

**COMMISSION RESUMES ON 14 FEBRUARY 2012****601/601A COLOMBO STREET****5 JUSTICE COOPER:**

The Royal Commission's work today is to enquire into the collapse of the building at 601 and 601A Colombo Street. The building was situated on the south west corner of the intersection of Colombo and Mollett Streets. As a result of the collapse of the building Norman Lee, pedestrian passing along Colombo Street lost his life. We express our deepest sympathy to his family and note the presence here today of his sister Karen and other members of the family.

**15 DUNCAN LAING AND NADINE DAINES, SIMPSON GRIERSON FOR CHRISTCHURCH CITY COUNCIL**

**DANIEL MCLELLAN, BARRISTER FOR OPUS CONSULTANTS****MR ZARIFEH:**

20 As the Commission pleases the enquiry today is into 601, 601A Colombo Street. That was a two storey unreinforced masonry building shown on the photo. This is a photo taken after September earthquake situated on the south west corner of Colombo Street and Mollett Street. Following the September earthquake the building was red placarded due to the  
25 Mollett Street façade partially collapsing and cordons were placed as you can see in the photo blocking off Mollett Street from Colombo Street and providing a pedestrian accessway and as you can see 601A is on the corner Longhorn Leather, 601 [www.pleasureplus](http://www.pleasureplus) and the cordon extended across the front of 601A but appears not to have extended across the front of 601 on  
30 Colombo Street.

**JUSTICE COOPER:**

The business owners Pleasure Plus and Longhorn Leather were both occupants of this building is that right?

5 **MR ZARIFEH:**

They were but the building was red stickered after immediately after September so there were no occupants.

**JUSTICE COOPER:**

10 No I was just wanting to understand the setup. This is one building but with a dividing wall inside it as it were.

**MR ZARIFEH:**

Yes sir.

15

**JUSTICE COOPER:**

Dividing it in two?

**MR ZARIFEH:**

20 Yes sir a party wall. An inspection by a structural engineer Elliot Sinclair was the firm on behalf of the owner on the 15<sup>th</sup> of September, 2010 concluded that the building was unsafe to occupy and in effect agreed with the red stickering and there were I should say subsequent level two assessments on behalf of the council which also confirmed the red sticker that red placard. A Building  
25 Act notice was served on the owners following Boxing Day in which again an inspection confirmed the red sticker placard and a Building Act notice was served for make safe works but no make safe works were carried out on the building prior to the February earthquake and as Your Honour can see in that photo the damage to the Mollett Street side following the September  
30 earthquake and it's fair to say that the obvious damage and significant damage was on that Mollett Street façade as shown in the photo. The reason that no make safe work was carried out was because the owners came to a decision, not sure exactly when, but I think certainly after or by Boxing Day

that the building would be demolished or was likely to be demolished so the issue really for the Commission I anticipate is very much going to be the adequacy of the cordons, in particular the adequacy of the cordon on Colombo Street façade because Mollett Street was blocked off as you can see  
5 and blocked off at the back of the buildings from any traffic or pedestrian access. As Your Honour's indicated Norman Lee was a pedestrian on Colombo Street. His body was found after the earthquake in rubble adjacent to 601, 601A Colombo Street and opposite 608 Colombo Street. I refer to 608 because that was part of the police record of location of Mr Lee's body.

10

**JUSTICE COOPER:**

In tab 8 of our materials is an aerial photograph on which the location of where Mr Lee was found which has been marked.

15 **MR ZARIFEH:**

Correct sir.

**JUSTICE COOPER:**

And it shows that he was some way out into Colombo Street but I infer that  
20 that doesn't necessarily, that may not be the location where he died. He may have been moved as part of the rescue effort.

**MR ZARIFEH:**

Yes sir that's right. It doesn't mean that he was walking on the road at the  
25 time. He could have moved or been moved at the time and after the earthquake but that certainly is the location according to the police records.

**JUSTICE COOPER:**

Well I suppose there's nothing we can do about that to get greater certainty  
30 about it.

**MR ZARIFEH:**

Well no there's not but I think it's apparent it was the collapse of those, these two premises in that building that was, that caused the rubble that fell on Mr Lee.

5 **JUSTICE COOPER:**

Well is enough known to say that it was the collapse of the Colombo Street frontage of the building that is likely to have been responsible for Mr Lee's death?

**MR ZARIFEH:**

10 Yes sir. I believe so sir because he was found in that location and it's clear that the façades not only of 601 and 601A of course but other buildings along there have collapsed but in a similar way to the hearing in relation to 603 and then 605 to 613 it may well be and in fact yesterday's as well hearing it may be that rubble from an adjacent building had some responsibility as well and I  
15 don't think one could ever determine that to a certainty.

Your Honour, the likely issues that the Commission will have to consider in this hearing are firstly the application of the council's earthquake prone policy to the building. Secondly an assessment of the structural integrity of the building after the September earthquake and in particular the Colombo Street  
20 façade. Thirdly and I anticipate probably the central issue the adequacy of the cordons in front of the building. And fourthly the failure to carry out make safe work to the building prior to the 22<sup>nd</sup> of February earthquake. There are five witnesses to be called –

25 **JUSTICE COOPER:**

Just on that last point Mr Zarifeh – failure to carry out make safe work. My impression is a decision was probably known very early after the September earthquake that this building would have to be demolished. It wasn't going to be economic to repair it and then as the aftershocks went on and nothing was  
30 done about it that must have become more and more likely and there was about by my count seven inspections and two notices all saying the same thing and the building's just left there until it falls over. There might be an issue I suppose as to whether where a building is very damaged as this one

obviously was, because although Mollett Street frontage is what's suffering after September, but the damage is so serious it must inevitably have affected the stability of the whole structure. In those circumstances it's better to get on and demolish the building, than wait until it falls.

5 0940

**MR ZARIFEH:**

I agree and I think that's the, certainly that's the answer of the owners, that as I understand it that it was likely to be demolished and that was firmed up as  
10 time went by and that's why no make safe work was done and initially in any event no reply if you like to the Council's Building Act Notice and requirement.

**JUSTICE COOPER:**

There's no heritage issues here were there?

15

**MR ZARIFEH:**

No I don't think it was a heritage building.

**JUSTICE COOPER:**

20 Well anyway those are issues in my mind anyway.

**MR ZARIFEH:**

Yes Sir, yes and it's similar to 603 which we dealt with a couple of weeks ago. In fact similar issues in terms of the cordon and the demolition but not with the  
25 heritage complexity.

**JUSTICE COOPER:**

Well 603 had that overlay didn't it, the heritage issue.

30 **MR ZARIFEH:**

Yes Sir, it did.

**JUSTICE COOPER:**

The other thing is, is these cases go on and we look at circumstance after circumstance along Colombo Street. Hindsight says it would have been better to cordon off that part of Colombo Street altogether. It would have saved many lives wouldn't it?

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**MR ZARIFEH:**

I think hindsight definitely would say that it should have been cordoned off or most of the street, definitely. I don't think there'd be any disagreement.

10 

**JUSTICE COOPER:**

I suppose for the future that's something that should be considered pretty carefully.

**MR ZARIFEH:**

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Definitely and as Your Honour's noted that Colombo Street in particular highlights this issue of dangerous buildings, URM buildings in particular and where demolition can't be effected quickly, then for whatever reason then the issue of adequate cordons becomes vital and the appropriate and proper placement of them.

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**JUSTICE COOPER:**

Yes. Thank you.

**MR ZARIFEH:**

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Sir, the witnesses are going to be called in the reverse order that they are listed in the hearings programme. Mr Dallison, John Dallison solicitor for the owners first; Martin Sinclair from Elliott Sinclair who was the structural engineer who prepared a report for the owners; Paul Campbell who was an engineer on contract with the Council, an Opus engineer who inspected the  
30 building, did a re-inspection of the building; Mr McCarthy from the Council, and then finally Mr Smith, Peter Smith who's completed an independent report. I will commence with calling Mr Dallison.

**MR ZARIFEH CALLS****JOHN VICTOR DALLISON (SWORN)**

5 Q. Is your full name John Victor Dallison and are you a solicitor residing here in Christchurch?

A. (no audible answer 09:44:40).

Q. You've got a brief of evidence that you've prepared, I don't think it's signed by you but you've got that in front of you?

A. Yes I have.

10 Q. And I think you want to make a correction and we'll – perhaps you can do that when you come to it at paragraph 23.5?

A. Yes I do.

Q. So perhaps when you come to that you can correct it. Otherwise can I ask you please to read your statement to the Commission.

**15 WITNESS READS STATEMENT**

A. My full name is John Victor Dallison. I am a partner of the firm Dallison Stone, solicitors in Christchurch. I am the legal representative of the building owners, the Yee Brothers Syndicate. The Yee Brothers Syndicate comprises Simon Yee, Leo Yee, Donald Yee, Ewan Yee, and  
20 Sun Nam Yee. The members of the Yee Brothers Syndicate are in their senior years and have little to do with the day to day management and supervision of their buildings. My firm is the first point of contact in relation to each tenancy and collects rental from each tenant. An historical search of the titles to 601/601A Colombo Street records the  
25 syndicate became registered as proprietors of the property on 12 April 1973. In addition the syndicate owns a number of other properties including 603 Colombo Street which is situated on the north side of Mollett Street, 622, 624 Colombo Street and 626 Colombo Street/178 Tuam Street.

30 My summary chronology is on 4 September 2010 there was an earthquake. On 6 September 2010 I instructed Elliot Sinclair and partners to complete a report in relation to the damaged building. On 16 September 2010 I received the report by Elliot Sinclair and Partners.

On 17 September 2010 I forwarded a copy of the report completed by Elliot Sinclair and Partners to Cunningham Lindsay, the loss adjusters engaged by the insurers. On 6 October 2010 I notified Vero of insurance claim for material damage and loss of rental. There were numerous discussions and attendances on Christchurch City Council including a meeting on 1 February 2011. The report by Elliot Sinclair and Partners identifies the rear of the building had been extensively damaged and part of the wall had fallen onto Mollett Street. Decisions on demolition/replacement will be dependent on an assessor and to some extent the Christchurch City Council's attitude on the older and more ornate buildings in the Christchurch area. The building was so extensively damaged that it should not be occupied. The area was fenced off and there was no need to proceed urgently with the demolition on safety grounds. The building had existing use rights and an order to preserve those accurate survey measurements should be obtained before it is demolished.

My observations were the earthquake on 4 September 2010 was predominantly north/south shaking which resulted in the north being the Mollett Street frontage and south walls rather than the eastern façade fronting onto Colombo Street. The façade onto Colombo Street appeared largely undamaged and consideration was being given to retaining the frontage and rebuilding on the footprint. Demolition of the building itself was the only realistic alternative. The northern wall along Mollett Street was perceived as the greater risk and measures were taken to mitigate that risk including closing Mollett Street. The possible collapse of the façade on Colombo Street was considered no greater than many other unreinforced masonry in the Christchurch area. Demolition of the building required a building consent. Discussions with the Christchurch City Council invariably included the syndicate's buildings at 603, 624, 626 Colombo Street and 178 Tuam Street. Those discussions tended to focus on the building at 626 Colombo Street, 178 Tuam Street, which was perceived as the greatest risk to public safety. There was no loss of life as a consequence of the partial collapse of that



building on 22 February 2011. The Council's approach to 601/601A Colombo Street was more relaxed. At the meeting on 1 February 2011 I confirmed the syndicates intention to demolish the building and the council staff appeared satisfied with this. In response to your request to information contained in your letter dated 11 October 2011 I am instructed to reply as follows: No structural strengthening work was carried out on the building prior to the 4 September, 2010 earthquake. I confirm that an engineer's preliminary inspection was requested on 6 September 2010 and a report by Elliot Sinclair and Partners was received on 16 September 2010 (refer to paragraphs 9 and 10 above). A CPEng report was not obtained. There was no intention to reoccupy the building. The closure of Mollett Street and the Colombo Street footpath adjacent to the building together with the provision of barricades it was considered adequate mitigation of any potential risk. The work described in the council's letter of 15 October 2010 was not carried. The work identified in the council's letter dated 28 December 2010 was not carried out. This is where I'd like to make an amendment.

0950

- Q. Right so delete paragraph 5.
- 20 A. Correct. In fact there was a further inspection undertaken by Elliot Sinclair and Partners which is referred to in the further statement of Marton Sinclair, which has been filed.
- Q. And was that post-boxing day you're talking about?
- A. Yes it was.
- 25 Q. And were you advised of that at the time after the inspection?
- A. I don't believe I, there was no written report received. Any report may have only been casual comment.
- Q. All right so –
- A. In anticipation of a formal report following.
- 30 Q. Right but you can't recall that now or –
- A. I have, I can't recall specifically what was said.
- Q. So you're correcting the fact because you know that there was, in fact, an inspection.

