9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 10:50 p.m.

To:

9(2)(a)

Subject:

FWD: Draft report on Non-structural damage

Attachments:

Draft report on Non-structural damage

Hi (2) (30) your info. Life here is demanding. The recovery is underway and, predictably, for those affected nothing that agencies do is fast enough. Several thousand homes severely damaged by ground effects. EQC is managing growth from 22 permanent staff to now more than 500. I am responsible for much of the external agency liaison. We are all pretty tired. More later. Regards Hugh

9(2)(a)

From:

9(2)(a) @canterbury.ac.nz>

Sent:

Thursday, 23 September 2010 9:45 p.m.

To:

9(2)(a) Hugh Cowan; 9(2)(a)

9(2)(a)

Cc:

Subject:

Draft report on Non-structural damage

Attachments:

Non structural damage.pdf

Dear all

Find attached the draft report on non-structural damage. Please do let me know if you have anything to add or correct. Also, feel free to circulate it to others.

Thanks for everyone who helped me prepare this. I have tried to acknowledge everybody's contribution at the end of the report, but if you realize that I have forgotten someone, please let me know; it is unintentional.

Best regards

9(2)(a)

9(2)(a)

Department of Civil and Natural Resources Engineering University of Canterbury Christchurch, New Zealand http://www.civil.canterbury.ac.nz/staff/

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Damage to Non-structural Components and Contents

Draft 23 Sep 2010

In general, this earthquake caused significant non-structural and content damage. In many buildings, the extent of damage to non-structural components (such as chimney, parapet, canopy, facade, partition walls, staircases, windows were more than that to the structural components; except for unreinforced masonry (URM) buildings. Some of the common non-structural component damages are briefed below. However, it is not to be misunderstood that these damages occurred in all buildings. At this stage, it is not possible to provide a reliable figure on percentage of buildings undergoing these types of damages. However, most house owners the author has talked to have put a building damage claim or are planning to put a claim after the aftershocks cease to occur. As except for the liquefaction effected areas and unreinforced masonry buildings structural damage has been minimal (especially in residential houses and low-medium rise commercial/industrial buildings), the majority of damage claims will be on damage to non-structural components. This also means that percentage of buildings to have undergone non-trivial damage to non-structural components is very high.

Chimneys:

This was one of the very common forms of damage in all areas of Christchurch. Among the different types of chimneys, brick chimneys suffered the most damage. The damage ranged from minor cracking to some bricks falling to the collapse of the whole chimney. In many cases, chimney failure resulted in further damage to roof (especially those made of tiles). A crude survey indicated that more than half of the brick chimneys damaged in residential buildings in Christchurch. Chimney damage did not show any specific correlation with the age and type of residential building. It appeared that tying the chimneys to the roof frame would have avoided the complete collapse of these chimneys. Chimneys made of masonry suffered significantly less damage whereas metal chimneys did not suffer any damage.



Typical chimney damage (brick chimneys damaged severely)

Parapets:

Brick parapets are common features in URM, confined masonry and concrete frame and wall buildings. Majority of the parapets were damaged (to different extent) in this earthquake; parapets with no damage whatsoever was a rare sight. The damage included cracking, some bricks being dislodged and the whole parapet falling down. In several

cases, the detached parapets blocks fell and damaged building parts in lower storeys and in a couple of locations squashed cars parked in the roadside underneath. Collapsed parapets in the roadside buildings could easily have been a major contributor to injury/casualty if the earthquake had struck during the day. In some cases, severely damaged parapets were reported to have collapsed during the aftershocks.



Parapet damage/collapse

Canopy:

In several buildings, canopy was observed to have damaged. In a crude approximation, approximately 10% (1 in 10) canopies may have been damaged. Canopies which were secured to the building by ties (anchored to the wall) caused stress concentration around the anchorage, which resulted in cracks in the walls. In some buildings, these anchors gave up resulting in collapse of canopies. Even in canopies supported on light truss, damage was observed. In many cases canopy was damaged because of the impact caused by falling parapets or facades from storeys above.



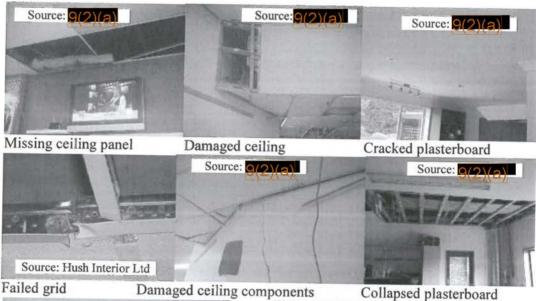
Supported canopy (city)

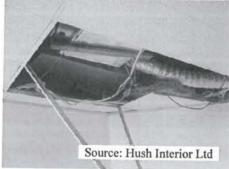
Suspended canopy (city) Temporary support (Lyttleton)

Ceiling:

In low-rise residential houses, ceilings are generally made of single units of plasterboard for each room nailed/glued to light timber roof frame. In commercial buildings, ceiling for each room consists of panels supported on a grid of aluminum beams that are hung though metal wires anchored in the floor above. In both cases, the ceiling system is not explicitly designed for seismic performance. As a result ceilings were observed to have damaged in several buildings. The building survey team has visited more than 300 residential/commercial/industrial/office buildings after the earthquake and in a crude approximation, 10% of the buildings had their ceiling damaged to different extents. In residential houses, the common form of ceiling damage was cracks (of varying length and

width) on the plasterboard, crushed plasterboard particles falling on the floor, plasterboards being detached from the frame (due to punching though the nail or tearing off at the glue). On the other hand, in the later type, the observed ceiling damage included dislodging of the panels, breaking of the panels, failure of the ceiling grid members, failure of perimeter angles and damage of ceiling panels due to interaction with the services. Some photographs of typical ceiling damage follow.







Ceiling damage caused by interaction with service



Damaged ceiling being cleared



Severely damaged ceiling system

Façades, Internal lining and Partition wall:

In most URM buildings brick walls collapsed in out-of-plane direction, but these are not included here as they are structural damage. However, even in other types of buildings damage of walls/facades was observed. Damage of masonry infill was not very common. The worst observed damage was to the St. Elmo Courts, a reinforced concrete frame building with masonry infill constructed circa 1930. The building exhibited large shear cracking of the infill between windows. The cracks extended the full height of the building. Ceramic tiles attached to structural beams and columns were also fractured, especially around beam-column joints.

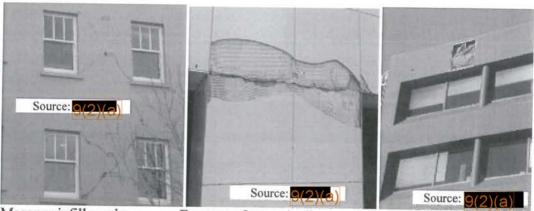
Within the central city, the majority of facade damage was to medium-rise buildings with infill and exterior lightweight claddings. Damage to glass panes was visible from street throughout greater Christchurch, but this has been included in the next section under "windows damage", which could also have been categorized as facades. It is likely that further damage could have occurred to facade systems but these were not visible from outside. For example, many residential homes exhibited warping of their joinery without any cracks forming in the glass. The other type of facade damage around the city consisted predominantly of brick facades falling out due to poor connection within the structure.

Moreover, extensive cracks to partition walls and internal linings of walls were common; especially cracks starting from the corners of door/window corners. In addition, damage to tiles on the walls and floor were also very common. In many buildings, the cracks on the walls and internal linings were reported to have appeared during the aftershocks. In some buildings, tiles on the walls and floors were found to be broken/cracked. The aftershocks (especially, the 5.1 Richter scale originated 5km deep in Lyttleton, less than 10km from Christchurch) caused noticeable cracking to these non-structural components of residential buildings. Being a near source and very shallow earthquake, this aftershock had significant energy in high frequency, which are closer to the natural frequency of the residential building stock. Hence, this aftershock understandably may have caused some damage to these buildings. Some cases of observed façade, wall, lining, tile damage are shown in the photos below.



Damage to façades

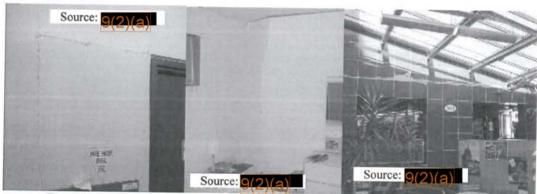
Brick veneer collapse



Masonry infill cracks

Fracture of ceramic tiles

Detached sign from a building



Damage to walls and linings

Tiles broken from wall

Windows:

Broken glass panels in windows were a common sight after the earthquake. The worst of the glass panel damage was focussed in the central city, where the majority of Christchurch's taller and historic buildings are located. Window panels cracked in the main shock were reported to have been broken in the aftershocks in some buildings. It was observed that the old window framing system using iron frames were rigid and did not allow the glass panels to displace, and most of the broken window glasses were in this type of window frames. On the other hand, modern aluminum frame windows have deformable rubber sealing which allow the glass panels to displace to some extent. Hence, very few damage to glass panels were observed in this type of window. Although spider glazing is a modern system, it is possible that the glass was broken more due to vibrations from the earthquake rather than lateral movement but this is only speculative. In every case, the window glass damage posed a falling hazard for pedestrians. The other form of damage related to window (and door) was vertical and horizontal cracks on the wall/internal lining from the corners of the door/window frames due to the in-plane deformation of the frames. Some typical window damages are shown below.

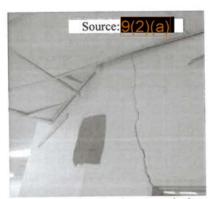


Damage to old glass panels in windows

Spider glazing damage







Crack in wall originating from a window corner

Racks and shelves:

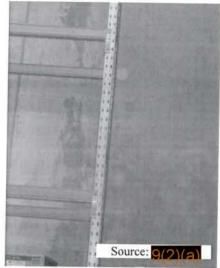
Racks and shelves are common in industrial/commercial/office buildings. Industrial establishments typically suffered very little damage to non-structural elements and suffered no interruption to their business services. One notable exception was damage to storage rack systems and the subsequent loss of stock. The damage to the rack systems varied from no damage to racks that were anchored to walls to complete collapse of heavily loaded, relatively light gauge racks. Typically, the severest damage to racks were systems that were heavily loaded (steel, flour, and milk). It was reported by storeowners that more things fell from racks that were secured to the floor but not to the walls than the racks that were not secured to the floor. This might have been due to the floor secured racks flexing along the height whereas the unsecured rack sliding on the floor. In some cases, it has also been found that inadequate provision of bolts in one segment of racking system resulted in twist mode failure of the whole racks. A sampling of the observed racking damage is shown in the figures below. In some cases, cracks were found in the infill wall panel where the racks were anchored.

In offices, unsecured book shelves were found falling down on floor. Machineries (such as printer, photocopiers) are generally not attached to floor with any seismic restraints; however, they mostly remained operational after the earthquake. In libraries, even the shelves that were tied together fell down (see the figure below). It was found that the ties in this case were not strong enough and failed to resist the tilting tendency of the shelves.

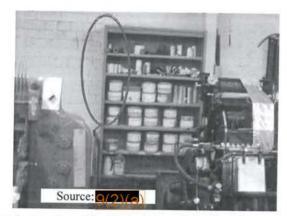
Shelves that were tied to the wall and shelves that were ties with each other using strong ties were intact.



Properly restrained rack with no damage



Heavily loaded rack with permanent drift (note differing distance to circular inserts)



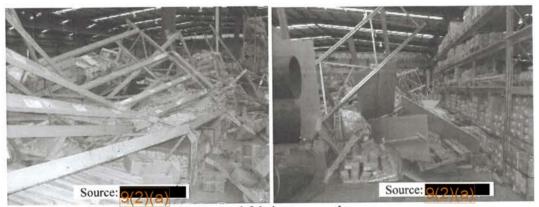
Crack developed in the brick wall behind the rack at the anchor



Twisted racks due to insufficient bolt in a segment



Damaged and collapsed racks at storage facility



Collapsed racks at metal fabricator warehouse

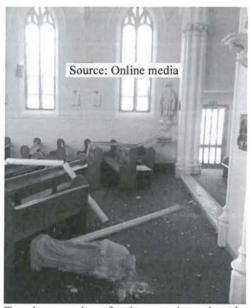


Damage to book shelves in library

Contents:

The earthquake was strong enough to cause things fall down from their elevated position in almost every house in Christchurch. More than two third of the surveyed households reported damage to some of the fallen objects. The content damage varied greatly depending on the location of the building and the use of the building. In residential

houses, the common contents that were damaged include racks, cutlery, vase, photo, arts, decorative pieces and aquarium. Contents were reported to have damaged also in the aftershocks; especially the Wednesday morning's 5.1 magnitude aftershock appeared to have caused content damage amounting to more than half of that in the main earthquake in some houses/shops. More than half of the surveyed residential households were not planning to lodge an insurance claim for content damage which means the content damage was less than the excess of their content insurance policy which is typically 250 dollars. In industrial buildings, content damage was almost none because the heavy machineries and equipments expectedly did not fall down from their positions. In offices, despite several things (including documents) fell down, there was not anything (except for some broken racks) that could not be reused. On the other extreme, content damage was a major contributor to the total loss in commercial buildings.







Liquor damage in a store

Depending on the type of business, the extent of content damage varied greatly. In a poultry farm, it was reported that 3000 chickens were killed and thousands of eggs broken. In many shops, things put inside the freezer got spoilt because of power disruption. There was understandably little content loss in garment, shoes, bedding, flower, furniture shops and all other business which did not display items in racks. Similarly, businesses providing services also did not incur much content loss. Nevertheless, businesses dealing with groceries and other everyday commodities suffered severe content damage. Flooding on the floor from broken bottles was a common sight in department stores, liquor shops, bars and restaurants. Pharmacies, gift shops, and several other businesses which display fragile stuffs in display racks also reported to have suffered extensive content damage. Depending on the type of display racks, the extent of damaged contents varied greatly. The assessors were surprised to learn that there was no content damage whatsoever in a shop selling very fragile items such as trophies, glassware, plaques, frames etc. A lot of these delicate things were hung on wall,

displayed on racks secured to walls and standalone racks, still nothing fell and broke. It was found that the racks secured to the walls had an angle at the front end, which stopped things from falling down despite being displaced from their original position. The standalone display racks were provided with rollers at the base, which acted like base isolation and prevented the rack from rocking which would have caused the things to fall down. The racks on the roller moved a small distance, but the presence of carpet restricted the rack from rolling haphazardly. Similarly, it was learnt from a liquor shop that by merely having a rack with a bigger footprint has a much smaller likelihood of bottles falling down than a number of smaller racks holding the same amount of bottles. Some typical scenes of content damage are shown in the photographs below.





Damaged contents in a warehouse

Broken aquarium in a house

Other damages observed:

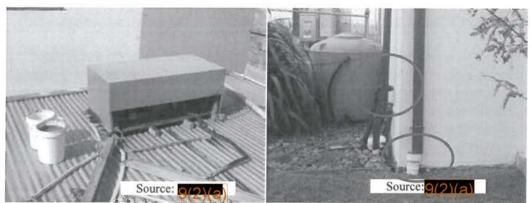
There were other types of damages, which were not very common in many buildings but were observed in discrete cases. A water tank supported on a wooden framework with the vertical wall fell on the roof top of a motor room, following the failure of supporting system and resulted in rupture of connection pipes as well. There were some other electrical units placed on the same roof top, which could potentially be affected by the water from the leaking tank and the ruptured inlet water supply pipes.





Water tank failure

Rupture of pipe connections



Tank rolled over an electrical unit on the roof Detached pipes due to building movement





Collapse of grain silo in the factory

Grinding machine fell from table top

Strong motion instruments at Greendale recorded very high horizontal and vertical accelerations. Being very close to the fault trace, the motor room in Greendale substation moved due to ground displacement. The relative displacement between the ground and the building resulted in rupture of pipe connections and rainwater drain pipe (see the figure above). The tank placed adjacent to the building seemed to be tied up with wire to building wall. There was no noticeable damage to the tank. In the grain factory at Greendale, one silo out of four with truss system support failed (as shown in figure below). It was reported that inside the factory, the contents fell off the shelf. The grinding machine on a table top (with no effective restraints) was displaced and fell on the floor.

