's view, there was nothing about the processes used in Christchurch that indicates that there would be any differences in the issues arising if the current NZSEE guidelines were applied anywhere else in the country, in a similar large scale emergency. It could be expected that the same problems would arise, unless there is a change in the system and the form and use of the placards, as recommended in the Council's BAAE submission.

Q2 *Do you know of any situations where building owners brought in engineers to assess a building and they used a different placard system? If so, can you give reasons why this approach was taken? What did building owners and/or engineers do to inform officials of the results? How should we address any issues?*

3.13. The Council is not aware of specific situations involving the use of a different placard system during the state of emergency following the September 4 earthquake. It cannot comment in any detail on the situation after the 22 February 2011 earthquake without extensive research. The evidence before the Royal Commission is that where engineers acting for owners changed placards after the 4 September earthquake, the Council did not always receive the relevant rapid assessment forms.

3.14. The Council has already submitted that Councils should have the power to require owners to provide DEEs (similar to the powers in section 51 of the Canterbury Earthquake Recovery Act 2011), but based on a priority or other

system that is practical to implement. However, the DEE requirement powers would usually be needed once a state of emergency is over, rather than during a state of emergency.

3.15. It seems likely that during a state of emergency the Civil Defence and Emergency Management Act 2002 would already empower the controller to ask owners to provide reports.

Q3 *How well did individuals, organisations, agencies and the wider public communicate and share information with each other after the Canterbury earthquakes; identify any gaps, failures and good performance. What could have improved how people communicated and shared information?*

3.16. The 4 September 2010 earthquake report discusses the Council's communications with the public (see section 3.5). At section 3.3 of that report, it notes that Council encouraged building owners to provide information on their buildings to the Council. The Council submits that a regulatory requirement for this is needed. There can be issues where an owner obtains engineering advice and does not share that information with authorities, particularly where a public safety risk is apparent. There should be a requirement for full disclosure to authorities.

3.17. The Council's submission in paragraphs 3.4, 3.5 and 3.7 of the Additional URM Buildings submissions also seeks better education/information for the public and the use of a building structure warrant of fitness/Quake Star system. Both of these would mean there would be better communication and information before an emergency event, both for the Council and to the public.

3.18. If a national BSE system is given a legislative mandate, it should make provision for standard communications that can be sent out to fully inform the nature of the building assessments process, including the actions building owners need to take. Support from Civil Defence through a national communication strategy is important as local communications may not inform out-of-town building owners.

Q4 *What skill-sets do engineers need to accurately or adequately evaluate a building following an earthquake or aftershock? Are different skills needed to assess buildings of different ages and for different purposes? What are the advantages and disadvantages of requiring engineers to possess certain expertise/capability before they can become building safety evaluators?*

3.19. The Council's BAAE submissions support the use of the training and identification system identified and discussed in the NZSEE report. See paragraphs 2.18 and 3.15 – 3.17 of BAAE submissions.

Q5 *What are the relative advantages, disadvantages, costs, benefits and risks of adopting a damage-based assessment, or other assessment methodology? Do fundamental changes need to be made to how people assess whether, how and when a building is at risk from aftershocks; for example, when it is appropriate to work out the residual seismic capacity of a damaged building?*

3.20. The Council has previously raised at paragraph 4.16 of the BAAE submissions, the question as to whether a damage based assessment system or a strength test system should be applied and it highlighted that a broader approach to the issue is required, taking account of different building types rather than a standard approach for all buildings, and what might be practical in any situation. These comments were made in the specific context of the CPEng form that was developed for use following the lifting of the state of emergency following the September 4 2010 earthquake.

3.21. There have been suggestions in evidence that some types of buildings such as URM buildings should not be re-occupied (whether manifesting damage or not) following a defined earthquake event, until some form of capacity based assessment is carried out. This was the subject of comment by Mr McCarthy during cross examination (TRANS.20120228, pages 84-85), although it would be important to carefully consider all the implications of such a legislative change.

3.22. In the Council's view, it would be impractical immediately following any major earthquake to carry out a seismic capacity evaluation of buildings as part of the Level 1 or 2 rapid assessment processes.