A. Yes there was.

Q. And perhaps an oral report.

A. Yes. It would have been an oral request and, in the first instance, an oral reply expecting a formal written reply or written report in due course.

5

Q. And can you tell us what that oral report was or not?

A. No change to what had previously been determined.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. In broad terms the council did not appear anxious about the building and instead focused on other buildings owned by the syndicate. The council appeared satisfied that measures had been taken to mitigate public risk. Delays were incurred with the insurers and application for a building consent to enable demolition was delayed pending finalisation of insurance issues.

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15 Q. I'll just ask you a few things to clarify some of the matters you've covered. Firstly, do you confirm what I said in opening that the building was not a heritage or historic building?

A. That's my understanding, yes.

Q. But, nevertheless, you said that you needed a Building Consent to demolish the building.

20

A. Yes and that's recorded on the Council's notice.

Q. And is that something that the Council advised you of in the period between September and February or were you already aware of that?

A. I was aware of that and it may have been mentioned in passing.

25 Q. And I think, from memory it's on the Building Act notices.

A. Yes it is.

Q. The owners of the building, from what you've said, essentially left all the dealings in relation to the building to you or to your firm.

30

A. We were responsible for receiving requests and information, obtaining instructions and going back, yes.

Q. And so dealing with the Council post-September was that left to you?

A. Yes it was.

- Q. And at least dealing with requests by the Council, such as in those two letters, for make-safe work to be done or CPEng engineers report.
- A. I think make-safe request was only on the 28<sup>th</sup> of December.
- Q. But that was left to you –
- 5 A. Yes it was.
- Q. – to deal with the Council and obviously get instructions but for you to process.
- A. Yes.
- Q. Did you make the owners aware of their obligations?
- 10 A. Yes I did. When dealing with the owners – there are five of them – they are very much in their senior years and I tend to deal with one of the brothers more specifically than the others and he then refers matters on to his siblings for obtaining those instructions. One of them resides in Hong Kong. Some of the others, given their senior years, have very
- 15 little to do with decision making and it's said it goes then through to the next tier, being their children. So it's not an easy task to get instructions and certainly not quick.
- Q. But nevertheless in that period you were doing so.
- A. Yes I was.
- 20 Q. I want to ask you a bit more about the issue of cordons.
- A. Yes.
- Q. The building, as we know, was red stickered on the 5<sup>th</sup> of September by the Council and Mr Sinclair's inspection a short time later confirmed that status.
- 25 A. Yes.
- Q. And you said at paragraph, if you can refer to paragraphs 18 and 19, you said that, in 18, that the northern wall was perceived as the greater risk and measures were taken to mitigate that risk, including the closure of Mollett Street and the possible collapse of the façade on Colombo
- 30 Street was considered no greater than many other reinforced masonry in the Christchurch area. I just wanted to know where you got that information from or what basis were you saying that?

- A. I believe it comes from the preliminary report by Elliot Sinclair which is attached to that statement.
- Q. Okay I'll just get that brought up. That's WITDAL0001.4. Is that the report you're referring to?
- 5 A. Yes it is.
- Q. Perhaps the second paragraph.
- A. Yes.
- Q. So that's the paragraph 18 about the damage to Mollett Street being the most expensive.
- 10 A. Correct yes.
- Q. And then perhaps the last paragraph on that page.
- A. Yes.
- Q. What about the issue of the collapse of the façade being no greater, the risk being no greater than other masonry? Was that from the report or
- 15 from oral discussions?
- A. Perhaps it came from oral discussions. At the early stage we were trying to preserve the façade and rebuild behind it and that was discussions that had come about preserving the city streetscape so it was essentially starting off as retention of the façade, rebuild behind and
- 20 that was all subject to insurer's approval which was a delayed process.
- Q. I take it though that any information that you had in relation to the stability of the building or the façade or the appropriateness or otherwise of the cordons would have come from something you'd been told by perhaps Mr Sinclair or someone else with the Council.
- 25 A. Correct.
- Q. So you didn't address the cordon issue yourself from any knowledge you had.
- A. I'm not qualified to make those judgements.
- Q. When was it that the owners essentially first decided that the building
- 30 would be demolished? Just tell us about that process.
- A. It was reasonably early but we were going through the possibility of preserving the façade, so it was working with the insurance company to see what could be achieved. As time went on the owners were

becoming less sympathetic to preserving the façade and just wanted to get on with demolition. As soon as the, I believe the decision to demolish had been firmly made prior to Boxing Day. As a consequence of the make-safe work which was requested on December that process was hastened about demolition. The intention was to demolish in conjunction with 603 Colombo Street, which is on the north side of Mollett Street.

5

Q. And you've given evidence previously about the meeting on the 1<sup>st</sup> of February with the Council.

10

A. Correct yes.

1000

Q. You've given evidence previously about that meeting and that it involved 603 and also we heard 605 to 613 and also 626 across the road?

A. Correct.

15

Q. And did it also, was 601 and 601A also mentioned?

A. Yes it was.

Q. Right and you've said that that was the intention –

A. The confirmation of previous advice that the owners' intention was to demolish the building.

20

Q. Right. There's a Council record in the material we've got of, I'll get it brought up, it's BUI.COL.6010004.1. You'll see it in a moment but it records yourself at the top as owners' representative and you'll see it's like 24 January 2011 the second to last box?

#### **WITNESS REFERRED TO DOCUMENT**

25

A. Yes.

Q. "Spoke to John at Harold Smith and Dallison, he advised that they intend to demolish this building, that they will be going through the consent process soon" and then someone's recorded "email him today requesting that he forward any relevant engineer's report for this building"?

30

A. Yes.

Q. So that's certainly a record of you advising the intention to demolish being made then?

- A. Yes it is and it's consistent with the Council's earlier observations that it was likely to be demolished.
- Q. Right.
- A. And I suspect that may well have been the reason I spoke to  
5 Marton Sinclair requesting that further report at that stage.
- Q. Okay.
- A. Which again is consistent with his further statement that he believes it was late January I made that request.
- Q. Okay, and emailed you see it says, "emailed him today requesting he  
10 forward any relevant engineer's report". Was that done by you?
- A. I don't believe it was.
- Q. Right, why was that? Was there any reason?
- A. There's no reason.
- Q. Okay. What reports did you have at that stage?
- 15 A. Only the preliminary report from Elliott Sinclair dated 16 September 2010 which we previously saw.
- Q. That's the one page essentially report that you referred to?
- A. Yes it is.
- Q. Okay, so did you have a full CPEng report at that stage or not?
- 20 A. No.
- Q. And was that ever obtained?
- A. No it was not.
- Q. All right what, what – was that intended or not, in terms of the demolition decision?
- 25 A. It was not, it was going to be part of the application for a building consent a more detailed assessment. I don't believe the report would have gone much further than what was stated in here in any event.

**JUSTICE COOPER:**

- 30 Q. Mr Dallison we're having trouble hearing you up here. For some reason this morning we are plagued by quite a bit of traffic noise, perhaps it's because the road is wet or something but you have chosen this occasion to speak rather more softly than you did on the previous

occasion. I don't know why we have this combination of circumstance but together it's making life difficult.

A. I shall –

5 Q. Would you mind speaking to us more as if you were on a parade ground telling people what to do.

A. Yes I shall.

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. You said that the Council's approach seemed more relaxed in relation to 601, 601A?

10 A. Yes.

Q. Is that from the meeting in February that you're referring to?

A. Both telephone discussions and the meeting on 1<sup>st</sup> of February.

15 Q. And I take it from what you've said that you presume that the appropriate cordons were in place and were of the view that the demolition was likely really from almost from the outset but that was firmed up as time went by?

A. Yes.

Q. And so that you didn't have any great concerns about the building?

A. No we did not, the owners did not.

20 Q. Did you have any discussions with the Council about why they wanted a CPEng report?

A. Not that I recall. It was a notice that was received.

**CROSS-EXAMINATION: MR ELLIOTT – NIL**

**CROSS-EXAMINATION: MR LAING**

25 Q. Mr Dallison, you received on behalf of the owners a Building Act notice on or around I think 28 December?

A. Yes.

Q. And –

A. The notice was issued at that day.

30 Q. Yes, yes.

A. It wouldn't have been received until –

Q. And you received it –

A. – I returned -

Q. – sometime thereafter.

5 A. – from Christmas vacation.

Q. Yes thank you but were you aware that the notice expired at the end of January?

A. Yes I was.

10 Q. And had any steps been taken by you to comply with that notice by the end of January?

A. There were discussions with the Council about extending the period of time and this is evidence that was covered in relation to 603 Colombo Street.

Q. Yes well there's a, if you go back to BUI.COL.601.0004.1 please.

15 **WITNESS REFERRED TO DOCUMENT**

Q. If you look at that we've got a note of a conversation with you on 24 January. Do you see that?

A. Yes.

Q. You're requested to provide an engineer's report?

20 A. Yes.

Q. And no engineer's report was forthcoming. Was there any discussion then about extending the notice?

A. I cannot recall with accuracy. There was discussion about extending the period.

25 Q. On 1<sup>st</sup> of February there's a note, "Spoke to John from Dallison's today advised the need of an engineer's reports for the site as far as extending the s 124 notice is concerned." So are you saying at that stage you put in place a request for the engineer's report?

30 A. I believe it was on the 24<sup>th</sup> of January which was the evidence I provided just before.

Q. When you asked Mr Sinclair –

A. It was a more detailed report.

Q. Yes.



A. His evidence in his further statement is he believes it was late January so I suspect it would have been triggered by the conversation with the Council on the 24<sup>th</sup> of January.

5 Q. Yes as at the end of January though you did not have an extension of the s 124 notice did you?

A. There was nothing formally recorded no.

Q. And my understanding is the Council as at least the 24<sup>th</sup> had come back to ask for the engineer's report nothing had been done –

A. I don't think that's correct.

10 Q. – in the mean time?

A. A request was made to Marton Sinclair of Elliott Sinclair for that full report and I believe it was on the 24<sup>th</sup> of January or as a consequence of that meeting that it was requested, or that discussion.

15 Q. But you had done nothing or your clients had done nothing between the time the notice was issued in late December until you were reminded, a notice, an engineer's report was required on the 24<sup>th</sup> of January is that correct?

20 A. I cannot recall the date I returned from Christmas vacation but when I did it was dealt with at that stage and there was follow up by the Council.

Q. It was quite apparent by the 24<sup>th</sup> of January that your clients would not be able to comply with that notice by the end of January wasn't it?

A. That's correct.

Q. And did you –

25 A. Hence my request –

Q. Did you tell them of their obligations to comply with the notice?

A. Yes I would have.

Q. And what was their response?

30 A. Again I cannot recall specifically but I believe it would have been obtain an extension of time.

Q. But no extension of time was ever granted was it?

A. There was no formal extension granted but I believe the Council was satisfied with the progress that was being made.

Q. So you had a meeting with the Council on the 1<sup>st</sup> of February?

A. Yes.

Q. And you advised that he would get back, you would get back to the Council with something shortly or as soon as possible the words from that document. So what happened between the 1<sup>st</sup> of February and the 5 15<sup>th</sup> of February when there was another phone conversation with the Council?

A. I cannot recall. It appears that the report, the preliminary report wasn't sent through and during that period I did not receive the more detailed 10 report.

1010

Q. So the answer is nothing occurred isn't it?

A. I don't think that's a fair statement. I was waiting for a more detailed report which fits the description of a CPEng report to file with the 15 Council.

Q. But as at 22 February that report had not been received had it?

A. That's correct.

#### **RE-EXAMINATION: MR ZARIFEH**

Q. Just one issue, just going back to that record. On the 24<sup>th</sup> of January it 20 records that you advised that the owners intended to demolish the building?

A. Yes.

Q. What, can you recall what the Council's attitude to that was?

A. I cannot recall with accuracy because I was dealing with the Council on 25 several buildings and often each building was discussed at the same time so I cannot specifically say what they stated in accordance with that building.

Q. All right, but when you did advise the intention to demolish was there 30 any argument from the Council about that, that you could or you had to repair it and not demolish it?

A. No, there was – they appeared accepting of the owners' decision to proceed with demolition.

Q. And it records there 24 January you advising the Council.

A. Yes.

Q. Do you think that that's around the time that you would have advised that they had made a decision?

5 A. That's the first recording of that decision, whether or not it was advised prior to that I cannot state.

#### **QUESTIONS FROM COMMISSIONER CARTER - NIL**

#### **10 JUSTICE COOPER:**

Q. Mr Dallison, I think you told us earlier that the decision to demolish the building was made prior to the Boxing Day earthquake by the owners. Is that right?