Lessons learnt:

- Brick chimneys are very vulnerable and should not be used in new constructions.
 Even in existing buildings, brick chimneys should be tied to roof truss.
- Unsecured parapets are highly likely to damage/collapse in earthquakes. They should be tied to the structure to ensure they do not fall down.
- A small proportion of ceilings and facades experienced severe damage.

- Windows with tight frames and without any deformable sealing (as in old windows)
 are very vulnerable to glass breaking in earthquakes. The modern windows with
 aluminum frames and rubber sealing performed very well.
- The thin members (of truss/grids/frames) supporting and/or tying non-structural components such as canopies, ceilings, racks, shelves should be properly designed to resist the effect of seismic actions.
- Racks and shelves should be anchored to walls where possible.
- Standalone display racks should not be anchored only at the base. For safety of the contents, it is rather better to leave it unanchored.
- Wherever feasible, a bigger (in plan) rack should be used instead of a number of thin/slender racks.
- Angles at the edges of racks are very effective in avoiding the contents from falling.

Research needs:

- Detailed investigation to assess the vulnerability of chimneys and come up with seismic resistant chimney system (probably already exists in the form of modern metal chimneys, but this needs to be verified)
- · Methods to stabilize facades, parapets and canopies in existing buildings
- Seismic performance assessment and methods to improve seismic performance of common ceiling systems used in NZ
- Analysis of EQC claims on non-structural and content damage
- Methods to improve seismic performance of racks/shelves

Acknowledgements:		
This draft chapter has been put together by 9(2)(a)		at the University of Canterbury
with inputs from:		
Industrial racking damag	e: 9(2)(a)	
Other damages 9(2)(a)	GNS Science	
Ceiling damage:	9(2)(a)	
Façade damage:	9(2)(a)	

This chapter is written based on the observation and information gathered from a survey of residential/commercial/industrial buildings in different parts of the earthquake affected area conducted by: 9(2)(a)

area conducted by:9(2)(a)
9(2)(a)

9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 6:25 p.m.

To:

Ian Simpson

Subject:

RE: FW: Note for Ministers on Recovery Commission role

On road to home, will respond soon.

--- original message ---

From: "Ian Simpson" < isimpson@eqc.govt.nz>

Subject: FW: Note for Ministers on Recovery Commission role

Date: 23rd September 2010

Time: 6:10:50 pm

Hugh,

I realise it is late, but could I ask you to have a look at this for me.

Thanks,

lan.

----Original Message----

From:9(2)(a)

@dpmc.govt.nz]

Sent: Thursday, 23 September 2010 9:42 a.m.

To

9(2)(a)

Cc: 9(2)(a

Subject: Re: Note for Ministers on Recovery Commission role

9(2)(a)

As foreshadowed yesterday we have two broad concerns:

1. Recovery needs to be centred in people and societal effects, and optimised for them (whereas, we have engineering and funding driving the analysis at the moment) 2. To succeed, recovery requires management (so we think the Commission has an active role to optimise for societal benefit - not just to leave it to market forces).

I've attempted to reflect those points in the track changes attached. Cheers



9(2)(a)

Department of the Prime Minister & Cabinet Wellington

9(2)(a)

e-mail:9(2)(a) @dpmc.govt.nz

>>> '9(2)(a)

@med.govt.nz> 22-Sep-10 1:46 p.m. >>>

Attached is a first draft of the note to Ministers on the Recovery Commission role. This arose out of discussions at the Ministers meeting yesterday and (hopefully) reflects where we got to from our meeting yesterday afternoon.

The note does require tidying up and a very clear executive summary setting out the choices Ministers have. I have not included any consideration of the Recovery Commission's role in reconstruction of commercial areas such as ChCh CBD or its role in the rural reconstruction effort.

Can you provide feedback on this note by either cop today or first thing tomorrow morning - in particular I am looking for guidance on whether I have the various decision making responsibilities (and their implications) right. We are setting up a meeting at 10 am to discuss next steps and what is required to finalise the note.

Ian $\sqrt{9(2)(3)}$ am aware that you were not able to attend the meeting yesterday afternoon - can you look at the attached and give your perspectives.

Thank you

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33 Bowen Street | PO Box 1473 | Wellington | New Zealand | http://www.med.govt.nz < http://www.med.govt.nz/>

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9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 5:51 p.m.

To:

9(2)(a)

Subject:

FW: Shared EQC, Nz Insurance council and Council's (CCC, Waimka and Selwyn)

messages

Attachments:

CCC4763 54x10 ccc-0175-cp.pdf

Please monitor how well the reciprocal process for urgent reporting works.

Thanks

Hugh

----Original Message----

From:9(2)(a)

@ccc.govt.nz]

Sent: Thursday, 23 September 2010 5:30 p.m.

To: 9(2)(

Hugh Cowan

Subject: Shared EQC, Nz Insurance council and Council's (CCC, Waimka and Selwyn) messages

9(2)(a)

The attached information will be published in the Press tomorrow. As you will see it consists of a flow chart and a number of FAQs which may be of assistance to your staff in answering telephone queries.

EQC is working through the process of assessing people's houses starting with those that have indicated their property is uninhabitable first. EQC is aware that you may get people who are particularly distressed and/or cannot live in their homes and are awaiting an EQC assessment on the phone. EQC has a process to prioritise these properties. However you will have to use your judgment as to which cases to refer to this system. This is a call your telephone operators will have to make. If all or many cases get referred to this system will be over run. For these 'special' cases please e-mail the contact details of the person to claims_coordinator@clear.net.nz <mailto:claims_coordinator@eqc.clear.net.nz> .

EQC also has a call centre and at times are getting calls from distressed residents who have issues around Council issues e.g. the sewerage provision. Can we give their Call Centre a reciprocal process to be able to refer cases that their operators determine to be urgent to CCC for quick response please?

Thanks

<<CCC4763 54x10 ccc-0175-cp.pdf>>



Strategy & Planning Group

DDI Cell 9(2)(a)

Fax

Email 9(2)(a) @ccc.govt.nz

Web www.ccc.govt.nz

Earthquake Update

Frequently Asked Questions

Q: Do I need to lodge a claim with my insurer as well as EQC?

A: If you own a residential property, you need to lodge a claim with EQC. When you lodge your claim you'll need to give EQC your insurer's details (if you have them) and EQC will notify your insurance company. You should also contact your insurance company to take care of issues not covered by EQC e.g. temporary accommodation cover.

If your land has been damaged, include this in your claim to

Owners of commercial buildings need to lodge a claim with their Insurance Company or Broker If your commercial building has a residential component, e.g. a flat above a dairy, you should also lodge a claim with the EQC for the residential component.

N.B. EQC does not cover commercial buildings.

Q: I don't have insurance on my property. Can I still lodge a claim with the EQC?

A: If you don't have insurance on your residential property, then it is not covered by EQC. However if you would like to provide EQC with your name, address and other contact details they will be passed on to the Government

Q: Can I arrange repairs for my residential property to be done before the EQC has assessed the damage?

A: You can get emergency repairs carried out to secure your property, make the property weather proof or fix damaged services such as water, wastewater and electricity. You do need to have insurance before EQC covers such repairs.

Also, EQC has extended the definition of emergency repairs to include reasonable permanent roof repairs. You can get such roof repairs done before an EQC assessor has visited to a maximum value of \$2000 including replacement of tiles, rebidding and capping tiles, and refastening of iron sheets. Please take photographs of the damage or damaged items. Arrange to have the work done (you need to authorise this yourself) and obtain an invoice for the work. Send this to EQC, Box 311, Wellington along with your claim number (if you have it), the name you lodged your claim under, the damage address, an explanation of the repairs, and the photos. EQC will then contact you and arrange payment. Before making commitments to other types of repairs or professional advice please wait for EQC to assess your

Q: When can I expect to have my residential property assessed by the EQC?

A: EQC is working through the tens of thousands of claims it has received to date as quickly as possible. EQC has begun the inspection process and is working through the claims received on a priority basis. Its first focus is on the claims where property owners have indicated that their properties are uninhabitable or not weatherproof. It is also working on how to fast-track non-structural claims. Updates on progress are being provided in advertisements in the papers and on EQC's website www.eqc.govt.nz.

Q: Once I have lodged my claim what should I receive from EQC?

A: Once you have lodged a claim with EQC you will receive a letter acknowledging your claim, information about the cover under the Earthquake Commission Act 1993 and an outline of the claim process. At this stage, because of the large number of claims lodged, it may take a few days for this information to be sent. If you have not received the information from EQC after 7 days please contact EQC on 0800 326 243

Q: Should I phone the Council to arrange a building or engineering inspection of my residential property?

A: No Council staff are now only inspecting public buildings and those properties that are in immediate danger, with the purpose of protecting life and property.

EQC or your insurance company will assess your property and discuss with you what should happen next.

Whether or not your property has a Council placard of any colour, the process is essentially the same. Lodge a claim with EQC which will then arrange an inspection of your property.

Q: Should I phone the Council to arrange a building or engineering inspection of my commercial property:

A: No. Council staff are now only inspecting public buildings and those properties that are in immediate danger. Contact your insurance company. The insurance company will arrange an inspection and employ building professionals if required. The insurance company will also work with the Council to arrange the necessary building consent permissions.

Where there are residential apartments in a commercial block EQC will have some cover and a claim should also be lodged with it

Q: My chimney has been damaged - can I repair or remove it myself? Residential Property

A: Repairing or replacing a chimney or flue.

Given the risk that inadequately repaired chimneys can pose, skilled and professional building practitioners should be used.

Damage to a chimney can constitute a danger to health and safety and be considered a necessary emergency repair. You can get emergency repairs carried out prior to EQC's assessment to secure your property, make the property weather proof or fix damaged services such as water and electricity. You do need to have insurance before EQC covers such repairs. Please take photographs of the damage or damaged items. Arrange to have the work done (you need to authorise this yourself) and obtain an invoice for the work. Send these to EQC, Box 311, Wellington along with your claim number (if you have it), the name you lodged your claim under, the damage address, an explanation of the repairs, and the photos EQC will then contact you and arrange payment.

Q: My chimney has been damaged - can I repair or remove it myself? Commercial Property

A: Repairing or replacing a chimney or flue.

Given the risk that inadequately repaired chimneys can pose,

skilled and professional building practitioners should be used.

Darnage to a chimney can constitute a danger to health and safety and be considered a necessary emergency repair Please contact your insurance company as soon as possible

Q: Do I need building consent to repair the damage to my property?

A: Until your building has been assessed by EQC (residential properties) or your insurance company (commercial properties) the need for a building consent cannot be considered. You should discuss the need for building consent with your EQC assessors when they visit or your insurance company. Please get in touch with your the local Council's building office before you go ahead with any repairs.

Q: I own a commercial building which has been damaged - can I go ahead and organise repairs?

A: Please get in touch with your insurance company or broker and the local Council's building office before you go ahead with any repairs.

Q: How long have I got to make my claim to EQC?

A: Please make your claim to EQC as soon as possible.

Claims can be lodged by calling EQC's free phone number

0800 326 243 (0800 DAMAGE) and an operator will talk
you through the process. Claims can also be lodged on-line at

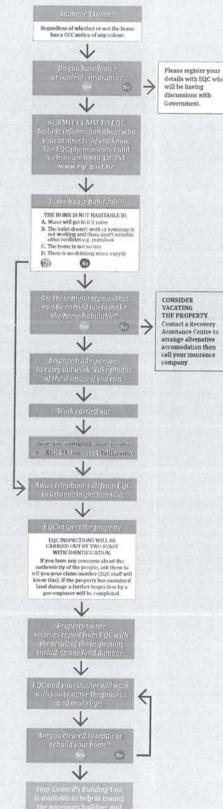
www.eqc.govt.nz

Q: Does EQC cover damage to driveways, fences etc?

A: All damage should be noted on your claim to EQC to allow insurers to determine your entitlements. EQC does not cover drives, paths, fences, swimming pools, trees and plants and various other items. A full list is on EQC's website in its Canterbury Earthquake FAOs section.

Q: Does EQC cover damage to services (e.g. water and sewerage) on private property?

A: EQC insures service connections that you own such as water pipes, domestic wells used for home supply, sewerage pipes, and electrical cables up to 60 metres from a residential building or to the edge of the property if this is less than 60 metres



For more information please visit www.ccc.govt.nz or www.eqc.govt.nz













From:

Hugh Cowan

Sont

Thursday, 23 September 2010 5:40 p.m.

To:

Subject:

RE: Shared EQC, Nz Insurance council and Council's (CCC, Waimka and Selwyn)

messages



Thanks for your help with this. Sorry to hold you up tonight.

Regards

Hugh

----Original Message----

9(2)(a)

@ccc.govt.nz]

Sent: Thursday, 23 September 2010 5:30 p.m.

To:

Hugh Cowan

Subject: Shared EQC, Nz Insurance council and Council's (CCC, Waimka and Selwyn) messages

The attached information will be published in the Press tomorrow. As you will see it consists of a flow chart and a number of FAQs which may be of assistance to your staff in answering telephone queries.

EQC is working through the process of assessing people's houses starting with those that have indicated their property is uninhabitable first. EQC is aware that you may get people who are particularly distressed and/or cannot live in their homes and are awaiting an EQC assessment on the phone. EQC has a process to prioritise these properties. However you will have to use your judgment as to which cases to refer to this system. This is a call your telephone operators will have to make. If all or many cases get referred to this system will be over run. For these 'special' cases please e-mail the contact details of the person to claims coordinator@clear.net.nz <mailto:claims coordinator@eqc.clear.net.nz> .

EQC also has a call centre and at times are getting calls from distressed residents who have issues around Council issues e.g. the sewerage provision. Can we give their Call Centre a reciprocal process to be able to refer cases that their operators determine to be urgent to CCC for quick response please?

Thanks

<<CCC4763 54x10 ccc-0175-cp.pdf>>



Strategy & Planning Group

9(2)(a)

DDI

Cell

Fax

Email 9(2)(a) @ccc.govt.nz

Web www.ccc.govt.nz

Christchurch City Council

Civic Offices, 163-173 Tuam Street, Christchurch Central, Christchurch 8011 PO Box 73 012 Christchurch 8154

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This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed.

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Christchurch City Council http://www.ccc.govt.nz

$\frac{\partial(2)(a)}{\partial(a)}$ Hugh Cowan From: Thursday, 23 September 2010 5:33 p.m. Sent: To: Cc: Subject: RE: FW: EQC proposal Thanks 9(2)(a) grateful if you would touch base with 9(2)(a) and clarify where scope and costs should lie for this. EQC is of course keen to support the work. It is merely a case of needing to demonstrate good alignment. I am happy with the proposal as it stands given the time pressure under which it was compiled. The question is whether it needs revision before we draw up a funding agreement for some/most/all of it. Regards Hugh From: 9(2)(a) @ans.cri.nz] Sent: Thursday, 23 September 2010 4:27 p.m. To: Hugh Cowan Cc: 9(2)(a) Subject: Re: FW: EQC proposal Hugh, I had a quick look at the proposal. No real problems. Have copied this to grayles he is named as having agreed to the plan of attack. I do question the technical feasibility of a couple of the aspects, and also find that it is not clear what Q(2)(a believes her role in the Stanford/GNS deployment is? As far as I know there are two separate deployments. GNS assisted 9(2)(a with some equipment and 9(2)(a provided a couple of students to 9(2)(a) from Stanford U for a few days. Cheers, 9(2)(a) "Hugh Cowan" < HACowan@eqc.qovt.nz> @gns.cri.nz> CC 23/09/2010 16:02 Subject FW: EQC proposal

9(2)(a) as discussed, grateful if you could offer opinion as to where this might fit. Meanwhile, I will provide reassurance that reasonable cost will be met.

Н.

```
From: 9(2)(a)
Sent: Thursday, 23 September 2010 3:40 p.m.
To: 9(2)(a)
Hugh Cowan
Cc: 9(2)(a)
Subject: RE: EQC proposal
```

Hi Hugh,

I haven't heard from you yet as to whether you received this proposal to collect data from the aftershocks of the Darfield earthquake, so I wonder if it got lost in the

system somewhere?