3.23. In the case of more modern buildings, and in particular those built after 1976, there does not seem to be good reason for a mandated requirement for the

seismic capacity of all buildings to be calculated. The Council notes the approach of Messrs Kehoe and Paret in their joint statement of evidence at paragraphs 3.30 to 3.35 (WIT.KEHOEANDPARET 0001.16-17). Reference can also be made to the cross-examination of Mr Kehoe (TRANS.20120705, pages 26-34).

3.24. As is pointed out in the joint witness statement at page 16, in the absence of physical evidence of a building having its capacity diminished by an earthquake, the building can be assessed to be capable of withstanding another earthquake of equivalent force (paragraph 3.30).

Barriers to Action, Particularly in the Recovery Phase

Q1 *What mechanisms and tools could be used to transition the building safety evaluation process from an emergency situation to normal 'business as usual'? What do other countries do? How should buildings be followed up on after a state of emergency?*

3.25. The Council's BAAE submission at paragraphs 4.11 – 4.16 seeks a new regulatory power for Councils to be able to require DEEs on buildings. It also seeks that the transitional powers in the Orders in Council be made permanent powers for use in other emergency situations (see paragraphs 4.7 – 4.10).

3.26. The Council also refers the Commission to its submissions on greater powers needed for Councils to act where there are damaged buildings (paragraphs 4.17 – 4.23) and on issues related to cordons (paragraphs 4.24 – 4.27).

Q2 *How do we manage the tradeoffs between closing buildings until the safety of the public can be ensured in the long-term, managing impacts (such as heritage concerns) when making decisions about the repair or demolition of a building, and acting quickly to promote recovery? What are the risks of trading one goal off against another, and who bears any costs or benefits (either directly or indirectly)?*

3.27. This issue is highlighted in the BAAE submissions on DEEs (see paragraphs 4.11 – 4.16). These submissions, made in relation to the issue concerning the need for resource consents for heritage buildings that may be an immediate danger, are also relevant (see paragraphs 5.4 – 5.6 of the Additional URM Buildings submission and paragraph 4.21 of the BAAE submissions).

3.28. Any decisions made in relation to managing the trade-off between safety concerns and promoting recovery will need to have an awareness of local government decision-making processes. Regulatory and enforcement decisions should ideally be independent of governance and political decision-making, but there can be tension between these processes.

Q3 *What administrative issues caused barriers to repairing, re-opening or demolishing damaged buildings? Were any solutions developed in response to the Canterbury earthquakes that could improve New Zealand's building safety evaluation process? What are the advantages and disadvantages of adopting any of these solutions?*

3.29. There was an administrative issue/barrier the Council faced in relation to dealing with the owners of buildings and their engineers following the 4 September earthquake arising from the new definition of "dangerous building". (See paragraph 2.4(b) above.) The Council, together with other bodies, devised the CPENg certification form, as a way of dealing with the issue, which is discussed in the Councils report on the 4 September 2010 earthquake and also the BAAE submissions. However, questions have been raised about the appropriateness of this form and the use of a damage based assessment (also discussed above).

3.30. The large task Council was faced with in terms of the numbers of dangerous buildings to deal with was also a potential barrier, as were the owners who refused to act quickly to repair their buildings or provide an interim solution. This is why the Council has submitted that greater powers are needed for Council to take action on damaged buildings (see paragraphs 4.17 – 4.23 of BAAE submissions).

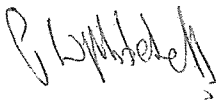
3.31. The BAAE submissions also suggest that various powers in the orders in council and the Canterbury Earthquake Recovery Act 2011 should become permanent as these were solutions developed in response to the earthquakes and that improved BSE processes.

Q4 *What should central and local government, engineers, insurers and building owners be responsible for when changing and removing placards; following up on engineering recommendations for further evaluations or work; and making sure that building owners comply with their obligations. What role does each of these groups play in making sure that damaged buildings are safe for long-term occupation? How do we improve the system?*

3.32. The Council's submissions have assumed the continuation of the current statutory provisions, with Civil Defence being responsible for placards while a state of emergency is in place. There was confusion about this following the September 2010 earthquake, but that is why Council and other submitters seek that the BSE process should be given a clear legal mandate.

3.33. The Council also assumes it will be responsible for Building Act notices following the end of an emergency period. Councils are also the most appropriate body for keeping all records related to placards and their changes, given that other property file records are kept by Councils.

3.34. The Council also commented on the respective roles of central and local government in paragraphs 5.1 to 5.6 of the Additional URM Buildings submission.



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