A. Yes I believe it was.

15 Q. And prior to that there had been a period where preservation of the Colombo Street frontage of the building had been under active consideration?

A. Yes.

Q. And that had involved discussions with the owners' underwriters. Is that  
20 correct?

A. Yes.

Q. Now what was the source of that possibility, was it something that the owners themselves had brought up or was this – where did the idea come from?

25 A. Again it comes from the report by Elliot Sinclair and Partners dated 16 September.

Q. Yes, so would you like that to be displayed, could we have that.

#### **WITNESS REFERRED TO REPORT OF ELLIOT SINCLAIR AND PARTNERS**

30 A. It's in the third paragraph at the second sentence, "It may be possible to retain the façade and rebuild the building behind as a modern building up to current earthquake standards."

- Q. But why was that – do you know why that was being suggested, or should I pursue that with Mr Sinclair?
- A. I think it was the general attitude of people towards preservation of heritage style buildings at that stage.
- 5 Q. Well you're not telling me that it was something that the Council had suggested?
- A. No, no it was not.
- Q. And what did you understand to be the reason that the Council wanted to see a CPEng report?
- 10 A. The first notice is about the current placard and removal of that placard prior to reoccupation and there was no need to reoccupy that building.
- Q. Yes. So why was a CPEng report required as you understood it?
- A. A more detailed assessment than what the Council's initial rapid assessment had been.
- 15 Q. Yes, but if you're going to demolish the building why did we need engineer's reports about it?
- A. The request was made back in October and at that stage we were still looking through the possibility of retaining the façade.
- Q. Well the owners decide –
- 20 A. At that stage the owners were not decided about how they were going to proceed. Demolition was certainly going to occur but whether or not that incorporated the retention of the Colombo Street façade had not been finalised.
- Q. Well when was that finalised?
- 25 A. I can't accurately say, but probably the latter part or the last few weeks in 2010.
- Q. So getting back to where we started. The decision was made to demolish the whole building from the owners' point of view prior to the Boxing Day earthquake?
- 30 A. Yes.
- Q. And then, was that not conveyed to the City Council until the 24<sup>th</sup> of January?

A. I believe it was conveyed prior to that but I don't have any documentary evidence of that.

Q. How much prior?

5 A. It may have been a telephone discussion with the Council in the months of November and December 2010.

10 Q. Well then can we just go to the record of the discussions that we had earlier. I don't know who made this note but it records that there's a discussion with you on the 24<sup>th</sup> of January, this has been mentioned earlier and so far as the person with whom, well do you remember who you had this discussion with?

A. No I do not.

15 Q. Well as far as that person is concerned he's recording, it seems on the face of it, the advice that the building is to be demolished perhaps for the first time, is – there doesn't appear to be any other Council record of which we are aware about the intention to demolish the building. Is that – can you say to the contrary?

20 A. I believe there were a number of conversations in 2010 which are not recorded in relation to 601 Colombo Street and you may recall my evidence in relation to 603 Colombo Street that generally all buildings in that vicinity which were owned by the Yee Brothers were discussed at one time, and it may be that records of those discussions in relation to 601 are in fact held on records relating to another building or buildings.

Q. Right, okay. Well then there's an email sent to you evidently, do you recall getting that following this 24<sup>th</sup> of January discussion?

25 A. I do not recall that specificall. I don't have access to my file.

Q. And according to this record the burden of that email would have been to request from you a relevant engineer's report.

A. That appears to be correct, yes.

30 Q. Can you tell us now why the engineer's report was required, if you've said to the Council we're going to demolish the building?

A. I think the Council are perhaps better to answer that question, I can say there definitely was a request made, but ...

Q. What was stopping you at this point from getting on and demolishing the building?

A. I commented before that the intention was to demolish 601 and 601A in conjunction with 603 and we had significant hold-ups with 603 as you will recall.

5

Q. Yes.

A. And part of that would have been a traffic management plan and no doubt the demolition would have required the partial closure of Colombo Street.

10 Q. So it was the linkage really with the building at 603 that was causing a delay?

A. That was part of the reason, certainly, and also delays with getting answers out of the insurance company.

Q. And was the same insurance company involved with 603?

15 A. Yes it was.

1020

Q. So was there any particular delay related to 601 and 601A which of itself was contributing to the delay?

A. There weren't so many delays with 603 because it was only  
20 January 2011 it had been determined demolition was going to happen with that building. We had notified the intention to the insurance company probably November/December 2010 and we were working through. The insurance company was not quick to respond to any request.

25 Q. Well was there a specific delay with the underwriters in respect of 601 or what are you telling us?

A. It was just delays in replying to communication. Nothing specific. They hadn't requested further information. We were trying to ascertain the full extent of cover. That in itself took a period of weeks.

30 Q. So when did you advise the underwriters that you wanted to demolish 601?

A. Without access to records I can't accurately state but I believe it would have been in November or December 2010.

**WITNESS EXCUSED**

**MR ZARIFEH CALLS:****MARTON DAVID SINCLAIR (SWORN)**

5 Q. Mr Sinclair, do you have a brief of evidence in front of you and I think you've got one dated 22 November 2011?

A. That's correct.

Q. And you've got another one I think dated 8 February 2012?

A. That's correct.

10 Q. Can I ask you to read those please starting with the November one to the Commission and when you refer to photographs perhaps we can stop and we'll get them brought up on the screen.

**WITNESS READS BRIEF OF EVIDENCE**

15 A. My full name is Marton David Sinclair. I'm a director of Elliot Sinclair and Partners Limited Engineers, Surveyors and Planners of Christchurch and I am a chartered professional engineer in the disciplines of civil and geotechnical engineering. I am a member of the Institution of Professional Engineers New Zealand and a fellow of the New Zealand Institute of Surveyors. I am also a member of the New Zealand Geotechnical Society, a technical group of IPENZ. I have  
20 practiced predominantly in the Christchurch region in the past 35 years in the fields of civil and geotechnical engineering including structural engineering for low rise buildings and complex residential structures on the Port Hills. The building at 601–601A Colombo Street was a two storey unreinforced masonry building on the south west corner of Mollett Street and Colombo Street. It appeared to be in two units with an unreinforced masonry transverse wall separating 601 and 601A  
25 Colombo Street. The building had a timber first floor and a timber roof trusses supporting a fixed corrugated steel roof. A double brick wall on the north side of the building had collapsed on to Mollett Street during  
30 the 4<sup>th</sup> of September, 2010 earthquake leaving the roof partially supported. The interior of the southern building at 601 Colombo Street was not inspected but is likely to have been a similar construction. Our firm was instructed to inspect the building at 601/601A Colombo Street



on the 5<sup>th</sup> of September, 2010 by Mr John Dallison of Dallison Stone Lawyers on behalf of his clients S, L, D, E and S N Yee. There was some uncertainty over the building numbering in the various public records and our report was prepared only for what now appears to be  
5 601A Colombo Street although the report is headed 601 Colombo Street. Our photographs taken on the 15<sup>th</sup> of September 2010 record that there was a stepped vertical crack. The cracks that I'm talking about actually, crack four was the one in the dividing wall. That's that one there you can see the window on the left. It's taken looking in a  
10 south easterly direction.

Q. So that's the dividing wall between 601A and 601?

A. Yes. So there we have the –

Q. Colombo Street?

A. Colombo Street yes.

15 Q. The window is Colombo Street and the crack is on the dividing wall?

A. That's correct.

Q. And how long was that crack?

A. I don't have a record of that. This particular building was inspected by one of my senior engineers not myself.

20 Q. Is that on the 15<sup>th</sup> of September?

A. Yes 15<sup>th</sup> of September and he reported back to me in some detail when we reviewed the photographs together but –

Q. Right just so we're clear then the report that was referred to by Mr Dallison.

25 A. Yes.

Q. That was a report from you?

A. That was a report from me.

Q. So did you inspect the building personally or not?

A. Not internally.

30 Q. Externally?

A. Externally yes I had done.

Q. Right. And so in talking about these cracks then are you relying on the photographs taken by the other engineer?

A. I am.

Q. So did you go inside the building at any stage?

5 A. No I didn't because by, well when my engineer came back and I reviewed the photographs with him I actually had some concerns that he'd even been in the building on safety grounds and we discussed that matter. He had managed to clamber up the stairs and underneath this overhanging unsupported roof so I wasn't entirely happy that he'd actually been in the building.

10 Q. So was access to inspect the building from where, from the Colombo Street frontage or?

A. That was, at that stage he'd managed to get into Mollett Street and had gone up the stairs on the Mollett Street side. He had also attempted apparently to get into the building at 601 but 601 itself as I recall but I think he said to me that he had trouble getting access through the door or couldn't get in through the door and there was no one to give him access.

15 Q. Okay so you said in paragraph 5 that the interior of 601 was not inspected at any stage?

A. That's correct.

20 Q. So he only got into 601A?

A. Yes.

Q. And he looked both downstairs and upstairs?

A. Upstairs not downstairs.

Q. So this photo was in the upstairs?

25 A. This is the upstairs.

Q. Perhaps we can get that photo brought up that shows the damage to the side wall that was up before. I haven't got the number but you might have it. So access was obtained from the Mollett Street site, that door on the Mollett Street is that correct?

30 A. Yes that's correct they'd got in up there and somehow.

Q. If we can go back to the photograph of the crack or the cracking. Now you were just reading paragraph 7 that related to that crack.

A. Yes.

Q. Can you carry on from paragraph 7 please.

**WITNESS CONTINUES READING BRIEF**

5 A. This crack related to the predominantly north–south shaking in the  
September earthquake which had affected the northern and southern  
walls rather than the eastern façade fronting onto Colombo Street. One  
point just before that photograph goes I'd like to make is that that crack  
shows very little indication of any opening greater at the upper, at the  
top side than the bottom suggesting to me that the façade itself had not  
10 moved out significantly and also that crack it's reasonably well back  
from the window. It looked to me more like it was an issue of movement  
of the transverse wall as part of the flexing process because of that  
earthquake for the predominant north–south movement. It doesn't look  
to me like it was the wall moving away out on the Colombo Street  
frontage.

15 1030

Q. So you mean doesn't look like the façade, the Colombo Street façade  
moving away from the wall.

A. No, no.

**JUSTICE COOPER:**

20 Q. Is that because if that had been happening it would have rotated around  
it's base?

A. Yes it would have rotated around it's base and you would expect to see,  
if that crack being rather more open at the top than the bottom if the  
façade was moving out. I can't be certain of that but that indications are  
25 there that that crack is a bit, it seems more to me to be related to the  
same sort of face loading that occurred on the north wall of the building  
that collapsed. I think the building had had a really good shake in a  
north–south direction.

**EXAMINATION CONTINUES: MR ZARIFEH**

30 Q. If it was more related to the façade pulling away, where would the crack  
be or where would you expect the crack to be?

A. Well it could have been in the same place but you would expect if the façade had moved out a lot that it would be more open at the top than at the bottom of that photograph.

5 **JUSTICE COOPER:**

Q. This at first look floor level is it?

A. Yes.

**EXAMINATION CONTINUES: MR ZARIFEH**

**WITNESS REFERRED TO PARAGRAPH 8**

10 A. "There was also a small crack on the east façade at the north-east corner of the building".

Q. Go back to the main page.

A. Ah, now –

Q. Photo 3.

15 A. Yes, um...

Q. The bottom one is it?

A. No that's on the west wall, it's actually the middle one, um, photo 2.

Q. Oh you have to leave the mouse while it's being enlarged.

A. Oh right. No it doesn't seem to show.

20 Q. That says north-east interior corner and north wall.

A. It is yes and I can't –

Q. And we can see the gap, the hole in the north wall in that photo can't we.

25 A. You can yes but the crack, the photograph doesn't actually show the crack which was really more right into that corner and I think it was on the east wall.

Q. So when you say the east wall, the Colombo Street façade.

A. Yes, yeah, to the right of that.

30 Q. So can we see it at all there on the left of the window, or what will be the left of the window looking at Colombo Street in the photo that's on the screen at the moment.

**JUSTICE COOPER:**

Q. Have a look on the screen Mr Sinclair.

A. Ah, yeah, sorry I was just looking to see whether my photographs were in my report any clearer but no they're not.

5 **EXAMINATION CONTINUES: MR ZARIFEH**

Q. Well if you look at the screen in front of you.

A. Yep.

Q. Can we see that crack, there appears to be a line to the left of the window on the façade, on the Colombo Street façade, if you were  
10 looking at the window on the left of it. Is that....?