Also, the university here has just offered to extend the deadline for student summer scholarships. The university would put up 1/2 the money for a student to work on a project over the summer if they could get support for the other half (\$3,500 each so the student would get \$7,000). I wondered if you might be able to find some funds to pay a summer student to help us to organise and start analysis on the data we're collecting?

Kind Regards,

is not repeated.

9(2)(a)

9(2)(a)

SGEES

Victoria University of Wellington

Te Whare Wananga o te Upoko o te Ika a Maui Cotton 522 Box 600, Wellington, 6140 New Zealand

```
Email: 9(2)(a) Pvuw.ac.nz mobile
```

```
> ----Original Message----
> From: 9(2)(a)
> Sent: Friday, 10 September 2010 4:52 p.m.
> To: Hugh Cowan
> Cc: 9(2)(a)
>
> Subject: RE: EQC proposal
>
> >
 > Dear Hugh,
> >
> Please find attached a proposal to collect aftershock data to study
> > the recent M=7.1 Darfield earthquake. As we've already discussed,
> > some of the work has already commenced.
> >
> > Kind Regards,
> >
> >
> >
> > SGEES
> > Victoria University of Wellington
> > Te Whare Wananga o te Upoko o te Ika a Maui Cotton 522 Box 600,
> > Wellington, 6140 New Zealand
> >
> > Email:
                        gvuw.ac.nz
> > DDI: +64
> > mobile:
> >
```

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(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 5:27 p.m.

To:

Subject:

RE: EQC another example...

I have forwarded these examples to one of our claims managers, 9(2)(a) and asked her to check their status and look into the matter of advice given. She will get back to me.

Cheers

Hugh

From: 9(2)(a) @ipenz.org.nz1

Sent: Thursday, 23 September 2010 4:34 p.m.

To: Hugh Cowan

Subject: FW: EQC another example...

Importance: High

FYI - two examples below - also I checked my phone - I can receive business cards attached to emails, but not when they are attached to texts.

Ciao

Mob

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From: 9(2)(a)

Sent: Thursday, September 23, 2010 3:42 PM

To: 9(2)(a)
Subject: EQC another example...

Importance: High

9(2)(a)

She spoke to a (2) (a) EQC who said that she did not need prior approval before going ahead with organizing an engineer.

Cheers.

9(2)(a)

(2)(a)

IPENZ, Engineers New Zealand Ground Floor, 158 The Terrace PO Box 12 241, Wellington 6144



www.ipenz.org.nz

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From: 9(2)(a)

Sent: Thursday, 23 September 2010 3:21 p.m.

To: 9(2)(a)

Subject: different stories EQC

Importance: High

Hi 9(2)(a)

Sorry got caught on the phone. As I mentioned to you just before, we have been told that EQC will not pay for the cost of any engineers unless the person with the claim has been given prior approval. I have had a couple of people get in touch with EQC, after relaying this message, and they have come back saying that EQC has said that's not the case... just get an invoice or keep the receipt and EQC will cover it.

Specifically 9(2)(a) who rang this afternoon. She spoke to me and then spoke to an 9(2)(a) EQC.

If you could please find out what the story is it would be extremely helpful. Is verbal permission ok (without a claims assessor going to the property)? Or are we back to, 'if they've made a claim EQC will cover it'?

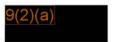
Many thanks,

9(2)(a)



IPENZ, Engineers New Zealand Ground Floor, 158 The Terrace PO Box 12 241, Wellington 6144

T



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9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 5:26 p.m.

To:

9(2)(a)

Subject:

FW: Consultant EQC Inspections

Sorry 9(2) (mitted to copy you on this message sent minutes ago...

From: Hugh Cowan

Sent: Thursday, 23 September 2010 5:25 p.m.

To: 9(2)(a)

Subject: RE: Consultant EQC Inspections

Hi_{9(2)(a)}

I have spoken with 9(2)(4) has spoken to 9(2)(a) and will be doing so again next Tuesday I understand, to address queries about policy and costings.

Regarding the "lady from New Brighton" that is clearly a council health and safety matter. I have spoken with 9(2)(a) and he will be providing 9(2)(a) ght with a drop-box address for rapid council review of such cases. It would make sense for IPENZ to have that contact point also.

Regards

Hugh

From: 9(2)(a)

@ipenz.org.nz]

Sent: Thursday, 23 September 2010 4:33 p.m.

To: 9(2)(a)

Cc: Hugh Cowan

Subject: RE: Consultant EQC Inspections

9(2)(a)

I have been talking with Hugh Cowan at EQC about this and other matters. He advises that if the problem is one of Safety and Sanitation, it is most likely a matter for the Council, so I will copy this to Hugh Cowan at EQC as well and he can organise for a Council response. Perhaps you could provide the details of this homeowner so he can effectively manage this particular response.

Ciao



Tel: 9(2)(a)

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Please consider the environment before printing this email.

From: 9(2)(a

Sent: Thursday, September 23, 2010 11:06 AM

To: 9(2)(a)

Subject: Consultant EQC Inspections

Hi 9(2)(a)

Thank you for calling me back to confirm your ruling on the cost of inspections.

As I understand your comments:

- 1. If an inspection is carried out and the occupants subsequently need to vacate the house then EQC will cover the cost of the inspection
- 2. If an inspection is carried out and the occupants subsequently do not need to vacate the house then EQC will not cover the cost of the inspection.

We understand that there needs to be a demarcation but we are extremely concerned that this ruling will (and is already) PUT LIVES AT RISK. Also your recent advice is different than what you indicated a week ago (and what we have told clients so far). We would like to discuss the cost of these previous inspections with you to see what can be done.

Just prior to talking to you this morning I had spoken to a lady in the New Brighton area who is scared about living in her house. Their has been significant pile and floor movement and larges cracks. She has been on the EQC list since the earthquake.

We have someone available to inspect her house now but she advised she cannot afford the inspection if she has to pay for it. She is now TAKING THE RISK TO STAY IN HER DAMAGED HOUSE because EQC <u>may not</u> cover the cost of the inspection.

This is clearly not an acceptable position.

Please urgently advise how EQC want these situations dealt with or whether this ruling can be modified.

We understand everybody is doing their best in a difficult situation, but the current situation is putting people under unnecessary pressure and potentially a health and safety risk.

Thank you



Powell Fenwick Consultants Ltd Cnr Bealey Ave & Churchill St PO Box 25-108 Christchurch 8144 New Zealand Phone Fax (temail 9(2)(a) web www.pfc.co.nz

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From: 9(2)(a)

Sent: Thursday, 23 September 2010 9:50 a.m.

To: 'claims@eqc.govt.nz'

Subject: FW: Powell Fenwick Consultants EQC Coordination - URGENT FOR 9(2)(a

HI 9(2)(a)

Following my discussion with you and email I sent, 9(2)(a) from EQC phoned me - thank you.

staying in their houses. He advised he thought EQC should cover the cost of these inspections and was talking to management later that day to confirm details.

Attached is an email I sent to (2)(a)

To date we have had no response, but we still have desperate people on our list and new people calling in about the safely of being in their homes. There was another 4.5M aftershock this morning and people are still finding new damage and are worried about their safety - even for homes that have been previously inspected.

As per the advice from graph are still completing safety inspections for people and trusting that EQC will cover this. For inspections relating to remedial work, demolition etc, we are making sure people talk to their insurers.

We need URGENT GUIDANCE FORM EQC if there is any particular protocol or procedure you want us to follow

Thank you



Powell Fenwick Consultants Ltd Cnr Bealey Ave & Churchill St PO Box 25-108 Christchurch 8144 New Zealand Phone Fax ((email 9/2)(a) web www.pic.co.nz

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From: 9(2)(a)

Sent: Wednesday, 15 September 2010 1:03 p.m.

To: 9(2)(a)

Subject: FW: Powell Fenwick Consultants EQC Coordination

Hi 9(2)(a)

Thank you for taking the time to call me today to discuss the inspections that PFC have completed to date and the on going inspection work required.

Approximate data to date:

675 call received 430 inspections complete

approx half residential but new calls coming in are mainly residential approx half of residential have been for insurers, banks etc

this leaves 100-200 home owners who have contacted us directly.

Last week in the panic stage we decided not to turn people away when they were scared to go back into their houses. We simply responded as fast as we could and completed inspections so we could tell them if their house was safe or not.

This week, we first contacted EQC on Monday to try to establish the correct procedure. (At that stage no one was able to tell us) We are currently telling home owners to check with EQC first. But we still have quite a number of inspection planned where this may not have happened.

Questions:

- Obviously last week EQC could not keep up and people needed urgent answers about the safety of their houses. PFC provided that for them. Will these people be able to get EQC cover for this. (I am encouraged by your comments that you support this option - it only seems fair to all involved)
- Please confirm how you want PFC to handle ongoing enquiries and inspections that we have logged into our system but not yet completed.

As discussed, we have a data base of all the inspections and results we can show you. One possibility is to agree a lump sum for all inspections to simplify matters (Typically we estimate \$300 -\$400 per house depending on location, damage etc. This can be confirmed)

9(2)(a) is in the office over the next 2 days and is happy to meet with you asap, and I will be on mobile and back from Melbourne on Saturday.

Thanks for your help





Powell Phone
Fenwick Fax (Consultants email 9(2)(a)
Ltd web www.pfc.co.nz

Cnr Bealey Ave & Churchill St PO Box 25-108

Christchurch

8144 New Zealand

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9(2)(a)

From: Hugh Cowan

Sent: Thursday, 23 September 2010 5:18 p.m.

To: 9(2)(a) eqc@clear.net.nz

Subject: FW: Air New Zealand EQC Meeting

9(2)(a)

A job for you, I think. Please let me know if you can cover this.

I have explained to 9(2)(that we cannot easily resource such extra-curricular activities, but if I were there I would do it myself because 9(2)(that seems a long-time supporter/member of our engineering lifelines programme. AirNZ has about 2000 staff in ChCh, so in some ways this could be viewed as another public meeting and opportunity to fly the flag.

Let me know if you can do it and I will contact of 2014 anks.

Hugh

From: 9(2)(a)

Sent: Thursday, 23 September 2010 5:09 p.m.

To: Hugh Cowan

Subject: Air New Zealand EQC Meeting

Hi Hugh,

As discussed,

Air New Zealand is looking at providing opportunities for our Christchurch based staff to have short briefings from key organisations involved in the recovery process.

It would be useful to our staff if an update on EQC's activity, priorities and timelines was provided so our staff could have a better sense of the recovery expectations.

Many of our Christchurch based staff have claims lodged with EQC so we would not be wanting answers to their specific and individual situations.

I am looking at 2 x 20 minute briefings at our Christchurch Hanger meeting rooms next Wednesday 29th September in the time slots below.

1200-1300 1930-2030

Hoping you or the EQC team are able to accommodate us.

Regards 9(2)(a)







103 Leonard Isitt Drive Mangere Postcode 2022



9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 4:02 p.m.

To:

9(2)(a)

Subject:

FW: EQC proposal

Attachments:

proposal_eqc_v2.pdf

9(2)(a) as discussed, grateful if you could offer opinion as to where this might fit. Meanwhile, I will provide reassurance that reasonable cost will be met.

H.

----Original Message-----

From: 9(2)(a)

@vuw.ac.nz]

Sent: Thursday, 23 September 2010 3:40 p.m.

To: Q(2)(2)

Hugh Cowan

Subject: RE: EQC proposal

Hi Hugh,

I haven't heard from you yet as to whether you received this proposal to collect data from the aftershocks of the Darfield earthquake, so I wonder if it got lost in the system somewhere?

Also, the university here has just offered to extend the deadline for student summer scholarships. The university would put up 1/2 the money for a student to work on a project over the summer if they could get support for the other half (\$3,500 each so the student would get \$7,000). I wondered if you might be able to find some funds to pay a summer student to help us to organise and start analysis on the data we're collecting?

Kind Regards,

9(2)(a)

9(2)(a)

SGEES

Victoria University of Wellington

Te Whare Wananga o te Upoko o te Ika a Maui Cotton 522 Box 600, Wellington, 6140 New Zealand

Email: @vuw.ac.nz

mobi

> -----Original Message-----

> From: 9(2)(a)

> Sent: Friday, 10 September 2010 4:52 p.m.

> To: Hugh Cowan

> Cc: 9(2)(a)

> Subject: RE: EQC proposal

>

>>

> > Dear Hugh, >> >> Please find attached a proposal to collect aftershock data to study >> the recent M=7.1 Darfield earthquake. As we've already discussed, >> some of the work has already commenced. >> >> Kind Regards, >> >> 9(2)(a) >> SGEES > > Victoria University of Wellington >> Te Whare Wananga o te Upoko o te Ika a Maui Cotton 522 Box 600, > > Wellington, 6140 New Zealand >> >> Email: @vuw.ac.nz 9(2)(a)> > DDI: + >> mobile >>

Proposal to the Earthquake Commission for funds to support collection of seismic data from aftershocks of the 4 September 2010 M7.1 Darfield Earthquake



The 4 September 2010 M7.1 Darfield earthquake is the most damaging earthquake to have struck New Zealand since the 1931 Napier Earthquake (Figure 1). It also had the longest surface displacement since the 1929 Buller earthquake. Although no lives appear to have been lost, damage was extensive in the area and in nearby Christchurch, particularly as a result of liquefaction and the failure of unreinforced masonry, and economic losses are expected to exceed NZ\$4 billion. Understanding the earthquake and its relationship to seismic hazard is profoundly important. The earthquake occurred on a previously unmapped fault in an area that was presumed to pose lower seismic hazard than other areas, particularly the Alpine Fault, the Porters Pass Fault, and other structures in the foothills of the Southern Alps to the northwest. Moreover, the analysis of seismic waveforms generated during the earthquake implies a complex sequence of slip (source time function) indicating that two or more sub-events occurred in quick succession (Figure 2). Both the USGS and the ERI-Tokyo slip models indicate unilateral rupture to the west (Figure 3), and are roughly consistent with the aftershock distribution and preliminary calculations of stress redistribution (Coulomb failure stress). The fault plane is oriented east-west, whereas most earthquakes in the South Island occur on northeast—southwest-oriented faults.

As part of its contracted response to large earthquakes, GNS Science has deployed ten short-period seismographs and three strong motion seismographs to augment the existing GeoNet network in the area and, in particular, to record ground motion from aftershocks. These seismographs cannot cover the vicinity of the fault in sufficient detail to enable researchers to produce well resolved maps of fault structures in the region. Their locations were planned in the 48 hours immediately following the earthquake, before the aftershocks started spreading eastwards, so we propose to deploy instruments at greater distances from the mainshock's epicentre.

VUW has already arranged to deploy five extra seismometers from stock available in New Zealand. With assistance from Prof 9(2)(a) group at the University of Auckland and from Dr 9(2)(a) group at Wairakei, these five seismometers will be deployed in the next few days (8–10 September).

We have also requested a further nine seismometers from the IRIS/PASSCAL Rapid Array Mobilization Program (RAMP) with University of Wisconsin colleague Prof 9(2)(a) Professor 9(2)(a) will be writing a grant proposal to the NSF for funding, but that proposal will not be considered until November of this year.

In this proposal, we request Earthquake Commission support to help defray the costs of the deployment, including air and ferry fares for New Zealand students and staff and air freight for the seismometers from the U.S. The University of Wisconsin may be able to provide some of the money required for the air freight to return the seismometers after the deployment, so we are asking for contingency support for this part of the proposal in case they do not approve it.

Another related study is being coordinated by GNS Science and Prof 9(2)(a) of Stanford University and will involve the deployment of 200 strong motion seismographs in the Christchurch

city area to study site effects and compare them to building responses. Members of our group already in Christchurch will help them once the five seismometers already in New Zealand have been deployed and until the RAMP seismometers arrive.