A. There is a, um, I think in another photograph, which I didn't present in my evidence, I think it shows that there was an electrical conduit down that wall.

Q. Right and is that that line?

15 A. And I think that's what that line is.

Q. Okay, but is the crack in that same section of the wall.

A. It was in that corner, yeah, and I'm not 100 percent certain but I think it may have been in the east wall of the Colombo Street façade rather than the west wall, sorry the north wall itself.

20 Q. And can you tell us a bit more about that crack, did that concern you?

A. Well when I looked at the photograph I, we had a wall in, adjacent to Mollett Street, that was clearly been seriously damaged and quite a proportion of it had collapsed and I think I really felt that that crack was related to some of the movement of that north wall.

25

**JUSTICE COOPER:**

Q. Mr Sinclair in paragraph 8 of your evidence you say there was a crack in the east façade at the north-east corner of the building. The east façade would be this façade facing Colombo Street wouldn't it?

30 A. That's correct yes.

Q. Are you changing your mind?

A. No, no, I think that's what I'm saying. It's just I'm just saying that I can't, I can't see it in this photograph 'cos I think the photograph is more of the north wall not of the east wall and I think it's....

5 Q. Well your, you've said that you think the crack which, or the line which might have been thought to be the crack was conduit for electricity.

A. Yes.

10 Q. What about the broader line which can be seen towards the left of this photograph which, at first glance, might be described as something which could be a conduit for electricity. Do you see the snaking line coming down from the roof towards the left of the photograph, not quite all the way to the left.

A. Oh is that that one there?

Q. Yes.

15 A. No that's another, I'm certain that one's another conduit or some other sort of thing on the wall, it's definitely not the crack.

Q. Well that's what I'm saying. Is that, might that be the conduit for electricity that you are referring to?

20 A. No, I recall that in another photograph, and I'm sorry I must not have included it in my evidence, there was another photograph of that wall where my mouse is, in through there, and I remember seeing that there was an electrical conduit on that wall there.

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. Do you have that additional photograph that you haven't forwarded or can you get it?

25 A. I can do. It's on my computer at work.

Q. But you can forward that to the Commission.

A. I could yes. Yeah I could provide that and if there were any other photographs that could be relevant to this I could check and include those.

30 Q. That would be good. It would be good to get all of them thank you. So that crack, if we leave that then, that didn't concern you overly in terms of the façade, is that what you're saying.

A. That's correct.

Q. Paragraph 9 please.

5 A. "The façade onto Colombo Street appeared largely undamaged except from the cracking at this corner. However, we considered that the building still needed to be cordoned off. The cracking of the eastern façade and the transverse dividing wall did not include any outward movement in the façade, oh did not indicate any outward movement in the façade."

10 Q. Okay just before you finish with the, before you move onto the next paragraph can we go back to the photograph of the cracks and just deal with that, the bottom photograph.

A. Yep. That photograph is in the rear western wall of this building.

Q. That's the back of the building.

A. Back of the building yes.

15 Q. And just tell us about that.

A. Well again it indicates significant shift of the right-hand piece of wall, which is that piece there, towards the north and it will be again associated with that failure of the north wall and just a general shunting of the whole western part of the building towards the north.

20 Q. Did that crack give you concerns in relation to the stability of the building generally?

25 A. Oh yes in the sense that it indicates that the whole of that rear western portion of the building is not in a very stable state. I'm not, it's quite a long way to the back of that building and it doesn't, damage in that area doesn't necessarily relate to damage at the Colombo Street façade, ie: because they're quite remote from each other. Failure at this point wouldn't necessarily result in the façade falling.

30 Q. What about the failure of the northern wall and we can perhaps get that photo brought up again in the section that's got the big chunk out of it. Did that give you concerns about the stability of the building as a whole as opposed to just that wall or that rear section?

**JUSTICE COOPER TO MR ZARIFEH RE FIGURE 2 ON SIN.0002.3.**

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. We've seen them both now so can you comment on that in terms of the stability of the building as a whole.

5 A. Well I think that the, in fact it would actually be easier to have to go back to that other photograph we had if you don't mind. Essentially we had the back wall of the building, which was that back corner, I'll put my mouse there, that area there obviously had moved towards the north. We saw that cracking in that photograph in the back there somewhere. Really the whole of that back of the building is not in a very stable state  
10 at all. I think the transverse wall which is somewhere in behind there.

1040

Q. That's the dividing wall between the two?

A. The dividing wall didn't seem too bad from my understanding of the report from my engineer and really it, also that piece of wall through  
15 there sort of reasonably stable, it didn't sort of indicate that the whole of that front portion of the building is, was imminently about to fall whereas I couldn't say the same thing about the, about the back portion in there.

Q. Right.

A. (inaudible 10:40:53) stable.

**20 JUSTICE COOPER:**

Q. The roofs of these buildings contribute to the overall structural integrity Mr Sinclair?

A. Oh yes they do and I think if the back had fallen then there may have been a, an effect there of dragging the façade back into the building if  
25 the back portion had collapsed.

Q. Well couldn't one infer that any contribution that was being made to the stability of this building by the roof had been significantly diminished as the result of the –

A. I don't think that -

30 Q. - September earthquake.

A. I don't think it had at this particular point that we're looking at here because the roof structure was still reasonably intact and in the



photographs that I've seen and that they show the trusses still sitting on the walls and things like that so I don't, I don't think that the – and the wall is still supported in that area there, sorry the roof is still supported in that area there.

5 Q. So you're indicating the position half way back as it were?

A. Yes. Yeah, and so I, I think that right at this stage the, the front part of the building still had some stability.

Q. Less though?

A. Less. Yeah.

10 Q. Less is what I said or do you say it didn't, none of this had affected the stability of the front wall, is that your evidence?

A. I'm saying that the damage at the rear of the building has not had much effect as far as I could see in terms of cracking or movement of the façade of the building at that particular point. That doesn't mean to say that I think the building is stable. I just think –

15

Q. Well it's –

A. – that the roof structure had not at this stage pulled the or damaged the front façade.

Q. Right well had the ability of the, had the seismic strength of the front of the building been diminished as a result of the September earthquake?

20

A. Ah, I don't think it had been diminished to anything like the extent of what we saw on 603 and 605 to 613 for example. I think there was much less damage to this one.

Q. But there had been some?

25

A. Well I think we have to accept that there's those two cracks that we saw in the photographs must have weakened it yes.

#### **EXAMINATION CONTINUES: MR ZARIFEH**

Q. What about that crack that we can see in the white or the white painted brick on the north side so near the façade at the top?

30

#### **WITNESS REFERRED TO PHOTOGRAPH**

A. There's something just running through there.

Q. Yes that diagonal crack. Can you make a comment about that in terms of the stability of the façade?

A. That's better, um, it certainly would suggest that the parapet is somewhat weakened.

5 Q. And which parapet are you talking about?

A. I would be thinking of this big heavy one there.

**JUSTICE COOPER:**

This is a photo taken after Boxing Day isn't it.

**EXAMINATION CONTINUES: MR ZARIFEH:**

10 Q. It's got the date on it, if we go back to the original.

A. 30<sup>th</sup> 12<sup>th</sup> yes so that's correct.

Q. But this is I think you're going to tell us about an inspection post Boxing Day?

A. Um –

15 Q. That you carried out?

A. Yes I did and would that be paragraph 11, shall I, is that what you're...?

Q. No, no I'm just –

A. Oh.

Q. – what I'm saying is you –

20 A. Well I think –

Q. – you saw, you saw the building in the state that it's shown in the photo?

A. Yes I did.

Q. Yes.

A. Yeah. And quite frankly my, my inspection at that time didn't change my  
25 views that the building needed to be demolished, there was no, no  
doubt in my mind whatsoever and we were not able to get into the  
building, at least I wasn't prepared to go back into the building again and  
really all we could've done with any reporting was reiterated what I'd  
already said but with perhaps less detail than the, than the initial letter  
30 on the 16<sup>th</sup> of September, and my intention was to be really providing a

report back to Mr Dallison that just supported the, the view that the building need demolition.

Q. All right.

5 A. And it would probably be a letter that would go in with any building consent application for demolition.

Q. Okay but pending demolition or likely demolition of the building there was the safety issue wasn't there and that's why the cordons were in place?

A. Yeah.

10 Q. And I appreciate you didn't put the cordons up, the Council erected them as we see in the photo but in terms of your inspection of the building both in September the exterior and then post Boxing Day which we'll come to, did you form any view as to the adequacy of those cordons?

15 A. Ah, I – at that time I don't believe I did. I was aware of the cordon along the edge of the footpath which we can actually see in that photograph where the person with the red helmet is, and again it seemed entirely consistent with the barriers that I'd seen up around other parts of the city. It was outside the verandahh line. It was quite a common approach  
20 to take with these barriers, possibly looking at this one now I think that it appears that the barrier was never extended across the frontage of 601.

Q. Right I think we've got a photo of that. Thank you.

#### **WITNESS REFERRED TO PHOTOGRAPH**

A. Yeah there we are.

25 Q. So it seems to cut in in the middle of 601?

A. Yes, yeah.

Q. Cut back in?

A. And it's debatable I suppose looking at that now as to whether that would have given sufficient protection if the parapet of 601A had fallen.

30 Q. Why do you say that, what effect would that have had on 601?

A. Well I think that a parapet well we can't see it because of the tree but if the parapet had peeled off just as a result of that cracking up at the top, oh sorry I'll use my mouse, at the top of that corner up there it's likely to

have carried on across the frontage and would have had some effect possibly on the other parts of the building.

Q. Right.

5 A. But you know all I can say is that at that time that seemed to me to be consistent with what I'd seen and it didn't raise any alarm bells.

Q. All right. Am I being unfair when, in saying that perhaps that crack that we looked at just before on the corner there on the northern corner I presume you'd seen it or are you saying that you hadn't?

10 A. No I had seen it and, but it was just part of you know every building that we were looking at was a cracked building and you know this wasn't, wasn't the only building I was looking at and we were seeing these cracks all over the place.

Q. Right I understand that but in terms of an assessment of the structural stability of the building?

15 A. Yeah.

Q. At the time either before or after Boxing Day, did you take that into account in your assessment?

A. Oh most definitely in the sense that I, it just further reinforced for me the need to demolish the building.

20 Q. Okay but I'm talking about in terms of safety of the cordons or did you not actually turn your mind to that issue?

A. I don't think that turned my mind any further to, to that particular crack at that time no.

1050

25 Q. All right, can you please carry on reading at paragraph 11.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

30 A. I prepared a brief post earthquake report for our client dated the 16<sup>th</sup> of September 2010 after an inspection on the 15<sup>th</sup> of September 2010 by one of the engineers employed by our firm. This report on 601A Colombo Street concluded that the building was unsafe to occupy as a part of the upper level of the north wall had collapsed onto Mollett Street. The west wall was also severely cracked towards the rear of the building As noted in the report it was apparent from our

inspection that the building needed to be demolished. However this was not seen as urgent as Civil Defence had erected barriers along the Colombo Street frontage. Now I would like to correct that, of 601A and in Mollett Street and the building was cordoned off.

**5 EXAMINATION CONTINUES: MR ZARIFEH**

Q. Delete 601?

A. Yes.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. Then 13, the building was not listed as a, not a listed building and was probably not an archaeological site as it appeared to have been built after 1900. So this was – I don't think I was fully aware of the heritage status of that building until we had done some investigation of the City Plan Rules and listings and things and just probably subsequent to the 15<sup>th</sup> of September.

**15 EXAMINATION CONTINUES: MR ZARIFEH**

Q. But Mr Dallison said it wasn't a heritage building.

A. No.

Q. You weren't aware?

A. I found that out subsequently too.

**20** Q. Sorry, thank you – 14.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. We did not further inspect the building after the Boxing Day earthquake as it was obviously due for demolition and had been cordoned off. It was also dangerous to enter.

**25 EXAMINATION CONTINUES: MR ZARIFEH**

Q. And I think your next brief you're going to read qualifies that?

A. Yes.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. The barriers were still in place in Mollett Street and in Colombo Street and in front of, and again I would like to change that to 601A, and the

**30**

building was not seen as being at greater risk of collapse than many other unreinforced masonry buildings in the Christchurch area. We do not have a record of the condition of the building immediately prior to the 22<sup>nd</sup> of February 2011 earthquake and I am unable to determine whether the façade had deteriorated due to the aftershocks or whether the 22<sup>nd</sup> of February earthquake was shaking predominantly in an east-west direction caused the failure regardless of any prior deterioration, and I'm – what I'm referring to here is the interior of the building, not so much the exterior, which it was possible to see. I photographed, I attach photographs of the building and the interior along with my report.

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. And that's the report Mr Dallison referred to?

A. Yes.

Q. And if I can get you to turn please to your additional brief which is dated 8 February, I'll get you to read that please.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. During verbal discussions I think late in January 2011 Mr Dallison had mentioned that he needed a further report on the building. I undertook an inspection in late January 2011 in preparation for the report. Mollett Street was securely cordoned off due to the unsafe state of the building. Access to the building upper level was by Mollett Street. My assessment was that the building was seriously damaged and not capable of economic repair. It was unsafe to enter and clearly needed demolition. In my view it was not sensible to enter for an internal inspection when I was going to recommend demolition. I did not note any separation of the façade of 601A from the remaining north wall during my inspection and I'm not referring there to that parapet. I was thinking more in making that statement of the – that I didn't see any crack down the north wall of a vertical nature which would have indicated the wall itself was actually peeling away from the north wall.

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. Can we see it on that photo?

A. Yeah, we see that photograph there with a crack down to about there, we don't see anything down through there.

5

**JUSTICE COOPER:**

Q. Well this is useless of course, as when we're reading this in the future, you're saying there was no crack below the crack that is plainly visible?

A. Yes.

10 Q. Running at an angle near the top of the building?

A. Yeah.

Q. Top of the white coloured wall.

A. That's correct.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

15 A. The Colombo Street barrier was still in place and was of similar location to barriers used in many other buildings in central Christchurch. My report was delayed as I was dealing with several other dangerous buildings, especially 626 Colombo Street across the road. I only became aware of the previous request from the Council to inspect the  
20 building and provide a CPEng report when reading the documentation on the Royal Commission website for 601 to 601A Colombo Street.

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. Just on that last point, you said you were preparing a report for Mr Dallison?

25 A. Yes.

Q. In addition to the one you'd done on 15, 16<sup>th</sup> September?

A. Yes. But there may have been some confusion here in thinking back about this in that Mr Dallison may have been responding to the Council's request for a CPEng's report but it didn't get conveyed to me  
30 through in quite that way.

Q. What kind of report were you doing?

A. Well mine really was just going to be a structural, well a review of the building commenting on the cracking that I had seen and stating that the building needed to be demolished.

Q. Right.

5 A. It wasn't going to be in the format of one of the CPEng reports that the Council sort of a format for.

Q. And by that stage we've heard that the decision to demolish had been confirmed or certainly made by then by the time you did the second report, or preparing that second report?

10 A. I can't guarantee that I'd been told by Mr Dallison that he'd made that decision but it was very clear to me. I don't think I was in any doubt, it had to happen.

Q. When did you first come to that view do you think?

A. Well it was when we saw the photographs in September.

15 Q. That it was likely that it would have to be demolished?

A. Yeah, and what incidentally in relation to that façade issue that arose earlier, I did raise that issue because at the time there was a lot of heritage discussion in the media and I think we were all thinking at that stage that you know if we could preserve some of the character of these older buildings then we at least should consider it and it was really put in there as a, just something to raise that issue. It wasn't something I saw was necessary or anything like that, but it was just ...

20

Q. Were you aware though that as a result of that being in your report Mr Dallison made enquiries with the insurers about the possibility of that?

25

A. I wasn't aware what action he'd taken on my report.

Q. Just on that issue of the demolition. I want you to look at the record that we've had up before, 00004.1, 601, 4.1.

#### **WITNESS REFERRED TO DOCUMENT**

30 Q. This is a Council record of discussions or actions.

A. Yes.

Q. If you look at the bottom entry under 1 February?

A. Yes.



Q. And it says spoke to Martin Sinclair who is also the engineer here. He advised me he had not completed the engineer's assessment was mostly through it and that it would be leaning towards demolition, will speak to him again today. Now I think this might have been the case manager – I've forgotten his name.

5

A. J J Barry.

Q. Mr Barry, yes thank you. Do you recall that?

A. I recall the discussion and yes, I did, I had said to him that I had been there, I had looked at it and I needed to get the report out but again even at that time he had asked for a report, it was never stated as to what format the report was to be in or anything like that, that I can recall.

10

Q. But it seems from this record that you were talking to Mr Barry about the Council wanting a report.

A. Mhm.

15

Q. And you providing it.

A. Yeah.

Q. You're saying well the report you were contemplating was a report saying that the building should be demolished because of the damage to it.

20

A. Yes.

**JUSTICE COOPER:**

Q. Why do you think he said that you said you were leaning towards a demolition when you were firmly of the view that the building should be demolished?

25

A. I think that probably I was being a little bit circumspect –

Q. On behalf of your client.

A. On behalf of my client, I just wasn't prepared to say that it was going to be demolished that wasn't my decision.

30

**EXAMINATION CONTINUES: MR ZARIFEH**

Q. It also records we'll speak to him again today. Did that happen, do you recall that, or any subsequent occasion?

A. I don't recall a second discussion with J J Barry.

Q. Just want to go back quickly and ask you about your assessment of the cracking, I appreciate it's from the photographs that were taken, the internal ones, but you also looked at the external. You said that no one  
5 went in 601 at all.

A. That's correct.

1100

Q. So we don't know and no-one knew the extent of cracking in 601?

A. No.

10 Q. Do you think that that was likely to be more or less severe than 601A or can you not say?

A. I don't think I can say.

Q. Did you look at the façade at 601 when you looked at the façade at 601A, the Colombo Street façade?

15 A. No and I think the reason is I mentioned earlier in my evidence that there was some confusion here over which with buildings or who owned what building and also what was 601 and what was 601A and all our emphasis was actually on what we now know as 601A and I'm not sure that the 601 building was actually really very in our sights to any extent  
20 at all including my reporting in September was definitely referring to just the Longhorn Leather building at 601A.

Q. Well in fact your letter of 16 September refers to it as 601?

A. I know that's where the confusion was arising on the numbering.

Q. Okay just so we're clear are you saying that there was only ever an  
25 inspection of 601A Longhorn Leather and no inspection of 601 internal or external?

A. No.

Q. Is that correct?

A. That's correct as far as I'm aware.

30 Q. All right.

A. No I think the only inspections of the outside of that building of 601A, 601 I'm sorry was what we could see from the outside which was a fairly casual observation.

Q. And who did that?

A. Well it would only be probably my engineer had a look at it when he was there on site and at one stage or another I looked at it as well.

5 Q. So why did you look at it if you thought that the client only owned the 601A?

A. I just generally looking at buildings in the area. You know you tend to look for safety reasons and what's above your head and those sorts of things. It was not a formal inspection.

10 Q. So you made a comment before that the cordon should have extended to 601 then. Is that just because of the cracks to the north side of 601A and the flow on effect?

A. Well I think if a parapet on 601A had fallen it was likely to have some effect on the parapet at 601 and in looking at it now I would have to say and I don't think that barrier extends far enough to fully protect a façade from falling off on 601A.

Q. If a parapet has fallen off as a result of that crack that we see in obviously subsequent aftershocks, do you think that the barriers that we can see were out far enough to provide protection?

20 A. Well no. With the benefit of hindsight again I think I've had to say here that none of the barriers that were being put up around the city on these sorts of offsets were in fact adequate against these upper level façades peeling off.

Q. But I was thinking if the parapet fell off as a result of that crack that we saw, would the barrier as shown be sufficient?

25 A. It probably would have been if it had only been the parapet that had just peeled, just rolled off and pivoted about through the line underneath that white façade. If it had cracked through there and rolled it would have just gone down through the canopy and the barrier was probably sufficient just.

30 Q. But if the façade had collapsed then clearly it wasn't?

A. No.

Q. And was the risk of the façade peeling off, was that a risk that was there given that there was a risk that the parapet could from that crack?

A. Well I think I'm not sure that I can say that there is to me looking at that building was that and that cracking up on the north east corner high is the most likely failure would have been a parapet falling off.

5 Q. What I'm asking though is if that was a risk which it sounds like you're saying it was a potential risk, did it follow from that that there was a risk that it could continue in the façade or part of the façade to collapse if the parapet peeled off?

10 A. I think it's just, if a parapet peeled off it doesn't necessarily mean that the rest of the façade down to about the level of the verandah would have gone as well.

Q. Right. All right and just so we're clear when you inspected the building on the occasions that you did you didn't think that there was a risk of a façade collapsing, certainly at that time anyway?

15 A. No I wasn't ever thinking that the façade would peel off in the way that it did.

Q. Okay and in relation to the cordons you didn't turn your mind to specifically to whether they were adequate or not but you seemed to have had an impression that they were because they were similar to what was being done in front of most similar buildings?

20 A. Yes.

Q. Is that fair?

A. Yes that's fair.

#### **CROSS-EXAMINATION: MR ELLIOTT**

25 Q. Mr Sinclair, the state of the building as at 30 December 2010 is on the screen there and I just want to ask for a photograph of the state of the building after 22 February which is BUICOL6010017.5. So it's evident from that photograph that the northern, upper northern wall has completely failed?

A. Yes.

30 Q. As has the upper eastern wall on Colombo Street?

A. Yes.

- Q. Turning firstly to the letter to Mr Dallison WITDAL0001.4 if you highlight the second last paragraph please. You say that the building is so extensively damaged that it should not be occupied at either the upper or lower floor levels. The area is fenced off and there is no need to proceed urgently with the demolition on safety grounds. It's evident from that that you did form a view about the adequacy of the fencing that was in place.
- 5
- A. Well at that time I note that it was fenced off but I had also said that at that time I didn't see the eastern façade, Colombo Street façade as being in danger of collapsing.
- 10
- Q. And I think you've said have you at no time did you see that the eastern façade was in danger of collapsing?
- A. No. Well perhaps with the exception of the later inspection after Boxing Day when there was that cracking that we talked about higher up and then that was suggesting that you know there are potentially parapet issues but I don't think at any stage had I seen you know the likelihood of the whole façade collapsing onto Colombo Street.
- 15
- Q. You would accept that that comment demonstrates that you have obviously looked the fencing that was in place at that time?
- A. Well yes and I compared the fencing in relation to what I thought was likely to happen on that façade.
- 20
- Q. And the position that you expressed there the area being fenced off and no need to proceed urgently on safety grounds, that remained your assessment right through until 22 February?
- A. Ah, I don't think that at the inspection I did around the end of January that I had particularly given consideration to the extent of fencing at that stage and reviewed that in my mind. That may have arisen as I completed the report but it hadn't at that time I don't think.
- 25
- 1110
- 30 Q. You would have been conscious at that time that you had made this earlier statement to the owner's lawyer that there was no need to proceed urgently on safety grounds because the area was fenced off though wouldn't you?

A. Yes. To put that comment in context I think it was predominantly made in relation to Mollett Street because Mollett Street at that time on that building was the major danger.

5 Q. BUICOL6010005.2 – again that’s the photograph as at 30 December 2010. You’ve just referred to the fact that Mollett Street and, indeed, part of the footpath of Colombo Street was fenced off.

A. Yeah.

10 Q. And the Council’s position I think is that that was the status of the fencing right through until the February earthquake. Can you comment on that?

A. I don’t think that fence changed in that period.

Q. If we look at the wall, or what’s left of the wall on the northern side, that would have been, would it not, simply bricks and mortar without reinforcement?

15 A. Oh yes.

Q. So that what was holding the bricks together was solely the mortar.

A. Yes.

20 Q. Would you agree that the way in which the northern wall appears to have collapsed would imply that it was, at least in part, attributable to poor mortar strength?

A. Could you repeat.

Q. Would you agree that the way in which the wall has failed on the north would indicate that it’s at least in part attributable to poor mortar strength?

25 A. Yes.

Q. And the area to the top left of that northern wall, that was highlighted for you earlier, do those cracks not also indicate poor mortar strength?

A. Yes definitely.

30 Q. I can refer you to it if you like but your photograph of the south-east transverse wall, the interior of the building, would those cracks also indicate poor mortar strength?

A. They, yes I think it, you’d say that any unreinforced masonry building of this age has very poor mortar strength throughout the whole building.

Q. During your inspections did you carry out any inspection of the connections of any of the walls to supporting timber and diaphragms?

A. Well, as I said earlier, I was not in the building but I know that my engineer did not. They spent the absolute minimum of time in the building.

5

Q. You and your engineers would have been aware, obviously, this was an unreinforced masonry building.

A. Oh yes.

Q. You were aware, were you, that it had had no strengthening since it was built?

10

A. I don't think that we were specifically aware but there was nothing obvious that I've seen in any of the photographs that would indicate strengthening.

Q. And you would have been aware that it was potentially earthquake prone.

15

A. Yes.

Q. You had decided that this building was in such a poor state that it should be demolished.

A. Yes.

20

Q. Were you aware of a tendency for unreinforced masonry walls and façades to collapse outwards during an aftershock or an earthquake?