We request funds to deploy the seismometers, including accommodation, air and ferry transport for people and equipment, and shipping for the US seismometers. We will plan to keep the seismometers out until January and have two site visits to change batteries and download data between now and then. Our budget includes these visits as well as new batteries for each site. At present we are using old batteries from previous deployments, which will work for a while but if we have new batteries, we will be more assured of having uninterrupted data.

The deployments are all being coordinated with similar response by University of Canterbury, Stanford University and GNS Science. We have all agreed with (2)(a) to hold a meeting in the near future to discus which groups will be responsible for which data analysis tasks.

Likely tasks will include: a) seismic tomography to determine detailed fault structures and earthquake relocations to study the migration of seismicity over time and its relation to stress and possible fluid movements; b) a study of trapped waves to understand fault properties on a possibly newly formed fault; c) The study of time-varying seismic properties such as isotropic and anisotropic velocity and attenuation, to learn about crack healing and possible changes of stress in response to aftershock movements. d) The seismic tomography may be combined with active source studies of velocity structure in the future to better delineate this fault and other faults in the region that may be similarly buried and yet capable to generate future earthquakes. It would also help to characterize the depth of the gravels in the region to help to determine the time between previous movement on the fault. The active part of any such study would be requested in a future proposal.

References:

Geonet report: http://www.geonet.org.nz/news/article-sep-4-2010-christchurch-earthquake.html

USGS web page:

http://earthquake.usgs.gov/earthquakes/eqinthenews/2010/us2010atbj/finite_fault.php).

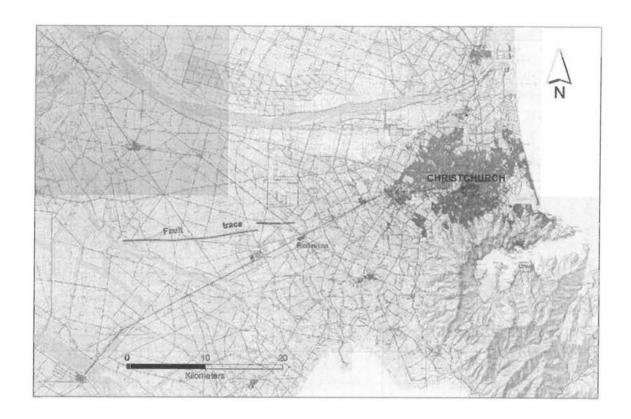


Figure 1. Fault trace mapped by GNS staff.

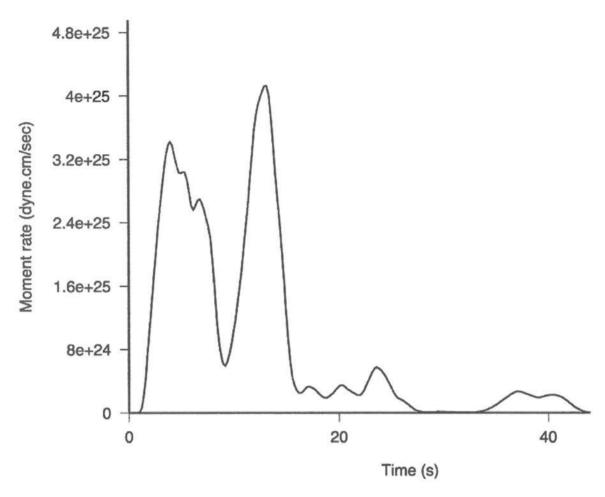
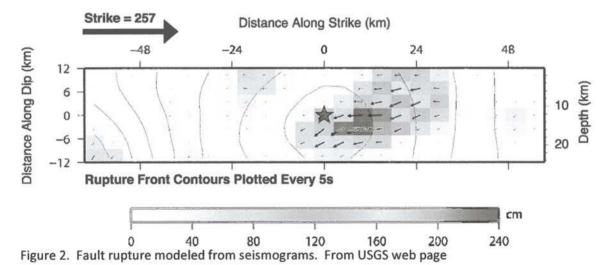


Figure 2. Rupture source-time function modeled from seismograms. From USGS web page



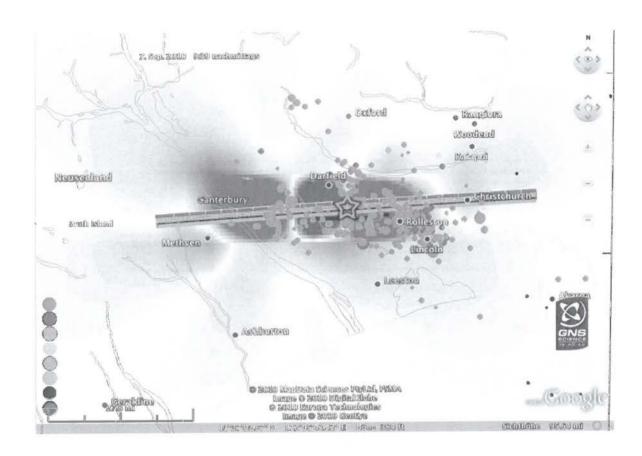


Figure 4. Coulomb failure model showing areas of enhanced stress using the Coulomb 3.1 modeling software with the USGS finite fault slip model, plotted with the aftershocks from the first three days of activity. Red and (blue) areas are regions of enhanced (reduced) stress on optimally oriented strike-slip faults at a depth of 5 km, which is close to the average depths of the earthquakes. Note that the area with most aftershocks is in the red area to the east of the epicentre.



Figure 5. Proposed deployments and aftershocks. Pink circles are aftershocks in the first three days. Green pins are the Geonet seismic stations MQZ, MRLZ, OXZ and thirteen temporary stations deployed by GNS. Yellow pins are seismometers currently being deployed, and red pins are proposed positions for the US-sourced seismometers.

9(2)(a)

From: Hugh Cowan

Sent: Thursday, 23 September 2010 3:08 p.m.

To: 9(2)(a

Subject: RE: Coordination of geospatial and geotechnical information from the 4 September

earthquake

Thanks for the update, 9(2)(3) will no doubt take a while to understand the practical ramifications of your mandate but I am happy to endorse the guiding principles. There will be data and information of immediate and strategic value and the earlier we can identify, coordinate and agree a basis for sharing or stewardship the better.

regards

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand
DDI 9(2)(a)

From: 9(2)(a) @ecan.govt.nz]

Sent: Thursday, 23 September 2010 1:32 p.m.

To: 9(2)(a) Cc: Hugh Cowan

Subject: FW: Coordination of geospatial and geotechnical information from the 4 September earthquake

Hi all

FYI email below. This has been requested by Environment Canterbury commissioners and CEO and agreed to by SDC and WDC CEOs and staff from CCC. Could I please be kept in the loop regarding geotechnical information coming from T&T and/or EQC. I don't necessarily need the actual information, but need to know what is being supplied to who and the conditions of its use. If I don't have this information we will not be able to undertake this coordination function.

9(2)(a) m so sorry I haven't been able to get back to you with that raw CPT data from our liquefaction study. We are still in a position where we would be in breach of our contract with Beca if we supply the information, and I am unable to supply individual data points because the original owners of the data were not recorded with each point. This is very frustrating. However, we are working through the process of making this information available as it will need to be used to update our original maps at some stage in the near future. Most of the data owners I have spoken to so far do not see any problems with making the information available for the recovery process, but I have not heard back from everyone yet. I suspect most of the data points you had requested originated from CCC, so you could enquire of them directly. However, I have not yet been able to make contact with 9(2)(a) or anyone from their Capital Development Unit yet.

Regards



From: 9(2)(a)

Sent: Wednesday, 22 September 2010 12:29 p.m.

To:

-9(2)(a)



'hacowan@eqc.govt.nz'

Subject: Coordination of geospatial and geotechnical information from the 4 September earthquake

Hi all

Further to various meetings that have been held and various emails that have been sent and received, Environment Canterbury will coordinate the geospatial and geotechnical information for the 4 September earthquake. The need for coordination of this information, to feed into recovery decisions, has been recognised by the Canterbury Recovery Office and its constituent local authorities (CCC, SDC, WDC, Environment Canterbury).

Environment Canterbury will:

- hold metadata for geospatial information collected since 4 September (and relevant previous geospatial information), including ownership, where it is held, how it can be accessed, and restrictions on use
- hold information on GIS-related activities planned or underway at each organisation, and what derived products or datasets are being generated (and restrictions on use)
- collate, where possible, geotechnical data collected since 4 September (and relevant previous geotechnical information)
- · help coordinate GIS resources and capability
- assist CCC, SDC and WDC with information for immediate reconstruction and land use issues, and help to coordinate a consistent approach across the three TAs
- assist Urban Development Strategy planners with information for longer-term development issues
- be the central point for enquiries for geo-spatial and geotechnical data (there is a general consensus that, ideally, information should be available to those organisations who require it for recovery work, and we will work towards this as much as possible).

CCC, SDC, WDC and other organisations will continue the geospatial work they have been doing. However, Environment Canterbury is in a position to assist this work to happen in a coordinated and collaborative manner, and to try to ensure that all of the relevant information is fed into recovery decisions under the Canterbury Recovery Office. For Environment Canterbury to achieve this coordination role, organisations will need to proactively update us with information.

I will be contacting some of you about this over the coming days, and hope to send out further information to you all by the end of the week. Can you please let me know if there is anyone I have missed off this list.

Regards



Environment Canterbury



w www.ecan.govt.nz

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This footnote also confirms that this email message has been swept by MIMEsweeper for the presence of computer viruses.

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Hugh Cowan

Sent:

Thursday, 23 September 2010 12:54 p.m.

To:

9(2)(a)

Subject:

RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

Thank (2)(2)(2)ery helpful and I think it could be a terrific win-win provided we align the resources with expectations in the right manner.

For your info, EQC currently has about 300 personnel (including loss adjusters, estimators, engineers and office staff) on the ground in ChCh. A further 50 arrived last night for training and will be in the field on Friday. In Wellington there are now nearly 90 personnel (22 permanent staff and 67 temps and contractors). We will soon have about 400 staff in the field offices around the region.

Also, I have recruited (2)(2) to perform a recovery liaison role for EQC in Canterbury and have just spent several days introducing him to people who thought they were going to be working with me. Among others, will be contacting (2)(2) to arrange time for a briefing on local CDEM linkages. It might be helpful if he could have a quiet chat with you too, since his role may offer strategic insight into issues before they unfold and I would like MCDEM to be able to share that wherever relevant or helpful.

Regards Hugh

From: 9(2)(a) @dia.govt.nz]

Sent: Thursday, 23 September 2010 12:30 p.m.

To: Hugh Cowan

Subject: FW: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

Joint Forces NZ. I think it is underway but final approval will only be provided once some of the detail around skills, numbers and timings are sorted out. That is best handled at the operational level and I will keep clear now and watch developments. I have provided the NZDF with your e-mail address above as the EQC contact.

From: 9(2)(a)

Sent: Thursday, 23 September 2010 11:25 a.m.

To: 9(2)(a)

Subject: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

9(2)(a)

9(2)(a) knows our capacity and if he's talking to 9(2)(a) of the Engineers) then I expect it should be well in-hand. I'm taking the position that we will assist, and it's a matter of how much not whether we do it. I agree, there's an expectation in all quarters that NZ-Inc will step up. It's also an opportunity to confirm the utility of the NZDF in a range of circumstances - and not unhelpful as we look at decisions about future investment!

9(2)(a)

From: 9(2)(a)

@dia.govt.nz]

Sent: Thursday, 23 September 2010 09:28

To:9(2)(a)

Cc:

Subject: CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

You will appreciate the challenges faced by the EQC in Canterbury, and Christchurch in particular, in having damaged buildings assessed. The numbers required to be assessed are high and the public's expectations for speedy resolution are not matched by the resources available. You will also be familiar with the political nuances around ensuring that the recovery is as good as it can be, and it is expected to be an all-of-government effort using the resources that can be provided by all departments and agencies.

EQC has asked me to make a formal request for NZDF assistance. They would like to have the assistance of Army engineers to work alongside qualified builders doing the assessments to speed up the process. As I understand it, the engineers would work in small teams alongside civilian qualified builders. The engineers would assist in providing an assessment of the scope of work required in each building and the civilian would cost it. EQC is seeking the assistance of staff who have an understanding of building and construction, and an understanding of damage and what might be done to fix it. Any staff provided would be given an induction programme. If the support was approved EQC would like to start with a small deployment and build to something bigger rather than be swamped by a large contingent and risk losing control.

I am advised that	of the Certified Builders Assn (and an 9(2)(a)	who is working with EQC
has spoken with 9(2)(a)	ank unknown but reported as the Commanding Officer) and v	ith someone in HQ
2LFG. The EQC contact is g	(2)(a) and contactable on 9(2)(a)	

Request NZDF provide engineers to support the EQC building assessment process in Christchurch.

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9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 12:29 p.m.

To: Cc:

Subject:

EQC interest

Dear 9(2)(a)

My apologies for the slow response and for the fact that I have not yet had time to look closely at what it is you are proposing. Having said that, I am happy to accept at face value an assurance from 9(2)(a)that this is something of potential interest to EQC and to confirm our willingness in principle to participate. If you are seeking some specific undertaking please let me know immediately and I will endeavour to assist.

regards

Hugh Cowan Research Manager Earthquake Commission Level 20, Majestic Centre 100 Willis Street, P.O. Box 790 Wellington, New Zealand

DDI 9(2)(a)

9(2)(a)

From:

Hugh Cowan

Sent:

Thursday, 23 September 2010 11:35 a.m.

To:

Subject:

FW: business cards

Hi 9(2)(a)

Grateful if you could arrange to have business cards printed for 9(2)(a)

as per details below. 9(2)(a) whom I have recruited to perform a liaison role among responding

agencies.

Could you let 9(2)(a) know once you have ordered these, so he knows when to expect them.

Thanks

Hugh

From: 9(2)(a) [mailto 9(2)(a) eqc@clear.net.nz] Sent: Thursday, 23 September 2010 8:46 a.m.

To: Hugh Cowan Subject: details

Is this sufficient?

Don't have an office number but perhaps best to keep it that way.

Go well

9(2)(a)

9(2)(a)

NZ Earthquake Commission

Phone:9(2)(a

Email:

eqc@clear.net.nz

9(2)(a)

From:

Hugh Cowan

Sent: To: Thursday, 23 September 2010 9:09 a.m.

Cc:



Subject:

RE: Joint EQC, Insurance Council and Councils FAQ's

Hi All, and thanks 9(2) (Ba) ther than 'need to lodge' which implies a looming deadline I think it would be better to simply state that 'lodge your claim if yot have not already done so.' regards Hugh

--- original message ---

From: 9(2)(a)

Subject: RE: Joint EQC, Insurance Council and Councils FAQ's

Date: 23rd September 2010

Time: 8:57:23 am



Just following my earlier email this morning I confirm that I have just got agreement from Hugh Cowen of EQC to remove the 30 day statement from the FAQ's. What we really want to say is that "you need to lodge your claim with EQC as soon as you can" or words to that effect as we do not want to panic people with a timeline of 30 days that will be fast approaching.

At this stage we need to hold off on my suggestion about ECCA as this issue (I now understand) is still being developed by EQC and we could add an update to our FAQ'a once more is known in the coming days.

<u>ရှ(၃) ye</u>y and your team are doing a fantastic job.

Please feel free to call me if you need to.

Best regards

9(2)(a)

ANZIIF (Snr Assoc) CIP
Insurance Council of New Zealand
PO Box 474 Wellington
New Zealand 6140
Tel 0064 4 472 5230
DDI 9(2)(a)
Fax
Mobile 9(2)(a)
www.icnz.org.nz

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Hugh, 9(2)(a) and I further edited these FAQs today based on feedback from a number of parties.

There are some minor changes to the flow chart as well - to add a question about whether someone is insured right up front and to make one or two of the boxes/comments apply more generically to Waimak, Selwyn and CCC.

I feel we are very much in the diminishing returns stage for any further editing and there is a need to get this information out in to the public domain. Consequently only come back with further edits if they are really major inaccuracies.

We are planning to get the flow chart and FAQ's advertised in the Press from Thursday onwards. Please note there is a section in italics that is not for advertising - rather these are notes for call centre staff. - it looks like CCC is prepared to pay for the cost of advertising this week so probably no need to make a contribution right now. If we decide to advertise again next week we might need to revisit the cost sharing. are you happy for Waimak and Selwyn logos to be part of the adverts? I need an answer before noon Wednesday. Hugh - I tried the claims coordinator e-mail address and it came back as undeliverable. Have tried again just now and haven't had a message to say it is undeliverable or one from 9(2) tay ay it arrived at that mailbox. So still not clear whether it is working. Replies back to 9(2)(a) please -9(2)(a) @ccc.govt.nz or 9(2)(a)Thank you 9(2)(a)<< FAQs for EQC insurance council and Councils - 21 September.doc>> This electronic email and any files transmitted with it are intended solely for the use of the individual or entity to whom they are addressed. The views expressed in this message are those of the individual sender and may not necessarily reflect the views of the Christchurch City Council. If you are not the correct recipient of this email please advise the sender and delete. Christchurch City Council http://www.ccc.govt.nz The information contained in this email message is CONFIDENTIAL INFORMATION and may also be LEGALLY PRIVILEGED. It is intended only for the individual or entity named above. If you are not the intended recipient, you are hereby notified that any use, review, dissemination, distribution or copying of this document is strictly prohibited. If you received this document in error, please immediately notify us by telephone (+64-3-3136136) and destroy the original message.

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(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 7:06 p.m.

To: Cc:

Ian Simpson

9(2)(a)

Subject: Attachments:

FWD: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

 $\operatorname{Ian}_{9(2)(a)}$ or your info. Have briefed $\operatorname{9(2)(a)}$ and both he and $\operatorname{9(2)}$ welcoming this initiative. You will get the flavour of NZDF interest from the email trail and I have talked to 9(2)(a) also. Opportunities for both here. Also briefed 9(2)(1) night and he supportive. We need more depth if poss, to support 9(2) others. Cheers

9(2)(a)

From:

9(2)(a)

@nzdf.mil.nz>

Sent:

Friday, 24 September 2010 4:56 p.m.

To:

Hugh Cowan

Subject:

RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

Thanks Hugh. I've asked 9(2)(a) Land Force Group at Burnham, to make contact with 9(2)(b) discuss scoping the best targeted support that NZDF can provide.

From: Hugh Cowan [mailto:HACowan@eqc.govt.nz]

Sent: Friday, 24 September 2010 4:48 p.m.

To: 9(2)(a)

Subject: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

9(2)<mark>(a)</mark>

Our 9(2)(a), is available in Christchurch tomorrow afternoon. Alternatively he could meet someone at Linton during next week where he will be on home leave 9(2)(a) ontact details are 9(2)(a).

Essentially, EQC's operation is growing from a virtual corporation with core governance and oversight functions and a permanent staff of 22, to a corporate business of several hundred staff with a field focus. Our core staff including contractors like 9(2) highly experienced, but we are thinly spread. The more I think about needs and the opportunity to work with some of your people, the more inclined I am to emphasis logistics and coordination in the discussion of scope.

Regards Hugh

From: 9(2)(a)

@nzdf.mil.nz1

Sent: Priday, 24 September 2010 4:10 p.m.

To: Hugh Cowan: 0(2)(a)

Cc:9(2)(a)

Subject: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

Hugh,

Thanks for your email. We are still pulling together the information on what we are able to do to assist. Once we have that and have assessed the impact on our other activities, I need to inform our higher HQ. They in turn will then advise you of what NZDF is able to provide. Following that, I anticipate that we will then be authorised to work directly with you to undertake the task. We hope to have a decision for you later today.

Regards

9(2)(a

Mo 9(2)(a)

From: Hugh Cowan [mailto:HACowan@eqc.govt.nz]

Sent: Friday, 24 September 2010 11:14 a.m.

To: 9(2)(a)

Subject: FW: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

Dear 9(2)(a)

yesterday, just in case we are I am following up on a request for assistance we channelled through 9(2)(a)both waiting for the other to call.

with our team in Christchurch. I At the operational level our man is 9(2)(a) if you would like to discuss further. Thanks am part of the EQC leadership team and can be reached on 9(2)(a) in advance for the opportunity to scope an NZDF contribution to our efforts in Canterbury.

Regards

Hugh Cowan Research Manager Earthquake Commission Level 20, Majestic Centre 100 Willis Street, P.O. Box 790 Wellington, New Zealand DDI 9(2)(a)

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Sent: Thursday, 23 September 2010 11:25 a.m.

Cc: 9(2)(a

Subject: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

9(2)(a)

looking into this. 9(2)(a) knows our capacity and if he's talking to 9(2)(a)of the Engineers) then I expect it should be well in-hand. I'm taking the position that we will assist, and it's a matter of how much not whether we do it. I agree, there's an expectation in all quarters that NZ-Inc will step up. It's also an opportunity to confirm the utility of the NZDF in a range of circumstances - and not unhelpful as we look at decisions about future investment!

[mailto 9(2)(a)]From: 9(2)(a)

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To: 9(2)(a)Cc:

Subject: CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

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Request NZDF provide engineers to support the EQC building assessment process in Christchurch.

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9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 5:25 p.m.

To:

9(2)(a)

Subject:

RE: Canterbury earthquake

Thanks 9(2)(a)

Indeed, I have been buried in the recovery effort – focusing on liaison with other responding agencies, Cabinet ministers and fronting at public meetings in ChCh - doing my bit to contribute to a common operating picture. It has sometimes felt like switching lids on boiling pots but we have some terrific talent on the ground and the operation is ramping largely as pre-planned. The inevitable public frustrations arise because of the complexity and scale of the disruption. Canterbury as a whole got off lightly but there are several thousand severely damaged homes. Of the ~72,000 claims filed with us so far, about 6,000 are self-reported as uninhabitable or not weatherproof. We'll be there for a while.

Cheers Hugh

From: 9(2)(a)

Sent: Friday, 24 September 2010 5:15 p.m.

To: 9(2)(a)

Cc: Hugh Cowan

Subject: IPS lunchtime seminar on the Canterbury earthquake

 $Hi_{9(2)(a)}$ - as discussed. I've copied Hugh Cowan into this email and I'm sure he would be pleased to get an invitation for EQC to attend although he says he will be away himself on 29 October. Best -9(2)(a)

9(2)(a)

Wellington, New Zealand

+9(2)(a)

+

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 5:14 p.m.

To: Cc:

Subject:

FW: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

9(2)(a)

FYI

From: 9(2)(a)

[mailto 9(2)(a)

Sent: Friday, 24 September 2010 4:56 p.m.

To: Hugh Cowan

Subject: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

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Sent: Friday, 24 September 2010 4:48 p.m.

To:9(2)(a)

Subject: RE: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

(a)

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9(2)(a)

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@nzdf.mil.nz]

Sent: Friday, 24 September 2010 4:10 p.m.

To: Hugh Cowan; 9(2)(a)

Cc: 9(2)(a)

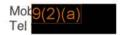
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9(2)(a)



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Hugh Cowan Research Manager Earthquake Commission Level 20, Majestic Centre 100 Willis Street, P.O. Box 790 Wellington, New Zealand DDI9(2)(a)

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From:	9(2)(a)	[mailto:0(2)(a)	@dia.govt.nz]
Sent:	Thursday, 23	September 2010 09):28
To:	9(2)(8		
Cc:	3(2)(8	1)	

Subject: CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS

You will appreciate the challenges faced by the EQC in Canterbury, and Christchurch in particular, in having damaged buildings assessed. The numbers required to be assessed are high and the public's expectations for speedy resolution are not matched by the resources available. You will also be familiar with the political nuances around ensuring that the recovery is as good as it can be, and it is expected to be an all-of-government effort using the resources that can be provided by all departments and agencies.

EQC has asked me to make a formal request for NZDF assistance. They would like to have the assistance of Army engineers to work alongside qualified builders doing the assessments to speed up the process. As I understand it, the engineers would work in small teams alongside civilian qualified builders. The engineers would assist in providing an assessment of the scope of work required in each building and the civilian would cost it. EQC is seeking the assistance of staff who have an understanding of building and construction, and an understanding of damage and what might be done to fix it. Any staff provided would be given an induction programme. If the support was approved EQC would like to start with a small deployment and build to something bigger rather than be swamped by a large contingent and risk losing control.

am advised that	of the Certified Builders Assn (9(2)(a) (rank unknown but reported as the Commanding Office	who is working with EQC
has spoken with	(rank unknown but reported as the Commanding Office	r) and with someone in HQ
2LFG. The EQC contact is	9(2)(a) and contactable on 9(2)(a)	,

Request NZDF provide engineers to support the EQC building assessment process in Christchurch.

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9(2)(a)	
From: Sent:	Hugh Cowan
To:	Friday, 24 September 2010 3:47 p.m. 9(2)(a)
Subject:	FW: Unclassified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS
To: 9(2)(a)	tember 2010 11:14 a.m.
-	sified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS
Dear <mark>9(2)(a)</mark>	
I am following up on a both waiting for the o	a request for assistance we channelled through $9(2)(a)$ yesterday, just in case we are other to call.
am part of the EQC le	with our team in Christchurch. I adership team and can be reached on $\frac{9(2)(a)}{1000}$ if you would like to discuss further. Thanks portunity to scope an NZDF contribution to our efforts in Canterbury.
Regards	
Hugh Cowan Research Manager Earthquake Commission Level 20, Majestic Cent 100 Willis Street, P.O. Wellington, New Zeala DDI 9(2)(a)	Box 790
Sent: Thursday, 23 Se To: Hugh Cowan	[mailto: 9(2)(a) @dia.govt.nz] eptember 2010 12:30 p.m. ified CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS
(2)(a) provided once some of operational level and I address above as the I	Joint Forces NZ. I think it is underway but final approval will only be the detail around skills, numbers and timings are sorted out. That is best handled at the will keep clear now and watch developments. I have provided the NZDF with your e-mail EQC contact.
To: <u>9(2)(a)</u> Cc:	@nzdf.mil.nz] ptember 2010 11:25 a.m. 9(2)(a)
(2)(a)	Pied CANTERBURY EARTHQUAKE ASSISTANCE: ENGINEERS
Engineers) then I expend	g into this. 9(2)(a) knows our capacity and if he's talking to 9(2)(a) of the ct it should be well in-hand. I'm taking the position that we will assist, and it's a matter of how lo it. I agree, there's an expectation in all quarters that NZ-Inc will step up. It's also an

opportunity to confirm the utility of the NZDF in a range of circumstances - and not unhelpful as we look at decisions about future investment!



From: 9(2)(a)	@dia.govt.nz]
Sent: Thursday, 23 Sept	ember 2010 09:28
To: 9(2)(a)	
Subject: CANTERBURY I	ARTHQUAKE ASSISTANCE: ENGINEERS

You will appreciate the challenges faced by the EQC in Canterbury, and Christchurch in particular, in having damaged buildings assessed. The numbers required to be assessed are high and the public's expectations for speedy resolution are not matched by the resources available. You will also be familiar with the political nuances around ensuring that the recovery is as good as it can be, and it is expected to be an all-of-government effort using the resources that can be provided by all departments and agencies.

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I am advised that	of the Certified Builders Assn (9(2)(a) (rank unknown but reported as the Commanding O) who is working with EQC
has spoken with $9(2)(a)$	(rank unknown but reported as the Commanding Of	fficer) and with someone in HQ
2LFG. The EQC contact is	9(2)(a) and contactable on 9(2)(a)	

Request NZDF provide engineers to support the EQC building assessment process in Christchurch.

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====

9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 2:53 p.m.

To:

9(2)(a)

Subject:

FEMA visitors

Attachments:

FEMA Delegation Bios.doc

9(2)(a)

Forgot to attach to previous message the bios of the FEMA delegation we received in late June. 9(2)(a) extended his invitation to me but indicated at the time that others in his organisation might be more relevant to meet for technical discussion. I think really the purpose of my visit will be to share insights into disaster risk management. FEMA was not on my list for DC until they visited us, but their presence in Wellington highlighted the level of interest in our "whole of Govt" arrangements and I imagine they might like to hear how we are coping now...

regards

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand
DDI 9(2)(a)



Corey Gruber

Assistant Deputy Administrator National Preparedness Directorate FEMA Headquarters

Corey Gruber serves as the Assistant Deputy Administrator of the National Preparedness Directorate at FEMA. The Directorate has six components with over 300 personnel, including seven senior executives, and a budget of \$500 million. The Directorate is charged with providing guidance, programs, activities and services to prepare the Nation to prevent, protect from, respond to and recover from all hazards. The Directorate oversees sixty-four training institutions and providers, supports nearly 150 homeland security exercises annually, including National-Level and Principal-Level (i.e., Cabinet-level) Exercises, and provides grants and cooperative agreements that target key preparedness initiatives in States and the Nation's largest urban areas.

In 2006-2007, Mr. Gruber served as Acting Deputy Administrator of the newly formed Directorate and led its integration into the Agency. As Assistant Deputy Administrator he oversees establishment of the National Preparedness System required by Homeland Security Presidential Directive 8 (National Preparedness) and the Post Katrina Emergency Management Reform Act (PKEMRA), which includes eight components ranging from standards development to establishment of a comprehensive national preparedness assessment system.

Mr. Gruber received his bachelor's degree from Pennsylvania State University, his master's degree from Chapman University, and is a retired U.S. Army officer. He was certified as an Emergency Medical Technician in the State of Georgia in 1980. He is a recipient of the 2006 Secretary's Meritorious Service Award – Silver Medal. He is married and has two children, including a son who currently serves in the U.S. Army Special Forces.





Kevin Clark

Emergency Analyst
Office of the Regional Administrator
FEMA Region IX

Kevin Clark currently serves on the regional senior management team as the Emergency Analyst for FEMA Region IX, located in Oakland, California. Working in the Office of the Regional Administrator, he is the senior advisor to the Regional Administrator providing an evaluation of all regional policies, programs and actions, and executive functions and responsibilities.

A 32-year veteran with FEMA, Mr. Clark was appointed to his latest post in February 1998. Prior to this appointment, he served as the Deputy Regional Administrator from September 1993 to January 1998. He also concurrently served for various periods as Acting Regional Administrator and Acting Division Director for several divisions.

Mr. Clark spent 15 years at FEMA headquarters in Washington, D.C., before coming to Region IX. There, he served for more than 12 years in the Office of Congressional and Legislative Affairs. His principal focus there was coordination with the House and Senate Appropriations Committees and also served as Acting Director of Congressional and Legislative Affairs, insuring the annual Congressional authorization of FEMA's programs and amendments. From 1978 to 1980, he held several positions in other emergency management areas within FEMA.

Before joining FEMA, Mr. Clark worked for the departments of Commerce, Education, Labor and independent commissions in Washington, D.C. He began his professional career by working as a local government official in the Office of the Mayor, Scranton, Pennsylvania. He is a native of northeastern Pennsylvania and a graduate of the University of Scranton.





Lyric Winona Clark

International Relations Specialist International Affairs Division, Office of External Affairs FEMA Headquarters

Lyric Winona Clark is an International Relations Specialist at FEMA. She serves as FEMA's coordinator for bilateral cooperation with Australia, Israel, the United Kingdom, and other countries throughout Europe, Eurasia, Asia, and the Pacific. In this role, she facilitates the exchange of information between emergency managers from those regions and FEMA subject matter experts.

Ms. Clark also serves as FEMA's Washington, DC liaison for the Civil Emergency Planning committees of the North Atlantic Treaty Organization.

Prior to joining FEMA in May 2008, Ms. Clark served for seven years as a Senior Analyst of International Affairs and Trade at the U.S. Government Accountability Office (GAO). While at the GAO, Ms. Clark conducted program evaluations of U.S. hurricane recovery assistance to Latin America and the Caribbean, earthquake recovery assistance to El Salvador, the U.S. Visa Waiver Program, Department of State public diplomacy programs, exchange programs with Russia, United Nations (UN) management reform, UN activities in Burma (Myanmar), and military assistance to Afghanistan.