A. Um, I wouldn't go so far as to say that I was aware that there was a tendency. I think more of the walls that I, tendency for them to collapse outward. I think that there were more walls that I saw and parapets which had actually dropped vertically so they had, yes they had gone outward but not peeled off outward. They had merely dropped below the, onto the verandahs and there were a lot of collapsed verandahs, for example, with walls and parapets that had dropped through them.

25

Q. Were you aware of a phenomenon where the higher the wall is the further it can fall away from a building. That is at the time you carried out your inspections?

30

A. I was aware that if a wall failed in that particular mode that yes it would then go from that to that, pivoting about some point, in this case,

verandah level, but I had, at that stage, felt that that wall was not in imminent danger of doing that.

**WITNESS REFERRED TO DOCUMENT BUICOL601.0017.3**

5 Q. That's an inspection report prepared by Mr Campbell of Opus who will be giving evidence today as well. If we just highlight the last two lines of the general comments section – 'North end 601A has more damage than 601 but all one structure so building as a whole is compromised'. Do you agree with that statement that the damage to the northern wall would indicate that the building as a whole was compromised?

10 A. Yes, yes I agree with that statement.

**WITNESS REFERRED TO BUICOL601.0005.2**

15 Q. By my count, Mr Sinclair, six engineers inspected this property and from the perspective of Mr Lee's family, each, they would consider, had the opportunity to recommend a cordon that would have protected people from a total failure of that front façade. I'll be directing this question to Mr Campbell as well. My question is given the points which I've been through with you just now, in particular given Mr Campbell's comment with which you've agreed, given the state of the north wall, given the poor mortar strength in various parts of the building, it really should have  
20 been evident to you, certainly following Boxing Day and before 22 February, that that Colombo Street façade could rotate completely outward during an aftershock?

A. I think that at that stage during my inspection I was not so concerned about the assessment of that wall. I was more concerned about the  
25 building as a whole and the fact that it needed to come down and that I think I looked at the barriers but there was no particular flag drawn in my mind that that barrier needed to be extended, because I was looking at the building as a demolition and I didn't, at that stage, see that the barriers were really anything much different from other barriers that I'd  
30 seen around the city so I just didn't make that connection.

Q. My question really was that you should have made that connection for this building irrespective of the state of buildings around town.



A. Well in the main my job was not to assess the barrier locations. I was looking at the building to advise the owner, and that's what I thought I'd gone there to do was to advise the owner on and update him on the need for demolition. I was not there doing a level 2 assessment or some other form of assessment or even a barrier assessment.

5

Q. But you did advise the owner about the non-urgency of the demolition, given your assessment of safety after September.

A. That was in September yes and at that stage I felt that the Mollett Street area and the building which remember we thought we were looking at was 601A only. I looked at, looked at that, felt that the area was barricaded off. I was not thinking in terms of the whole façade peeling off in September and in fact it didn't it survived Boxing Day without any, any ill effect and it, it was not until February when the earthquake came very strongly from that east to west direction that it, the façade peeled off.

15

1120

Q. And finally it follows from the last question I've asked which you hadn't necessarily agreed with but that I'm putting to you you should also have informed the Council at least following Boxing Day that the existing cordon was not adequate to protect people on Colombo Street?

20

A. Ah, as I've said I don't think that that barrier was, that the adequacy of that barrier was, or inadequacy of that barrier was apparent to me at that time. Now the other point that I would make here is that even if that barrier had been extended across the front of 601 it would have had no beneficial effect as it turned out because what happened was that the whole of that façade peeled off and totally overrode the barrier system and virtually reached out into the middle of the road.

25

Q. Well that's where the barrier could have gone out to?

A. Well yes but, possibly it should've. If the building was going to be totally barriered off to the full extent of the fall zone but it wasn't Council policy so far as I'm aware to extend barriers in most of these areas unless they had a clearly dangerous building and examples would have been some of the Manchester Street buildings to extend barriers a way out and

30

close roads off because it certainly wasn't done and everywhere that I, buildings that I inspected.

**CROSS-EXAMINATION: MR LAING**

5 Q. Good morning Mr Sinclair. Hindsight's obviously a very valuable thing but just following up on that last answer you gave. At the time the expectation was that aftershocks would follow a fairly normal sequence of events is that correct?

A. That's all we were expecting.

10 Q. And the issue about cordons, we all know now that if a, if façade rotates sufficiently it will come across the road a considerable degree, we know that now in hindsight?

A. Yes.

Q. At the time though I think it's your evidence that that issue, the cordons outside 601A were similar to other cordons within the city?

15 A. Yes.

Q. And it, that wasn't of any particular concern to you at the time?

A. That is correct.

20 Q. You mentioned that in hindsight cordons should have been more extensive or streets cordoned off completely. I just wanted to ask you some questions around the, how that would work. In September we had a what could be termed a moderate earthquake?

A. Yes.

Q. And then we had Boxing Day where this building appeared to survive reasonably unscathed?

25 A. Yes.

Q. If you were to have a policy to cordon off whole streets what sort of earthquake event would you suggest that should respond to?

30 A. Ah, well I'm not sure that I can, I can answer because you know we had the situation once February happened of closing down the whole city completely and from – in the, in the September earthquake and the Boxing Day earthquakes there were limited barrier systems put up. Generally speaking there was more access around the, around the city

but I don't know whether I can state a particular magnitude of earthquake which should dictate that the whole city or whole streets be closed.

5 Q. There must be some balance mustn't there between the size of a earthquake commencing a sequence and decisions to close off the whole city?

A. Yes I think there has to be some balance and I think it's a very difficult one for somebody to achieve.

10 Q. Yes. And I take it though that you are not critical of the fact that the Council did not close off the whole of the CBD after September 4?

15 A. No I'm not, I'm not critical of that. I think the damage was possibly not severe enough to warrant that at that time although that – I think the issue is wider than that, I think the issue is more about our masonry buildings on a city wide scale and whether they should be strengthened now or not. I, you know, I think they, I think they need, they need to be a lot of work needs to be done on these buildings to prevent this sort of occurrence in the future when, and if that was done then there would be no need to barrier off the city.

**JUSTICE COOPER:**

20 Q. What if it's not done?

A. Well I think we've got potential around many of our cities in New Zealand for façades like these ones to, to fall in major earthquakes. I think it's a very important issue that we – and we've got an impetus now to, to move on and get these buildings sorted.

25 Q. Isn't there a problem about bringing a building such as 601, 601A up to full strength anyway?

A. Oh, I'm sure there is yes.

Q. So often that will not be practical will it?

A. No.

30 Q. And we've already seen that buildings that have been strengthened to even 67% still failed in the February earthquake?

A. Yes.

Q. Yes thank you.

**CROSS-EXAMINATION: MR MCLELLAN – NIL**

**RE-EXAMINATION: MR ZARIFEH – NIL**

**QUESTIONS FROM COMMISSIONER CARTER – NIL**

**5 QUESTIONS FROM JUSTICE COOPER:**

Q. What did you understand was the reason for the Council wanting a report from you about this building given that it was to be demolished?

A. Well apart from the phone call that I'd had with J J Barry wondering where a report was.

10 Q. Yes.

A. I really had had no other requests for reports on, on this building.

Q. Yes.

A. And I wasn't, Mr Dallison had asked me to, to do a report verbally.

Q. Yes.

15 A. And I had anticipated that the report I was doing for him was really to support his insurance and, and demolition issues and I had just assumed that the same report recommending demolition would go to the Council and probably would be supporting the building consent application for demolition. I wasn't thinking in terms of a, when I spoke  
20 to J J Barry of some other more formalised report along the lines of what they had been requesting from Mr Dallison because I just didn't know about those requests.

Q. Am I right in thinking that if you need to seek a building consent for demolition the issues that will be relevant to and determine the grant of  
25 the permission are those related to the demolition methodology and how it's going to occur?

A. Yes very much so. Normally what we would do with those demolition applications is put that to the demolition contractor because he usually

had strong ideas about how he was going to demolish the building. We didn't impose those conditions on the demolition contract.

Q. So was it your understanding in this case that apart from the building consent to demolish there was any other sort of consent needed from the Council such as a resource consent,

5

A. No there was no resource consent. It was purely a building consent and normally what I would've done was put some sort of justification in with the building consent application to –

Q. What for?

10

A. – clarify why it was being done.

Q. Just what, for good measure?

A. Well it was just part of the, the process because –

Q. But I mean what consent, the Building Act just deals with how buildings are to be constructed or demolished doesn't it?

15

A. Yeah.

Q. Doesn't deal with the planning merit –

A. No, no.

Q. – of doing so?

20

A. There was no, there's no real need other than to provide sufficient documentation for the Council to assess the building consent properly. And in my view some sort of advice to the Council the building's dangerous you know in a damaged state needs to be demolished is, is appropriate to go with that building consent.

Q. That might speed up the process?

25

A. Well it just helps to avoid requests for further information.

Q. All right well then anyway why would it not be a straight forward thing if a landowner or a building owner decides he wants to knock his building down, it just goes straight through shouldn't it?

30

A. Yeah, yes it normally would but on most building consent applications there are usually some sort of questions asked or queries that the Council wants to know a little bit about and it's generally preferable to provide some information as to why it's being done, just helps with the assessment. Because the Council may set conditions on a building

consent. They probably couldn't turn you down if you decided to demolish but they will set conditions.

**WITNESS EXCUSED**

**COMMISSION ADJOURNS: 11.33 AM**

1148

**COMMISSION RESUMES**

**NOT RECORDED UNTIL 11:49 AM**

5

**MR MCLELLAN CALLS**

**PAUL ARTHUR CAMPBELL (SWORN)**

Q. Is your full name Paul Arthur Campbell?.

A. Yes, it is.

10 Q. And you are a structural engineer of Auckland?

A. I am.

Q. Do you have your brief of evidence with you?

A. I do.

15 Q. Can you read your brief of evidence please from paragraph 1, Your Honour I'm assuming you would like the preamble paragraphs be read.

**JUSTICE COOPER:**

Q. I think we can take it as read that you set out your qualifications and experience there Mr Campbell is that right?

20 A. Yes.

**EXAMINATION CONTINUES: MR MCLELLAN**

Q. Read from paragraph 2 please Mr Campbell.

**WITNESS READS BRIEF OF EVIDENCE**

25 A. From the 27<sup>th</sup> of December 2010 to the 22<sup>nd</sup> of February 2011 I was seconded to the Christchurch City Council to carry out inspections under the direction of its building recovery office. The Council warranted me for this purpose and I held a warrant card confirming this. The inspections I carried out for the Council and which are the subject of this enquiry were all re-inspections of buildings that had previously been  
30 inspected by other engineers or building inspectors. The inspections I carried out were limited in scope and generally involved only exterior observations. They were not detailed structural engineering

evaluations, nor did they involve calculations of structural capacity or strength assessment and I was not provided with building plans or drawings. I did not have information from GNS or other sources about likely future earthquake or aftershock events other than what was publicly available. I assumed the aftershocks would continue according to a normal aftershock sequence, namely a sequence involving decaying or diminishing aftershocks. I did not anticipate the Christchurch CBD would be subject to a greater shaking intensity event than it received in September 2010. The Council provided me with a copy of the form entitled engineer's re-inspection of damaged buildings completed by the Council as to the address of property to be inspected. I was aware of the Council's earthquake prone building policy, however my re-inspections were not designed to quantify buildings strength according to that policy. Re-inspections were intended to identify any obvious change in building status such as remedial works or demolition, confirm damage caused by the September event or aftershocks, to make an assessment of the existing placard on the building and change it to a more serious status if this was appropriate, to check the existing cordoning, and if appropriate recommend changes or additions to cordons. Some inspections were specific to a particular use, for example to check whether works which a building owner had been instructed to carry out had been completed. I generally spent most of my time while seconded to the Council in the city inspecting buildings. I met with other inspectors and Council staff most mornings to be briefed on any current issues and to receive the documents relative to the buildings which I was required to inspect. The Council staff specified which buildings I had to inspect. After inspections were carried out my completed re-inspection forms were handed back to Council staff to process recommendations and to make decisions on enforcement actions such as issuing Building Act notices.

601 to 601A Colombo Street – I have been advised that the areas of interest for Council for the Commission are about the adequacy of protection fencing around this property. On the 31<sup>st</sup> of January 2011



and the 14<sup>th</sup> of February 2011 I conducted inspections of a property at 601, 601A in Colombo Street. I completed engineer's re-inspection of damaged building reports for that property.