From 2004-2005, Ms. Clark took administrative leave from GAO to pursue a Bosch American Young Leaders Fellowship and complete short work stints at GAO's German counterpart, the *Bundesrechnungshof*, and the Friedrich Ebert Foundation, in Bonn, Germany.

Ms. Clark completed her Master of Arts in Public and International Affairs at the University of Pittsburgh in April 2001 and also earned a Certificate in Latin American Social and Public Policy. She completed her undergraduate studies at Washington and Jefferson College in Spanish and Business Administration. During her academic years, she studied overseas in both Mexico and Costa Rica.





Bryant Harrison

Division Director Mission Support Division FEMA Region X

Bryant Harrison is currently serving as the FEMA Region X Mission Support Division Director. Previous to that appointment he served as the National Preparedness Division Director, the Deputy National Preparedness Division Director, the Homeland Security Advisor to the Regional Director, and the Response and Recovery Division Director. Mr. Harrison joined the agency in September of 1998 and has been chased from division to division ever since.

As have most FEMA regional staff, Mr. Harrison has deployed to numerous disasters and emergencies throughout the United States. He has been designated as the Federal Coordinating Officer in disasters declared in Alaska, Idaho, Oregon, Washington, and Georgia. He has also deployed in other management roles to disasters in Alabama, Florida, Kansas, and Texas. He is one of the designated R10 Regional Response Coordination Center (RRCC) Directors and is frequently activated to support initial response activities.

Before coming to FEMA, Mr. Harrison worked in planning and community development at the city and county level for over 20 years, including serving as the Community Development Director for the City of Lynnwood, Washington. He is a member of the American Institute of Certified Planners.

Mr. Harrison earned a Bachelor or Arts with a double major in Public Administration and Geography (Urban Planning Option) from California State University at Chico.

Mr. Harrison is married to Anita and has two children, Marisa and Elizabeth.





Becky Marquis

Deputy Director Ready Campaign FEMA Headquarters

Becky Marquis is the Deputy Director of the *Ready* Campaign, FEMA's national public service advertising campaign designed to educate and empower Americans to prepare for and respond to emergencies including natural disasters and potential terrorist attacks. In this position, Ms. Marquis leads the outreach strategy of the campaign which includes *Ready* America, *Ready* Business, *Ready* Kids, Listo, the Spanish version of the campaign and the National Preparedness Month (NPM) initiative.

Since 2008, Ms. Marquis has helped to raise awareness of *Ready* and its messages through the Campaign's Web site, partnership development, speaking engagements, media interviews, and NPM. In 2008, she helped to increase the NPM Coalition from 1,800 organizations to more than 3,200.

Prior to joining DHS, Ms. Marquis worked for several public relations firms on a variety of non-profit and government campaigns educating the public about issues ranging from Medicare to mental health to homelessness to family farming.

Ms. Marquis earned her Bachelor's degree in journalism from Indiana University of Pennsylvania.





Wade Witmer

Deputy Division Director Integrated Public Alert and Warning System (IPAWS) Program Office National Continuity Programs Office FEMA Headquarters

Wade Witmer joined FEMA and the IPAWS Program Office in January of 2009. Prior to his current position, he was employed with the Defense Information Systems Agency for 9 years, serving as the Portfolio Manager for Mobile Communications in the Presidential Communications Upgrade Program Management Office and finally as the White House Communications Agency Deputy Director of Enterprise Architecture, Strategic Planning and Systems Engineering.

Mr. Witmer has over 19 years of experience in government systems engineering and government acquisition program management.

Mr. Witmer graduated from the Pennsylvania State University in 1991 with a Bachelors of Science degree in Electrical Engineering.

9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 2:26 p.m.

To:

9(2)(a)

Subject:

RE: Event to Mark the completion of New Zealand's Tsunami Monitoring Network

Hi 9(2)(a)

I would be pleased to attend the function marking the completion of the tsunami network.

regards

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand

DDI 9(2)(a)

From: 9(2)(a) @linz.govt.nz]
Sent: Tuesday, 21 September 2010 10:53 a.m.

To: Hugh Cowan

Subject: FW: Event to Mark the completion of New Zealand's Tsunami Monitoring Network

Dear Mr Cowan

Just a reminder email about the invite below. We don't seem to have received a response from you. Could you please RSVP using the voting buttons above.

Land Information New Zealand (LINZ) invites you to an...

... Event to mark the completion of tsunami monitoring network

Tuesday 28 September 2010

5pm - 6pm

Land Information New Zealand

Level 11

160 Lambton Quay

Wellington

Note: Level 11 closes to the public promptly at 5pm

July 2010 marked the s year collaborative proj monitoring network.

The network is part of It consists of pressure at 17 locations around is transmitted in near r assesses the data and Civil Defence and Eme

Minister for Land Infor will be speaking about significant network, w

9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 2:23 p.m.

To: Cc:

9(2)(a)

; Ian Simpson

Subject:

RE: WFCP meeting in Bucharest

Dear 9(2)(a)

Please accept my apologies for the delay in response to your email of 17 September. As you may appreciate we are extraordinarily busy responding to the M7.1 Canterbury earthquake of 4 September, with more than 70,000 claims reported to EQC as of today. Given the unprecedented scale of the event we will not be able to send a representative to the World Forum meeting this year in Bucharest. We would be grateful if you would table our apology at the meeting and extend our warmest regards to all participants. We wish you every success for the meeting and will give thought to our renewed participation in the Forum next year.

Sincerely yours,

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand
DDI (2)(a)

From: 9(2)(a) [mailto 9(2)(a)

Sent: Friday, 17 September 2010 11:46 p.m.

To: Hugh Cowan
Cc: 9(2)(a)

Subject: WFCP meeting in Bucharest

Importance: High

Dear 9(2)(a)

I kindly ask you to confirm participation of one or EQC representatives to the World Forum for Catastrophe Programmes. I strongly need your confirmation till Monday, September 20. On Tuesday the hotel is closing the reservation period.

As I already informed you, thanks to 9(2)(a) the World Forum for Cat Programs will take place in Bucharest between October 11-15. First day, October 12 the meeting will take place together with the International Catastrophe Risk Forum (ICAR) (www.icarforum.ro/2010/). I am looking forward to meeting an EQC representative here.

Best regards,

9(2)(a)

Romanian Catastrophe Insurance System (PAID) 30 Puskin street, district no. 1, Bucharest, Romania

tel. 9(2)(a)

(2)(a) From: **Hugh Cowan** Sent: Friday, 24 September 2010 2:15 p.m. To: Subject: RE: Draft report on Non-structural damage Indeed! ----Original Message----From: 9(2)(a) Sent: Thursday, 23 September 2010 10:09 p.m. Hugh Cowan; Subject: RE: Draft report on Non-structural damage Thanks 9(2)(a)it looks really good on first glance. Well done one and all. I really appreciate getting this paper which brings together the work of so many. By the way, I think we need a campaign to delete the word "non-structural" from our vocabulary. Most if not all building elements require structural action to keep them in place. We would do well to encourage others to recognise this by calling them secondary structural elements. (Don't take this as criticism, please! I grumble about it all the time.) The instance I quote is when 9(2)(a) did Wellington Hospital, the client told him he was responsible for all items relying on structural action - windows, ceilings, shelving etc etc. He set up a system of sign-offs from the subcontractors who designed the systems to show that he 9(2)(a) had taken this responsibility seriously. A good example that does not allow these "non-structural" items to escape the scrutiny they deserve. Regards Office: 9(2)(a) 9(2)(a)Mobile: Email: ----Original Message-----From: 9(2)(a) @canterbury.ac.nz]

Subject: Draft report on Non-structural damage

Sent: Thursday, 23 September 2010 9:45 p.m.

Dear all

Hugh Cowan;

9(2)(a)

Find attached the draft report on non-structural damage. Please do let me know if you have anything to add or correct. Also, feel free to circulate it to others.

Thanks for everyone who helped me prepare this. I have tried to acknowledge everybody's contribution at the end of the report, but if you realize that I have forgotten someone, please let me know; it is unintentional.

Best regards





Department of Civil and Natural Resources Engineering University of Canterbury Christchurch, New Zealand http://www.civil.canterbury.ac.nz/staff/9(2)(a)

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9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 12:23 p.m.

To: Cc:

9(2)(a)

Subject:

RE: EQC proposal

9(2)(a) further to our phone conversation I am happy to confirm EQC's willingness to contribute \$3,500 towards a summer student to assist with the analysis of the aftershock data.

Regards

Hugh

----Original Message---

From: 9(2)(a)

@vuw.ac.nz]

Sent: Thursday, 23 September 2010 3:40 p.m.

To: 9(2)(a

Hugh Cowan

Cc: 9(2)(a)

Subject: RE: EQC proposal

Hi Hugh,

I haven't heard from you yet as to whether you received this proposal to collect data from the aftershocks of the Darfield earthquake, so I wonder if it got lost in the system somewhere?

Also, the university here has just offered to extend the deadline for student summer scholarships. The university would put up 1/2 the money for a student to work on a project over the summer if they could get support for the other half (\$3,500 each so the student would get \$7,000). I wondered if you might be able to find some funds to pay a summer student to help us to organise and start analysis on the data we're collecting?

Kind Regards,

9(2)(a)

9(2)(a)

SGEES

Victoria University of Wellington

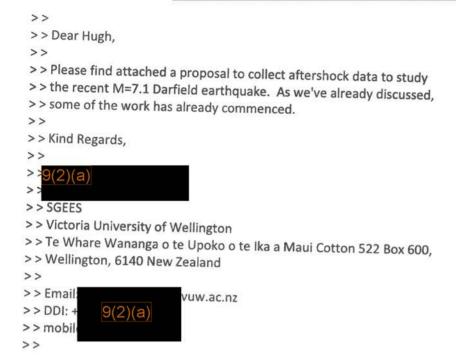
Te Whare Wananga o te Upoko o te Ika a Maui Cotton 522 Box 600, Wellington, 6140 New Zealand

Email: @vuw.ac.nz
DDI: 9(2)(a)

mobi

- > -----Original Message-----
- > From: 9(2)(a)
- > Sent: Friday, 10 September 2010 4:52 p.m.
- > To: Hugh Cowan
- > Cc: 9(2)(a)
- >
- > Subject: RE: EQC proposal

>



$\theta(2)(a)$

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 11:46 a.m.

To:

9(2)(a)

Subject:

RE: Hugh Cowan

Hi 9(2)(a)

I am flat out supporting the growth of our recovery operation with barely a moment to think ahead. I am conscious of the need to firm up some plans for my visit – less concerned about Denver because you will cover that, but DC is still a bit vague. I should visit NSF and probably FEMA (they were here recently), as well as IRIS (less critical but 9(2)(a) 9(2)(a) I. I would be happy to give a talk or more than one if that would help - perhaps a combination of Chile recovery and Canterbury response. Did I already give you my schedule? Don't have it at hand from where I am typing this, but will send later if you don't have it already.

Cheers Hugh

From: 9(2)(a)

@usgs.gov]

Sent: Friday, 24 September 2010 8:21 a.m.

To: 9(2)(a)

Cc: Hugh Cowan

Subject: Re: Hugh Cowan

How about Wednesday, 10/27 at 11:30? We'll figure out place later.

3(2)(a)

Geology and Environmental Change Science Center

U.S. Geological Survey

(2)(a)

MS980 Federal Center Denver, CO 80225-0046

Fax: (3

From:

To:

Date: Subject: 2)(a)

09/22/2010 12:33 AM Re: Hugh Cowan

Hi9(2)(a)

I am planning to be around that week and will be delighted to see Hugh. Let me know the time and place!

9(2)(a)

U.S. Geological Survey

Telepl 9(2)(a) Fax:

MS 966, Box 25046
Denver, CO 80225
Physical Address/Delivery Service:
1711 Illinois Street
Golden, CO 80401
E-Mail: 9(2)(a)@usgs.gov

To: 9(2)(a) wrote: ---To: 9(2)(a)

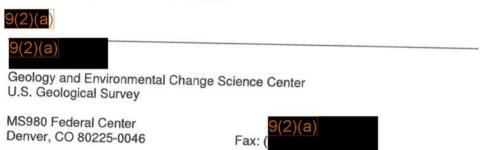
To: 9(2)(a)

Bate: 09/21/2010 03:24PM
Subject: Hugh Cowan

Hi 9(2)(a)

Address for Mail:

I hope you're doing well. During the week of October 25, Hugh will be in town and would love to get together for lunch with you. Will you be around? Thanks!



(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 11:34 a.m.

To:

Subject:

FW: EQC another example...

From: 9(2)(a)

@ipenz.org.nz]

Sent: Friday, 24 September 2010 11:19 a.m.

To: 9(2)(a)

Cc: Hugh Cowan; 9(2)(a)
Subject: RE: EQC another example...

Thank you 9(2)(a)

Hugh was going to send me through your FAQ sheet, so that I can ensure we are all giving the same answers; are you able to provide or direct me to that please?

Many thanks

Regards 9(2)(a)

(2)(a)

IPENZ Engineers New Zealand

Delivery: Ground Floor, Engineers New Zealand, 158 The Terrace, Wellington 6011

Postal: PO Box 12 241, Wellington 6144

T M



www.ipenz.org.nz

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Please consider the environment before printing this email.

From: 9(2)(a)

@eqc.govt.nz]

Sent: Friday, September 24, 2010 11:15 AM

To: 9(2)(a)

Cc: Hugh Cowan; 9(2)(a)

Subject: FW: EQC another example...

Importance: High

I wish to confirm that the advice given by 9(2)(a) is incorrect. EQC do indeed require to approve any engineer appointment.

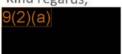
I have made contact with both the claimants you have advised us about and luckily no engineers have been appointed by them.

has also been seen by the Loss Adjuster and $\frac{9(2)(a)}{2}$ from Tonkin & Taylor just yesterday afternoon who confirmed her bridge is not damaged. I believe that was her major concern. has forwarded me photos and I am bumping her claim up into an urgent category.

We have not been able to identify who 9(2)(a) are but are going to reiterate to all our call centers the correct response to the question of engineer appointments. Hopefully this will nip further incorrect information in the bud.

9(2)(an) you hear of any further of these please email them through. I am concerned that EQC must give out correct information to the very stressed folk in Canterbury at this time and will deal with any instance of this very quickly.

Kind regards,



Earthquake Commission

MDBILE: 9(2)(a) DDI: 9(2)(a) FAX: 9(2)(a)

From:

Sent: Friday, 24 September 2010 10:25 a.m.

To: 9(2)(a)

Subject: FW: EQC another example...

Importance: High

From: Hugh Cowan

Sent: Thursday, September 23, 2010 5:12 PM

To: 9(2)(a)

Subject: FW: EQC another example...

Importance: High

9(2)(a)

Grateful if you could check current status of the following claims and look into the matter of advice being given to claimants regarding engineering advice and EQC's criteria for approvals.

Thanks a lot! Hugh

From: 9(2)(a) @ipenz.org.nz]

Sent: Thursday, 23 September 2010 4:34 p.m.

To: Hugh Cowan

Subject: FW: EQC another example...

Importance: High

FYI – two examples below – also I checked my phone – I can receive business cards attached to emails, but not when they are attached to texts.

Ciao



Mob

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Please consider the environment before printing this email.

From: 9(2)(a)

Sent: Thursday, September 23, 2010 3:42 PM

To:9(2)(a)

Subject: EQC another example...

Importance: High

$\theta(2)(a)$

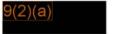
She spoke to a 9(2) at EQC who said that she did not need prior approval before going ahead with organizing an

Cheers,

9(2)(a)

(2)(a)

IPENZ, Engineers New Zealand Ground Floor, 158 The Terrace PO Box 12 241, Wellington 6144



www.ipenz.org.nz

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From: 9(2)(a)

Sent: Thursday, 23 September 2010 3:21 p.m.

To: 9(2)(a)

Subject: different stories EQC

Importance: High

Hi9(2)(a)

Sorry got caught on the phone. As I mentioned to you just before, we have been told that EQC will not pay for the cost of any engineers unless the person with the claim has been given prior approval. I have had a couple of people get in touch with EQC, after relaying this message, and they have come back saying that EQC has said that's not the case... just get an invoice or keep the receipt and EQC will cover it.