**EXAMINATION CONTINUES: MR MCLELLAN**

- 5 Q. Can we just wait for the report to come up which is in front of you now. Carry on at paragraph 10 please.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

- 10 A. I recorded in my report dated the 31<sup>st</sup> of January 2011 that the building was very badly damaged, especially the Mollett Street façade and back elevation.

**EXAMINATION CONTINUES: MR MCLELLAN**

- Q. Now can we just highlight the words under general comments please, and I'll get you to read all of your handwriting there.

A. Certainly.

15 **WITNESS CONTINUES READING BRIEF OF EVIDENCE**

- A. The building v. badly damaged especially Mollett Street façade and back elevation. Can't get in to red sticker. Require eng report on Colombo Street façade and any temporary works required to move barriers.

20 **EXAMINATION CONTINUES: MR MCLELLAN**

- Q. Just let me stop you there. Do you recall whether there was – you've said in your brief that there was an existing red placard there. Is that your recollection?

A. That's my recollection.

- 25 Q. So what was the purpose of you trying to get in to red sticker as you've written in general comments?

A. The current placards were all due to expire. These were some of the reasons we were doing re-inspections so it was purely updating that red sticker.

- 30 Q. You can carry on at paragraph 11.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. In the check list I noted moderate and severe damage to structural features. I could not get into the building to replace the existing red placard. The reasons we were replacing red placards because previously issued placards were due to expire and the Council needed current and valid placards to have any enforcement powers. I recommended required engineering report on Colombo Street façade and any temporary works required to move barriers. By this recommendation is my intention that the building owners' engineer should carry out sufficient structural inspection and investigation to confirm the status and stability of the Colombo Street façade including its parapet. Furthermore before the barriers could be moved I was in the opinion that temporary works may be required. Typically these temporary works could include removal of the hazard, loose masonry parapets et cetera and securing the façade. I recommended that the existing cordon remains. I refer to a photograph I took at the time of my inspection on –

**EXAMINATION CONTINUES: MR MCLELLAN**

Q. Just pause there, and firstly just staying with that report for a moment if we can just have a look down at the bottom of your re-inspection form, which I think you can read, you've written existing?

**WITNES REFERRED TO DOCUMENT**

A. Correct.

Q. And then if we go to WIT.CAM.0001.5 please?

**25 WITNESS REFERRED TO DOCUMENT**

Q. No, that's 6.5. So if you can carry on reading, "I refer," in paragraph 13, top of paragraph 13.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE**

A. I refer to a photograph I took at the time of my inspections on 31 January or 14 February. I am the figure in the photograph. Two rows of cordons are visible in front of 601 and 601A. The outer row is the pedestrian lane in the road and the inner row is the fencing preventing

entry to the footpath area. The inner of the cordon extended approximately to the boundary of number 601 to the left of the photograph, and to the right of the photograph preventing access to Mollett Street.

**5 EXAMINATION CONTINUES: MR MCLELLAN**

Q. Can I just stop you there. We've heard some discussion this morning about where the cordoning finished. If you are looking at the building from Colombo Street to the left is 601. What's your recollection of where the cordoning, of the configuration of the cordoning and where it finished to the left of that building?

10

A. It carried on the kerb line in front of 601A and then sort of went back on an angle towards the boundary between 601 and I assume 599, whatever the neighbouring property is.

1158

15 Q. To the south of 601 anyway?

A. Correct. From my visual inspection I considered that the existing cordoning was adequate –

Q. Just hold on a second can you restart at 14?

20

A. Sorry. Cordoning of the building against access being gained from the west end of Mollett Street had been effected by shipping containers. I have located a photograph on the Council file which shows this.

Q. And that is WIT.CAN?

25

A. Correct. I may have taken this photograph at the time of one of my inspections. From my visual inspection I considered that the existing cordon was adequate pending a structural evaluation and any recommended remedial works. It was adequate in my view because all of Mollett Street below the worst affected area of the building was cordoned. The cordoning along the Colombo Street frontage extended to about the edge of the car parking lane recognising that the parapet was damaged and could fail. My 14 February report check list again noted moderate and severe damage to structural features. I noted the building represented a serious danger to Mollett Street.

30

- Q. If you just stop there and zoom in on the thank you. And then if we can highlight general comments lower down please? Can you read your handwriting under general comments Mr Campbell?
- 5 A. Okay. Wall on Mollett Street badly damaged, roof badly damaged. Interior (upper floor) badly damaged. URGENT CPEng report required. North end (601A) has more damage than 601 but all one structure so building as a whole is compromised.
- Q. Okay and then over to the right where you've written another urgent. Can you read that?
- 10 A. URGENT loose tin flashing down Mollett Street should be removed in case the wind blows them off. DANGER to the public and three exclamation marks.
- Q. Do you have any recollection of why you made those observations?
- 15 A. I believe we were responding to a verbal report that there was some loose tin flashing. At that time of the year we were a bit worried about the nor-west winds coming up and the tin flashing was visibly moving so it was conceivable that in a strong wind that could have blown loose.
- Q. Okay and on the same screen we can see down the bottom protection fencing required you circled yes.
- 20 A. Yes and that was existing. I recommended for urgent action that the loose tin flashing down Mollett Street should be removed in case the wind blows them off and that was the danger to the public. I recorded that the wall on Mollett Street, the roof and the interior upper floor were badly damaged. I recommended that an urgent report by a chartered
- 25 professional engineer was required. I noted that the north end which has the address 601A Colombo had more damage than number 601 but I noted that all one structure so building as a whole compromised. The rear of the building in Mollett Street showed the most significant damage. There had been no material change to the building since my
- 30 inspection on 31 January and I remained satisfied with the existing cordoning. I was not involved in the original decisions about the placement of cordoning.

- Q. Under general comments where you wrote urgent CPEng report required, you asked for or you'd recommended a CPEng report in your earlier report two weeks before. Why did you put urgent in this recommendation?
- 5 A. To my knowledge no CPEng report had been done. There was some months down the track. I did not know if there was a CPEng engineer involved in the building and that was just me flagging to the council to sort of escalate the issue such that the building owner engage professional advice for the building.
- 10 Q. Were you aware of any plans to demolish the building?
- A. No I was not.
- Q. When assessing the cordoning that was in place what was your assessment of the potential for fall hazards and where they were?
- A. Okay the Mollett Street façade which is the north façade that had the most extensive damage. The west portion of it to the upper storey had collapsed as you can see in the photograph there. The east portion of that façade was largely intact but I had noted a crack up in the top sort of left hand corner if you like.
- 15
- Q. You can use your mouse.
- 20 A. Okay. So that is the, that would be the east end of the northern façade. There is a sort of diagonal crack that propagates down to just below roof level so I acknowledged that there was a chunk of masonry there that potentially could become dislodged in future aftershocks. It potentially could drag a few loose bricks or the corner of the parapet down again so
- 25 I considered that the barricade out at the kerb line was appropriately far enough away to encapsulate that debris.
- Q. And when you wrote all one structure so building as a whole is compromised, how did you take that into account when assessing the cordoning?
- 30 A. Well when assessing the cordoning the damage we could see was the, to 601 that was really a flag to the council staff that both tenancy at 601 and 601A were one structure so that when they were getting a, the

building owner to do a report that I was expecting comment on both tenancies.

**CROSS-EXAMINATION: MR ZARIFEH**

- 5 Q. Mr Campbell, in relation to this building what information did you have from the council files before you did the reinspection on the 31<sup>st</sup> of January?
- A. I'm sorry I can't remember what was in the file. I would have gone to site with a file. Obviously the reinspection forms would have been in there but what other information was in there I don't know I'm sorry.
- 10 Q. You said that you weren't involved in the original decisions as to where to place the cordon?
- A. Correct.
- Q. Do you know who was?
- A. No I don't.
- 15 Q. Okay do you know if it was an engineer?
- A. No I don't sorry.
- Q. Right. Do you know from your experience working in the council back then whether or not it would have been?
- A. It should have been.
- 20 Q. Okay. When you say it should have been, did that always happen?
- A. In the early days when they were responding to the emergency the team sometimes had building inspectors and then with engineers and all the rest of it, it was conceivable that it might have just been some people like that but I would have expected an engineer.
- 25 Q. And apart from the rapid assessment forms which tick cordon required and might say something like Mollett Street, there doesn't appear to be any formal record of where cordons should be placed or the decision made to, arrived at in relation to the cordons. Was that, is that a fair comment?
- 30 A. That's a fair comment in the general yes.

Q. In this case there's a document from the council and I'll get it shown 0016.1. I think you might have seen this aerial view and obviously a diagram of the cordon. You didn't do that?

A. No.

5 Q. No. And I take it you don't know when that was done. It's got 7.1.2011 looks like when the photograph was printed.?

A. Correct. I don't know when it was done and I don't know whether that's an instruction to do something or a record of what was existing.

10 Q. So is that not something that was done as a matter of course in relation to buildings?

A. No, not always no. Often these sets of documents were done after the cordons were in place or if changes were required to existing cordons and an engineer wasn't available to go out and sort of instruct the workmen on site.

15 1208

Q. And that's probably the case here of that date at the bottom right's indication, an indicator, because these cordons were in place from an earlier period weren't they?

A. That's my understanding, yes.

20 Q. Your re-inspection is, as you say, external only.

A. Yes.

Q. So on the 31<sup>st</sup> of January is that the reason that you wanted a CPEng for an internal inspection or –

25 A. One of the reasons. The other reason, some of the other reasons will include, you know, just ensuring that the building owner has engaged professional engineering advice and that something is actually physically happening on the buildings.

Q. If we look at that 31<sup>st</sup> form, it can be brought up again please, you've said that require engineer's report on Colombo Street façade.

30 **WITNESS REFERRED TO FORM**

A. Yes.

Q. So what did you want the report to address in relation to the façade?

- A. At that time I think that comment should be read in conjunction and any temporary works required to move the barriers.
- Q. I was going to come to that, but yes.
- A. Yes, so there was a desire to try where possible and get pedestrians out of live traffic lanes. Now from my inspection in the damage to the building it was like, because of that parapet issue I wanted a more in-depth investigation before we contemplated moving those barriers and putting pedestrians back onto a footpath.
- 5
- Q. Right, so when you refer to moving barriers, you were talking about moving them back in rather than out?
- 10
- A. Correct.
- Q. And that could only happen after a detailed inspection of a façade and a consideration of perhaps removing that parapet or those loose (overtalking 12:10:31)?
- 15
- A. Exactly, or any other sort of temporary works that the inspecting engineer deemed necessary.
- Q. And you've ticked the red sticker. Did you consider that the building was safe to enter or not?
- A. I certainly didn't go into the building, didn't have access. I wouldn't have gone down the Mollett Street and entered via that way. For the 601 premise which I think from memory was the WW, Pleasure Plus or something like that, if I had access in from Colombo Street, I potentially would have gone in that door, yes.
- 20
- Q. It's just that in the 14 February inspection you've ticked the, you've ticked significant damage, do not enter, you see that at the bottom?
- 25
- A. Yes.
- Q. So was that a recognition or assessment on your part that there shouldn't be any entry to the building?
- A. For the general public correct.
- 30
- Q. But not for necessarily for a CPEng report?
- A. Yes.



Q. You said in paragraph 15 that from your external visual inspection you considered the existing cordoning was adequate pending a structural evaluation.

A. Mhm.

5 Q. Any recommended remedial works. So were you talking about the placement of the cordon in dealing particularly with Colombo Street, the distance it was out from the building that time?

A. What I was sort of saying there I considered, I could see a fall hazard potentially possibly the corner of that parapet. It's certainly the eastern-  
10 most part of the northern façade wall, so I considered that cordon there adequate for that. Furthermore you can see that the roof is damaged, certainly at the back half of the building and then there's a wall parallel to Colombo Street, an internal wall, I'll highlight it with the mouse, about half way along the façade and just to the left of that you can see how the  
15 roof's got a significant sag so what I could tell from this was that would have tended to have a downward drag force on the Colombo Street façade. We can also see that on the white portion of the Mollett Street wall there, there's no significant vertical cracking. So in terms of the Colombo Street façade from what I could see externally, there was no  
20 reason to believe that the risk of it failing in an outward direction was any greater than what it had ever been.

Q. So just so we're clear then, you didn't want the CPEng report to check that the barriers were out far enough on Colombo, or did you?

A. Not to check, but it was a confirmation of my assessment, you know  
25 bearing in mind that my assessment was an external one only. So one of the reasons I wanted that CPEng report was somebody inside the building confirming what I believed to be the case and also as I've said previously, just to ensure that there was an engineer advising the building owner and we were getting some go forward on this building.

30 Q. What I'm just trying to be clear on is whether you required an internal inspection to confirm the adequacy of the cordon on Colombo Street. You'd seen the external damage?