Specifically 9(2)(a)

who rang this afternoon. She spoke to me and then spoke to an 9(2)



EQC.

If you could please find out what the story is it would be extremely helpful. Is verbal permission ok (without a claims assessor going to the property)? Or are we back to, 'if they've made a claim EQC will cover it'?

Many thanks,

9(2)(a)



IPENZ, Engineers New Zealand Ground Floor, 158 The Terrace PO Box 12 241, Wellington 6144

T



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9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 11:26 a.m.

To:

9(2)(a)

Subject:

FW: EQC another example...

9(2)(a)

Could you please send 9(2)(the "common messages" FAQ and flowchart - thanks!

Hugh

From: 9(2)(a)

@ipenz.org.nz]

Sent: Friday, 24 September 2010 11:19 a.m.

To: 9(2)(a)

Cc: Hugh Cowan; 9(2)(a)

Subject: RE: EQC another example...

Thank you 9(2)(a)

Hugh was going to send me through your FAQ sheet, so that I can ensure we are all giving the same answers; are you able to provide or direct me to that please?

Many thanks



9(2)(a)

IPENZ Engineers New Zealand

Delivery: Ground Floor, Engineers New Zealand, 158 The Terrace, Wellington 6011

Postal: PO Box 12 241, Wellington 6144

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M

E

www.ipenz.org.nz

9(2)(a)

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Please consider the environment before printing this email.

From: 9(2)(a) @eqc.govt.nz]
Sent: Friday, September 24, 2010 11:15 AM

To: 9(2)(a)

Cc: Hugh Cowan; 9(2)(a)

Subject: FW: EQC another example...

Importance: High

Hi 9(2)(a)

I wish to confirm that the advice given by 9(2)(a) is incorrect. EQC do indeed require to approve any engineer appointment.

I have made contact with both the claimants you have advised us about and luckily no engineers have been appointed by them.

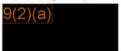
has also been seen by the Loss Adjuster and (2)(a) from Tonkin & Taylor just yesterday afternoon who confirmed her bridge is not damaged. I believe that was her major concern.

has forwarded me photos and I am bumping her claim up into an urgent category.

We have not been able to identify who 9(2)(a) are but are going to reiterate to all our call centers the correct response to the question of engineer appointments. Hopefully this will nip further incorrect information in the bud.

9(2)(a) you hear of any further of these please email them through. I am concerned that EQC must give out correct information to the very stressed folk in Canterbury at this time and will deal with any instance of this very quickly.

Kind regards,



Earthquake Commission

MDB<mark>9(2)(a)</mark> DDI: FAX:

From: 9(2)(a)

Sent: Friday, 24 September 2010 10:25 a.m.

To: 9(2)(a)

Subject: FW: EQC another example...

Importance: High

From: Hugh Cowan

Sent: Thursday, September 23, 2010 5:12 PM

To: 9(2)(a)

Subject: FW: EQC another example...

Importance: High

9(2)(a)

Grateful if you could check current status of the following claims and look into the matter of advice being given to claimants regarding engineering advice and EQC's criteria for approvals.

Thanks a lot!

Hugh

From: 9(2)(a) @ipenz.org.nz]

Sent: Thursday, 23 September 2010 4:34 p.m.

To: Hugh Cowan

Subject: FW: EQC another example...

Importance: High

FYI – two examples below – also I checked my phone – I can receive business cards attached to emails, but not when they are attached to texts.

Ciao



Tel: +9(2)(a)

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Please consider the environment before printing this email.

From: 9(2)(a)

Sent: Thursday, September 23, 2010 3:42 PM

To: 9(2)(a)

Subject: EQC another example...

Importance: High

9(2)(a)

She spoke to a Q(2) at EQC who said that she did not need prior approval before going ahead with organizing an engineer.

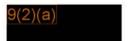
Cheers,

9(2)(a)

9(2)(a)

IPENZ, Engineers New Zealand Ground Floor, 158 The Terrace PO Box 12 241, Wellington 6144

T



www.ipenz.org.nz

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From: 9(2)(a)

Sent: Thursday, 23 September 2010 3:21 p.m.

To: 9(2)(a)

Subject: different stories EQC

Importance: High

Hi 9(2)(a)

Sorry got caught on the phone. As I mentioned to you just before, we have been told that EQC will not pay for the cost of any engineers unless the person with the claim has been given prior approval. I have had a couple of people get in touch with EQC, after relaying this message, and they have come back saying that EQC has said that's not the case... just get an invoice or keep the receipt and EQC will cover it.

Specifically 9(2)(a)

who rang this afternoon. She spoke to me and then spoke to an 9(2)(3)

an9(2)(a)

EQC.

If you could please find out what the story is it would be extremely helpful. Is verbal permission ok (without a claims assessor going to the property)? Or are we back to, 'if they've made a claim EQC will cover it'?

Many thanks,

9(2)(a)



IPENZ, Engineers New Zealand Ground Floor, 158 The Terrace PO Box 12 241, Wellington 6144

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9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 10:52 a.m.

To:

EQC Info

Subject:

RE: California Earthquake Authority

Hi 9(2)(a)

Thanks – grateful if you would respond to 9(2)(a) – give him my regards with thanks for the info – and mention he may not hear from me for awhile. Cheers, hugh

From: Reception On Behalf Of EQC Info Sent: Friday, 24 September 2010 10:31 a.m.

To: Hugh Cowan

Subject: FW: California Earthquake Authority

Dear Hugh,

This email was sent to EQC Info and seems to contain pertinent information for you.

I am forwarding it for your information.

If it is not something you deal with, I do apologize.

Thank you for your time.

Regards,

9(2)(a)

Reception

From: 9(2)(a) @calquake.com]
Sent: Friday, 24 September 2010 8:47 a.m.

To: EQC Info;

Subject: California Earthquake Authority

To: Claims managers at EQC

Hi.

Please forward this message to Hugh Cowan and 9(2)(a)

9(2)(a) from the California Seismic Safety Commission, who recently visited your country, asked me to forward several claims support documents that may help in your claims work.

EDA2 is a very useful guide for adjusters to help determine when you can repair, and when you must replace. It is all about residential structures, but many principles apply to commercial buildings as well.

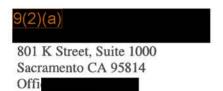
This can be downloaded from http://www.curee.org/projects/EDA/docs/CUREE-EDA02-2-public.pdf

At this same CUREE.org Web site, you will also find http://www.curee.org/projects/EDA/docs/CUREE-EDA04-public.pdf

This EDA4 document is for the engineering audience and gives support and advice on how ground surface deformation affects at-grade structures.

At this Web site, you will see a document titled EDA6, but this is under development and not complete.

Please write or call if I can assist I any way.



Cell 9(2)(a) 9(2)(a)calquake.com

9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 10:23 a.m.

To:

9(2)(a)

Subject:

RE: Draft report on Non-structural damage

Well done $\frac{9(2)(a)}{2}$ nd thank you. I am taking a close interest from afar - my focus at present being the recovery operation and managing some of the rapid growth around that.

I did sign yesterday the contract for 9(2)(a) support.

Regards

hugh

----Original Message-----

From: 9(2)(a)

@canterbury.ac.nz]

Sent: Thursday, 23 September 2010 9:45 p.m.

Hugh Cowan

Subject: Draft report on Non-structural damage

Dear all

Find attached the draft report on non-structural damage. Please do let me know if you have anything to add or correct. Also, feel free to circulate it to others.

Thanks for everyone who helped me prepare this. I have tried to acknowledge everybody's contribution at the end of the report, but if you realize that I have forgotten someone, please let me know; it is unintentional.

Best regards



9(2)(a)

Department of Civil and Natural Resources Engineering University of Canterbury Christchurch, New Zealand http://www.civil.canterbury.ac.nz/staff 9(2)(a)

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From: Hugh Cowan Sent: Friday, 24 September 2010 10:19 a.m. To: Subject: FW: Draft report on Non-structural damage 9(2) (b) your info.... Cheers Hugh ----Original Message----From 9(2)(a) Sent: Thursday, 23 September 2010 10:09 p.m. Hugh Cowan; 9(2)(a) Subject: RE: Draft report on Non-structural damage Thanks 9(2)(a) it looks really good on first glance. Well done one and all. I really appreciate getting this paper which brings together the work of so many. By the way, I think we need a campaign to delete the word "non-structural" from our vocabulary. Most if not all building elements require structural action to keep them in place. We would do well to encourage others to recognise this by calling them secondary structural elements. (Don't take this as criticism, please! I grumble about it all the time.) The instance I quote is when 9(2)(a) did Wellington Hospital, the client told him he was responsible for all items relying on structural action - windows, ceilings, shelving etc etc. He set up a system of sign-offs from the subcontractors who designed the systems to show that he 9(2)(a) had taken this responsibility seriously. A good example that does not allow these "non-structural" items to escape the scrutiny they deserve. Regards 9(2)(a) fice: Mobile: ----Original Message--From: 9(2)(a) @canterbury.ac.nz] Sent: Thursday, 23 September 2010 9:45 p.m. Hugh Cowan; 9(2)(a)

Subject: Draft report on Non-structural damage

Dear all

Find attached the draft report on non-structural damage. Please do let me know if you have anything to add or correct. Also, feel free to circulate it to others.

Thanks for everyone who helped me prepare this. I have tried to acknowledge everybody's contribution at the end of the report, but if you realize that I have forgotten someone, please let me know; it is unintentional.

Best regards





Department of Civil and Natural Resources Engineering University of Canterbury Christchurch, New Zealand http://www.civil.canterbury.ac.nz/staff, 9(2)(a)

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9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 10:14 a.m.

To:

9(2)(a)

Subject:

FW: Health and Safety

9(2)(a)

This just came in and I've not yet responded but want you to see it. Cheers Hugh

From: 9(2)(a)

Sent: Friday, 24 September 2010 10:12 a.m.

To: Hugh Cowan; 9(2)(a)

Cc: 9(2)(a)

Subject: RE: Health and Safety

Hi Hugh

Thank you for taking action on this so quickly.

With regards the the new Brighton house occupant, we were not prepared to leave her at risk and so we contacted her again yesterday afternoon and have made sure she is OK (at no cost to her).

However, the real issue will start today.

We still have around 200 residential inspections on our books that we have in place for next week. We will now phone all of them and confirm they understand the inspection will (most likely) be at their cost. Any that are not able to pay for the inspection but are still worried about their safety we will pass on to 9(2)(a) as you have suggested. (9(2)(a) please contact me urgently if you have an alternative process you want us to follow -9(2)(a)

As discussed with 9(2)(a) previously, Powell Fenwick Consultants have up to 10 CPeng (Chartered Professional) structural engineers and 7 other experienced structural engineers and technicians available to assist. Additionally we have approximately 40 staff in other engineering departments that may be required during the rebuilding phase, including mechanical, electrical, civil and fire engineering.

Please let us know if we can help.

Regards



Powell Fenwick Consultants Ltd Cnr Bealey Ave & Churchill St PO Box 25-108 Christchurch 8144 New Zealand Phone 9(2)(a)
Fax (0
email 9(2)(2)pfc.co.nz
web www.pfc.co.nz

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Please consider the environment before printing this email

From: Hugh Cowan [mailto:HACowan@eqc.govt.nz]	ĺ
Sent: Thursday, 23 September 2010 5:48 p.m.	
To:	
9(2)(a)	
Subject: Health and Safety	

Dear 9(2)(a)

Regarding your contact with a lady in New Brighton who has concerns about remaining in her home. I have spoken to 9(2)(a) at Christchurch City Council and he has offered to follow up on this case with urgency if you can provide details.

9(2)(<mark>sa</mark>n be reached at <mark>9(2)(a)</mark> @ccc.govt.nz

regards

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand
DDI 9(2)(a)

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9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 9:35 a.m.

To:

9(2)(a)

Subject:

FW: Update

From: 9(2)(a)

Sent: Thursday, 23 September 2010 6:37 p.m.

To: Hugh Cowan Subject: RE: Update

A busy old day!

What have I got myself into??

Ended up attending the meetings between $\frac{9(2)(a)}{100}$ d the two District Councils as well as all the insurers`-`standing in

I have given lan a brief verbal briefing, but thought useful to summaries key issues arising:

Insurance company responses were interesting, main concerns where the impacts of timelines and their exposure to accommodation allowance. Not all are going to be as generous as AMI, who have said a twelve month accommodation panckge. Most will operate to their maximum exposure of around \$25,0000.

Also of interest was the range of exposures. It would appear that, based on the preliminary returns from insurers thee could be as many as 2000 properties declared a total loss, this coincides well with the T&T estimates which are of the order of 3000. So looks like a significant exposure being faced by many companies. Also of interest is that a couple says they have already exceeded their attachment point which means that the reinsurers take control of the claims, in totality.

This then begins to place a different perspective on the attitudes towards reinstatement of the land. All gave an assurance that they, in principle, would support government plans to allow remediation of the land and rebuild, ask recognizing that in some instances there would be an element of Improvement, in terms of risk exposure. This becomes a difficult question when, in order to facilitate, land remediation it may be required to demolish houses that are not so severely damaged. The Minister suggested this is likely to be a negotiated outcome between government and the insurer.

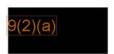
There is a question therefore of the role of EQC, given our legal constraints as to what is possible and what might be I outside the insurance scheme. Ian was well aware of that situation and I think is relaxed as to the final outcome. I suppose, in the back of my mind, is that to date we have only the preliminary estimates done by T&T as to costs and extent of works. Whilst these are undoubtedly excellent preliminary estimates we will need refinement fairly quickly I would expect.

There were also issues raised around treatment of the uninsured, as well as the issue of applicable standards for foundations for those properties reinstated over liquefied land. The major outcome I think was the now general acceptance that building on such land does not constitute an increased risk over the risk that resided prior to the event.

There is a lot more behinds all this, but the nub for me is that the insurance companies are looking to EQC for information and engineering options. They will then wish to revert to their reinsurers. I have left the opinion with the minister and his advisors the view that government needed to be in control of information that goes to reinsurers. I am thus recommending that EQC take it upon itself to put together a conference for the lead reinsurers and with a NZ-assembled expert team to explain the rationale for the government s decision to support reinstatement of the land, and the engineering solutions etc. that support this. That way EQC should be able to maintain a single channel of communication with its reinsurance panel, as well as ensure that a consistent message is out in front of the industry. Ian has given initial support the idea but of course it will need to be discussed and thought through in detail before the idea is taken up further.

I will telephone to discuss further

Hope all goes well



NZ Earthquake Commission Phone 9(2)(a) Email:

9(2)(a)

From:

Hugh Cowan

Sent:

Friday, 24 September 2010 9:28 a.m.

To:

9(2)(a)

Subject:

FW: Canterbury Earthquake Structural Assessment Project

From: 9(2)(a)

@branz.co.nz]

Sent: wednesday, 22 September 2010 3:30 p.m.

To: 9(2)(a)

Subject: Canterbury Earthquake Structural Assessment Project

Hi Hugh

BRANZ and DBH are currently setting up a project to investigate the interaction between NZ Bldg Code provisions and the impact of the Canterbury earthquake on buildings. We are setting up a meeting with DBH and BRANZ staff to discuss the project but I wanted to see if you (or someone else from EQC) would like to be involved in those discussions – the meeting is here at BRANZ at 11am Friday morning. I understand that you are still in Chile, but perhaps you could suggest someone else from EQC. Or perhaps I could just keep you informed via email?

9(2)(a)



9(2)(a)

9(2)(a)

M +

PRIVATE BAG 50908 PORIRUA 5240 NEW ZEALAND WWW.BRANZ.CO.NZ

9(2)(a)

From:

Hugh Cowan 9(2)(a)

Sent:

Saturday, 25 September 2010 7:31 p.m.

To:

Ian Simpson; 9(2)(a)

Subject:

misreporting of EQC investment

Hi All

For your info. Spotted this item on RNZ today. An ASB economist reporting that EQC holds NZ shares. Relatively benign misinformation but perhaps indicative of how little understood we are..... unless I have missed something in our investment policy.

http://www.radionz.co.nz/news/business/57587/current-account-deficit-expected-to-narrow-due-to-quake-payments

9(2)(a)

From:

Hugh Cowan

Sent:

Saturday, 25 September 2010 4:36 p.m.

To:

(2)(a) Ian Simpson; 9(2)(a)

Cc:

9(2)(a)

Subject:

RE: EQC and legal advice for the Commission

Thanks 9(2) agot that. I will liaise with MED first thing Monday to ensure process for Govt tender is followed when we release the document. Regards Hugh

--- original message ---

From: 9(2)(a)

Subject: RE: EQC and legal advice for the Commission

Date: 25th September 2010

Time: 4:20:23 pm

I am happy with 9(2)(a) suggestions as amended by Ian. I do not think any changes are required as a result of DPMC comments. I have no other

changes. Please finalise draft.

lan, please contact Hugh and make sure we are ready to send RFP out first thing on Monday. Once you have 9(2)(a) and my final ok to the final draft you can send it out. Please text me to confirm it has gone.

9(2)(a)

P9(2)(a)

M

E <mailto 9(2)(a)

A9(2)(a)

From: Ian Simpson [mailto:isimpson@eqc.govt.nz] Sent: Saturday, 25 September 2010 3:04 p.m.

To:

9(2)(a)

Hugh Cowan; 9(2)(a)

Subject: RE: EQC and legal advice for the Commission

Just had a quick chat with DPMC (who had asked for a copy of the draft) - they are largely happy, but had the following comments ...

9(2)(i)	
Cheers,	
lan.	
From: 9(2)(a) Sent: Saturday, 25 September 2010 2:04 p.m. To: Ian Simpson Cc: 9(2)(a) Hugh Cowan; 9(2)(a) Subject: Re: EQC and legal advice for the Commission	
thanks lan - no apologies needed for anything now or in the future, it is absolutely your call and I am just trying help	; to
thanks, hope you get something of a break this weekend, $9(2)(a)$	
On 25 September 2010 14:01, lan Simpson <isimpson@eqc.govt.nz> wrote:</isimpson@eqc.govt.nz>	
9(2)(h)	



Cheers,

lan.

From: 9(2)(a)

Sent: Saturday, 25 September 2010 11:36 a.m.

10:9(2)(a)

Cc: Ian Simpson; Hugh Cowan; 9(2)(a)

Subject: Re: EQC and legal advice for the Commission



On 24 September 2010 17:24, 9(2)(a)

(2)(a) @chapmantripp.com> wrote:

9(2)(h)	

9(2)(a)



From: 9(2)(a) @chapmantripp.com]

Sent: Friday, 24 September 2010 4:54 p.m.

To: 9(2)(a)

Cc: Ian Simpson; 9(2)(a)

Subject: RE: EQC and legal advice for the Commission

Please find attached the re-worked RFP. A couple of outstanding issues:



Please call or email with any further comments and instructions. I will forward the draft to 9(2)(a) at MED as well.

Kind regards

9(2)(a)

9(2)(a)

CHAPMAN TRIPP [9(2)(a)

9(2)(a) http://www.chapmantripp.com/

Sent: Friday, 24 September 2010 1:56 p.m.

To: 9(2)(a)

Cc: Ian Simpson; 9(2)(a)

Subject: Re: EQC and legal advice for the Commission

thanks 9(2)(a)

pefully we get to talk soon and Sunday is also fine if need be - but try me on 9(2)(a)

Vodafone coverage for Sunday/Monday/Tuesday

Other comments below IN CAPITALS so you can find them

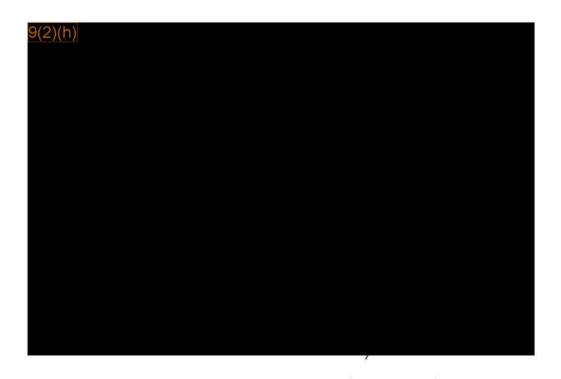
thanks, 9(2)(a)

On 23 September 2010 22:45, 9(2)(a)

@chapmantripp.com>

Hi 9(2)(a)

Unfortunately I will be out of the office on a site visit tomorrow afternoon. I may be able to do a discussion on Saturday but timing is tricky for variety of reasons. I would prefer Sunday if that is possible? If not let me know and I will see what I can sort out. THANKS SEE ABOVE





Regards



9(2)(a)

CHAPMAN TRIPP 19(2)(a)

http://www.chapmantripp.com/ www.chapmantripp.com

From: 9(2)(a)

Sent: Thursday, 23 September 2010 8:02 p.m.

To: lan Simpson

Cc: 9(2)(a)

Subject: Re: EQC and legal advice for the Commission

great, happy to help - and I am also keen to "walk through" yesterday's advice with (2) (a) ust brainstorm on a couple of things in it. Are you OK with me doing this? If so, (2) (a) ave some time tomorrow around 4 pm or any time Saturday til 4 pm, next week Mon and Tues are trickier ...

thanks, 9(2)(a)

On 23 September 2010 18:39, Ian Simpson <isimpson@eqc.govt.nz> wrote:

9(2)(a)



Cheers,

lan.

From: 9(2)(a)
Sent: Thursday, 23 September 2010 2:55 p.m.

To: lan Simpson

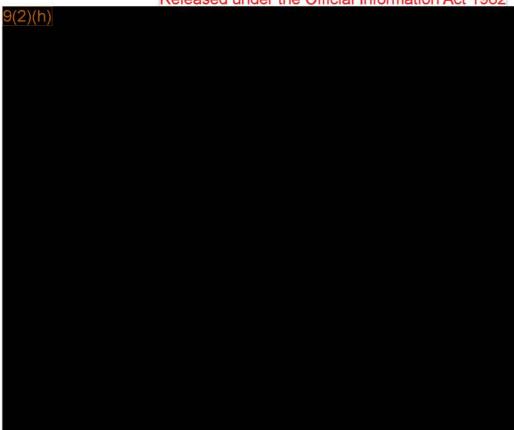
Cc:9(2)(a)

Subject: EQC and legal advice for the Commission

Hi lan

As requested by you yesterday, here are some thoughts to help with the process side of working with lawyers and the Board over the next weeks and months.





Happy to chat this through with you - and thanks again for yesterday, much appreciated and very helpful.

thanks, 9(2)(a)



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From:

Hugh Cowan < 9(2)(a)

Sent:

Sunday, 26 September 2010 9:56 p.m.

To:

Ian Simpson

Subject:

Fwd: Fw: Darfield earthquake

Ian.

An unsolicited message from the US Geological Survey routed via 9(2)(a) (member of our 2008 GeoNet strategic review panel). At the least, it would be good for the Board to hear this. Better still the Govt or media 9(2)(a) ayed to me today the reality that some Twitter users are complaining when GeoNet does not have an aftershock solution out within 2 minutes. Folks are so poorly calibrated - makes one yearn for the days of ink and paper.....

H.

----- Forwarded message --

From:9(2)(a) @gns.cri.nz>

Date: Sun, Sep 26, 2010 at 10:26 AM Subject: Fw: Darfield earthquake

To: Hugh Cowan < HACowan@eqc.govt.nz>

Hi Hugh

FYI.

Cheers, 9(2)(a)

9(2)(a)

GNS Science - Te Pu Ao

DDI: 9(2)(a) GNS: 64-4-570 1444 Fax: +64-4-570 4676 Mobile: 9(2)(a)

1 Fairway Drive, P.O. Box 30-368 Lower Hutt

New Zealand

---- Forwarded by Ken Gledhill/GNS on 26/09/2010 10:26 a.m. ----

9(2)(a)

To '9(2)(a) @gns.cri.nz>

25/09/2010 09:52 a.m.

Subject Darfield earthquake

Dear 9(2)(a)

I hope that things are beginning to show some semblance of normalcy at GNS with 3 weeks now gone since the Darfield earthquake struck. I well remember that it took about that long after Loma Prieta in 1989 for our hallways just to be clear of TV new crews.

I also wanted to write you on behalf of my many colleagues in Menlo Park to

pass along our congratulations to the GeoNet team for the excellent performance of the system in the aftermath of the earthquake. The real-time information from the GeoNet and frequent updates from the GNS staff in the field have been outstanding. The GeoNet's open data policy will undoubtedly fuel many scientific studies of all aspects of the event by scientists around the world. I just hope that the public in New Zealand also appreciates what a fantastic resource that they have in the GeoNet.

From a scientific standpoint, several of us here are very interested the source process of the earthquake, as it is among the best recorded events ever. In particular the strong motion records from the GeoNet and Canterbury University strong motion networks are spectacular and provide a rich data source for understanding the rupture kinematics and hopefully the dynamics of the rupture process. We, of course, have many questions about the event that will be answered in due time, but are also interested in opportunities to collaborate with our New Zealand colleagues on the analysis of the earthquake.

Both 9(2)(a) and I would be interested in corresponding with those at GNS who have similar interests in the kinematics of the rupture and in dynamic modeling of the event. If you know of anyone that we might communicate with about the earthquake, either at GNS or elsewhere, we'd appreciate it if you would convey our interest.

Best regards,



Earthquake Science Center

U.S. Geological Survey, MS-977 Office 1-650-329-4784

345 Middlefield Road Fax 1-650-329-5143

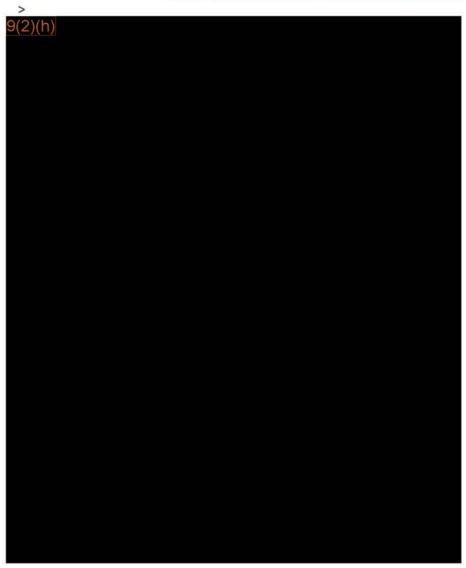
Menlo Park, CA USA 94025 e-mail 9(2)(a) Gusgs.go

Notice: This email and any attachments are confidential. If received in error please destroy and immediately notify us. Do not copy or disclose the contents.

From: Hugh Cowan Sent: Sunday, 26 September 2010 9:22 p.m. To: 9(2)(a) Subject: Re: PMO RFP Thanks to you both tonight. I will be pleased to connect by phone Tues. 9(2)(a) happy for all input. I am never too proud to listen. Hugh --- original message ---From: '9(2)(a) Subject: Re: PMO RFP Date: 26th September 2010 Time: 9:08:40 pm thanks, no need to talk on the contract tonight as really we need Hugh as well and better on telecon - we could book a time for Tuesday on that, as early as you like (tomorrow tricky for me but if it has to be tomorrow then at about 12 noon would work on 9(2)(a) only). Will leave you and Hugh to decide which of these works best, of Perice to work together again! On 26 September 2010 20:56, 9(2)(a) @chapmantripp.com>wrote: > Thank you all for your comments. > > 5 > I have fed them in, and have someone sorting the numbering now. I'll > circulate word and pdf versions tonight once that is done. > > >9(2)(a and Hugh - I can talk through the GETS and related issues if > you give me a call. 9(2)(a) we can also discuss my thinking on the > contract tonight if you wish. > > > regards > > > 9(2)(a)> > > (2)(a)> *CHAPMAN TRIPP** * | * *D: -9(2)(a) PA: www.chapmantripp.com > >

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> *From:* <mark>9(2)(a)</mark>
 > *Sent:* Sunday, 26 September 2010 6:29 p.m.
 > *To:* 9(2)(a)
 > *Cc:* isimpson@eqc.govt.nz; 9(2)(a)
 > HACowan@eqc.govt.nz; 9(2)(a)
 > *Subject:* Re: PMO RFP
 >
 >
 <sup>></sup>9(2)(h)
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> On 26 September 2010 16:35, Hamish Foote
> < 9(2)(a) @chapmantripp.com>
> wrote:
>
> lan,
>
>
> Thanks for your feedback this afternoon.
>
> Attached is a further (and hopefully near final) draft. Again, the
> redlining shows all changes to the version you circulated you're your
> email below at 2.01pm yesterday.
>
  (2)(h)
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Released under the Official Information Act 1982
    (2)(h)
               and Hugh – I've picked up the drafting pen on the RFP
 > and ensuing contract. 9(2)(a)
                                      have given me a full
 > background briefing, so please don't hesitate to contact me by phone or email.
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 >
 > Kind regards
 >
 >
 >9(2)(a)
 >
   9(2)(a)
> *CHAPMAN TRIPP** * | * * 9(2)(a)
                                                                 | PA:
                             www.chapmantripp.com
>
> *From: *9(2)(a)
> *Sent:* Saturday, 25 September 2010 4:58 p.m.
> *To:* 9(2)(a)
> *Subject:* Fw: EQC and legal advice for the Commission
9(2)(a)
> As discussed.
>9(2)(a)
>
> *From*: Ian Simpson <isimpson@eqc.govt.nz>
> *To*
> *Cc*:
                                                       Hugh Cowan <
                                9(2)(a)
> hacowan@eqc.govt.nz>;
> *Sent*: Sat Sep 25 14:01:34 2010
> *Subject*: RE: EQC and legal advice for the Commission
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>
> Cheers,
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> lan.
> This email is intended solely for the use of the addressee and may
> contain information that is confidential or subject to legal professional privilege.
> If you receive this email in error please immediately notify the
> sender and delete the email.
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> --
>9(2)(a)
>
> Skype: 9(2)(a)
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9(2)(a)

From:

Hugh Cowan

Sent:

Sunday, 26 September 2010 6:27 p.m.

To:

9(2)(a)

Cc:

Ian Simpson; 9(2)(a)

Subject:

FW: EQC and legal advice for the Commission

Hi9(2)(a)

Below some feedback from 9(2)(a)

based on an earlier draft and 9(2)(a)eply to her.

I have since spoken with Ian and we agree it could be helpful to incorporate numbering of bullets (point 2). Also, regarding point 5 please find an appropriate place to signal this expectation.

With those minor changes i am happy to sign it off. The assessment and contracting phase will allow us to tackle more of the remaining complexities.

Many thanks for your help with this so far.

regards

Hugh Cowan
Research Manager
Earthquake Commission
Level 20, Majestic Centre
100 Willis Street, P.O. Box 790
Wellington, New Zealand
DDI (9(2)(a)

From: 9(2)(a)

Sent: Sunday, 26 September 2010 6:06 p.m.

To: 9(2)(a)

Cc: Tah Simpson; 9(2)(a); Hugh Cowan Subject: RE: EQC and legal advice for the Commission

Hi 9(2)(a)

Thanks for your comments.

The RFP has to be completed tonight and sent out tomorrow morning or else we will have lost the confidence of the various ministers. I have discussed your comments with lan and we will incorporate those that can be easily done. Many of them have been picked up by others 9(2)(a) and Chapman Tripp.

In respect of your specific comments below:

- 1. 9(2)(i)
- 2.
- 3.



Thanks for your help.

Regards



From: 9(2)(a)

Sent: Sunday, 26 September 2010 4:11 p.m.

To: 9(2)(a) 'Ian Simpson'

Subject: RE: EQC and legal advice for the Commission

Good afternoon lan

I attach a copy of the RFP with suggested changes as tracked changes . I have concentrated on sections 1 and 2 (and where this impacts on section10) as the following sections looked as though they have had all the right attention by the(various) lawyers.



6. 9(2)(h)

I am happy to do a further proofing of the document once you have incorporated comments from an others on the Board et al.

Hope this is all helpful Kind regards



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