A. Correct.

Q. And you hadn't been inside. You wanted a CPEng report, presumably that would involve an internal examination as well?

A. It should have.

5 Q. And was that so that you could be sure or the Council could be sure of the placement of that cordon on Colombo Street or not?

A. It would have provided comfort for that cordon. In terms of the placement of it from my external observation I was satisfied with where it was from what I could see, but obviously you don't know what you don't know, so the internal inspection would have just given us comfort that that cordon was in the right place.

10 Q. And we've heard that no CPEng report was forthcoming.

A. That's my understanding.

Q. From via the owners. You've heard about the report from Mr Sinclair back in September?

15 A. I've heard of that in the Commission yes.

Q. And I presume you've been here and you saw the photos that you referred to of the cracks?

A. Yes I did.

20 Q. Would that kind of report and I'm not suggesting it's a CPEng report, but that one page report, would that have sufficed for your purposes or not?

A. I would have asked questions of the engineer and the engineer that went in it, with that. On the face of it if somebody had just given me that piece of paper I would have asked some more questions.

25 Q. And would you have had concerns about the placement of the cordon if you'd seen that report at the same time as your inspection?

A. Not from what I saw in that report no.

Q. Presumably at the time you made your inspection on the 31<sup>st</sup> of January you would have been aware that the building had been red stickered really from the outset?

30 A. Yes.

Q. And you would have been aware that letters had been written to the owners, at 15 October there was a letter requesting a CPEng report, and 28 December there was another letter and a Building Act notice?

A. I'm not sure of the dates but I would have been aware there was correspondence with the owner, (inaudible 12:17:12).

5 Q. So some almost four months had elapsed since that first request and there was no report on the file. Presumably you would have seen it if there was?

A. I hope I would have seen it, yes.

Q. Did you feel though comfortable with the placement of the cordons? Is that what you're saying, irrespective of – ?

A. I was comfortable with the placement of those cordons, yes.

10 Q. And from what you're saying a CPEng report might have provided support for moving the cordon on Colombo Street back, rather than extending out?

A. It could have, it would certainly – that would be required in my opinion before we could contemplate moving it back towards the building.

15 1218

Q. You said that the report that Mr Sinclair did for the owners in September wouldn't have been sufficient for your purposes.

20 A. No. He said in that, from memory, that he wasn't concerned about the Colombo Street façade. The questions I would have asked of Mr Sinclair or his engineer was, you know, had you seen any movement at floor level, had you seen any movement at roof level? Certainly from the outside there were no indications that that had happened.

Q. When you went back two weeks later on the 14<sup>th</sup> of February, was that a follow up of your re-inspection in January?

25 A. I can't swear 100% but I think from memory I was responding to a verbal about some tin flashing flapping round in the breeze and I was just worried that if they did blow off it could cause someone a nasty accident.

Q. Right and as you've said you noted that urgent CPEng report required.

30 A. Yes.

Q. So why was it urgent. I appreciate there hadn't been one received but why was it urgent two weeks later if the cordon was adequate?

- 5 A. Well that's just me sort of trying to escalate the process in terms of, you'd have to appreciate I didn't know that there was an engineer involved in this building and it's really about getting the building owners to get some professional advice and to get some go forward on these buildings.

**JUSTICE COOPER:**

- Q. Why was that important?
- 10 A. Well, I mean, we'd been a few months down the track and the building had just been sitting there, footpaths had been closed, we were putting pedestrians into sort of, essentially, live traffic lanes. Something had to be done for the city's sake.

**EXAMINATION CONTINUES: MR ZARIFEH**

- 15 Q. The Council was relying on you in those re-inspections to assess the adequacy of the cordon, is that correct?
- A. Yes.
- Q. Do you think that you could properly do that without an internal inspection?
- A. It's difficult for certain types of buildings, um...
- 20 Q. Well this one in particular.
- A. For this one in particular. With hindsight I wish we had have gone inside. Certainly all of the evidence I've seen so far none of that led me to believe that façade had moved so none of that leads me to believe that there was any greater risk from that façade going out before the seismic event started.
- 25 Q. When you say all the evidence you've heard are you including Mr Sinclair's evidence of the internal (inaudible 12.21.23 – overtalking)?
- A. Correct, yep.
- Q. Were there other buildings that you inspected where you wanted a CPEng report to confirm the placement of cordons?
- 30 A. I guess I requested, I routinely requested CPEng reports as confirmation. In terms as to determine the placement –

Q. Or the adequacy of the placement.

A. If there was any doubt in terms of this looks bad we erred on the side of caution or we did other things such as put containers in front of the buildings. The requests for CPEng involvement, as I've said, is more about getting the building owners to start being proactive in doing something with some of their buildings.

5

Q. Right, because I presume that it might be dangerous to rely on a CPEng report from an owner which might not be forthcoming to confirm the adequacy of a cordon.

10 A. That's a fair statement.

Q. And that's why I was asking did you use that word 'pending' in paragraph 15, but you say that was more for a move back towards the footpath than the other way.

A. Yes.

15 Q. What do you think of that, the potential risk from that crack on the north wall at the top near the east façade. Do you think that there was a potential for the façade or part of it to peel off as well?

A. No, in my view there's a triangular piece on that north wall which I'm just sort of highlighting now with the mouse. That could have fallen out into Mollett Street quite easily and when the debris hits the ground, depending on what it does, you know, it could ricochet away. I also believe that the parapet on the Colombo Street façade could lose a portion, a higher portion, of that sort of pier type element. But from all of my external observations there was no reason to believe that the roof diaphragm connections to that front façade had been compromised at all and, in fact, in some ways because the roof further back had collapsed the natural tendency for that roof was now hanging down so provided the ties didn't pull out its natural tendency would have been to actually be pulling the façade back in to the building.

20

25

30 Q. Do you think in hindsight though that more emphasis should have been placed on that crack, in conjunction with the other damage, and the cordon been placed out further?

- 5 A. Um, no in hindsight I don't think more emphasis should have been placed on that crack. In hindsight though I think, in going forward, I think we've got some lessons to be learnt about masonry façades and how they can react and also if you put it into context back when these inspections were happening we thought the September one was the large event and we were going to get a decaying sequence. I mean I'm speculating now but the result would have been very much the same for Colombo Street if we didn't have Boxing Day or September.
- 10 Q. When you say there's something to be learnt about façades, what are you talking about in particular, that they fall outwards or presumably that was known before?
- 15 A. Yes, um, what we were observing around town, particularly after the Boxing Day event and after the September event, was that the masonry was crumbling and falling relatively close in towards sort of the building. They tended to rotate a little bit more in the February one in my experience.
- 20 Q. And you say, talking about lessons to be learnt from the February earthquake in relation to these kind of buildings, have you been involved post-February in cordons in front of similar buildings or damage buildings?
- 25 A. Um, yes but under a different guise. I've been focused on the CBD so we've actually closed down, essentially, the CBD and the cordons that we have been placing in front of the buildings within the CBD they have been relatively close recognising that it's a work site and they're just a signal for people not to linger in front of buildings. So it's a matter of risk. We've controlled the number of people in there. We don't have members of the public in there so we have knowledgeable people in there but we are still providing some cordoning around masonry buildings.
- 30 Q. And what about in areas that have been opened up or partially opened up. Is there a different approach to cordons?

A. There's a different emphasis now. Um, under the CERA regime basically what we're insisting is a full detailed engineering evaluation before we open up areas to the public.

Q. With or without cordons.

5 A. Correct.

**CROSS-EXAMINATION: MR ELLIOTT**

Q. Mr Campbell you've given evidence a few times now here at the Royal Commission and I just wanted to start by acknowledging that you were inspecting many buildings during that period and undoubtedly doing so in good faith and also to acknowledge that you've come along and you've answered all the questions that have been put to you and thank you for that. Dealing with this building today the evidence that you've given so far is that what you were doing at least in part was assessing the adequacy of the cordon that was in place.

10

15 A. Yes.

1228

Q. I think I've asked your colleague Mr Ryburn this question, but perhaps not you, just whether you'd seen the Council guidance document BNGCCC0002F.148?

20 A. Mhm.

Q. Which will come up now.

**WITNESS REFERRED TO DOCUMENT**

Q. Had you seen that document before you carried out these inspections?

A. No I had not.

25 Q. The document says at the top that the purpose of barricades was to protect people from dangerous buildings. Is that something that the Council explained to you before doing these inspections?

A. The content of that, yes, we were – we had a mantra if you like, safety first so if there was a danger to the public we tried to mitigate it, isolate it whatever.

30

Q. So were you aware of the issues to be considered including the longer the period damaged buildings remain unattended to the greater the risk?

A. Yes.

Q. And were you aware that one of the factors in determining necessary clearance from buildings was the type of potential failures?

A. Yes.

5 Q. Including in the case of failure of total building or top storey only, I'm sorry I'll do those separately, in the case of total building a clearance of 1.5 times the building height?

A. Yes I was aware of that recommendation.

10 Q. And also in the case of potential failure of the top storey you're aware of a clearance of 1.5 times the top storey height as being necessary clearance?

A. Yes.

Q. I take it follows that those were things that were in your mind when you made your decision about the adequacy of the cordon?

15 A. That was certainly background knowledge I had and yes I would have contemplated those distances.

Q. So in assessing the adequacy of the cordon, did you give consideration to the possibility that the Colombo façade would fail, either the total building at the front or the top storey at the front?

20 A. I would have considered that. The damage I saw was basically the parapet so I considered it was a possibility a future aftershock that sort of triangular piece and possibly a little bit of the parapet came, hence you know sort of the closing down of the footpath if you like which is outside the verandah fascia or three metres away from the building so I  
25 considered we'd complied with that. In terms of total building collapse or top storey only, nothing that I saw had led me to believe that that façade had been compromised so if you like the risk of it collapsing was exactly the same as what it was on the 4<sup>th</sup> September, sorry the 3<sup>rd</sup> September, you know the day before these events took place.

30 Q. And this is the, once again the damage based assessment?

A. Correct.

Q. We've heard evidence about.

A. Yes.



Q. So are you saying in this case that the Council directed you to use a damage based assessment in determining whether the cordon was adequate?

5 A. The Council didn't use the word damage based assessment but it's quite clear from the re-inspection forms you know we were inspecting for damage and reacting to the damage that we saw.

Q. Did anyone from the Council give you any advice or indications about the type of level of horizontal accelerations that you might consider the building could face?

10 A. No.

Q. Would you agree that the Colombo Street façade could have failed in the way that it did during an earthquake generating much less force at that site than was generated on the 22<sup>nd</sup> of February?

15 A. I wouldn't use much less force but a force slightly less it's conceivable that it could have happened.

Q. Let's go to photograph BUI.COL601.0005.2. I think you were here when there was evidence earlier on from the engineer, Mr Sinclair?

**WITNESS REFERRED TO PHOTOGRAPH**

A. Mhm.

20 Q. Do you agree that poor mortar strength could have been a contributor to the failure there of the northern wall?

A. Yes I agree with that.

Q. And I referred him to the crack up the top left-hand corner which you've referred to earlier.

25 A. Mhm.

Q. Do you agree that those cracks also demonstrate poor mortar strength?

A. Yes, it's an indication that the mortar's, that the crack lines going through the mortar, so yes.

30 Q. The northern wall there which has been damaged, would that have provided the lateral resilience for the building during an earthquake generating shaking in an east–west direction?

A. To a degree yes, although its removal in a perverse sense actually removes some of the mass of the building as well and hence some of

the load from the building, but yes a wall like that in-plane would provide some stability.

Q. And would the reduction in that stability not have rendered the Colombo Street façade more susceptible to outward failure?

5 A. No I don't think so in this particular case. The reason for saying that is we've still got a substantial return part of the wall which is if you like towards the east, and it's the portion painted white. Now with the exception of that crack everyone's acknowledged up near the top that's largely intact and a wall of that length is more than adequate to provide  
10 stabilisation to the northern-most part of the Colombo Street façade. What's also stabilising the Colombo Street façade is the roof diaphragm and floor diaphragm connections.

Q. So is it right to say that what was preventing an outward failure of that upper level of the Colombo Street site would have been number one,  
15 the connections that you've just referred to, and number two the connection between the eastern and northern section of the bricks?

A. Yes.

Q. Dealing firstly with the second of those, the connection in that corner, that edge in the north-east.

20 A. Yes.

Q. That is just – that would have been just bricks and mortar wouldn't it?

A. Correct.

Q. So if mortar was in a poor state that connection would have been in a poor state?

25 A. Yes.

Q. And you didn't know what the state of the connection of the roof or interior diaphragms were to the walls because you didn't inspect them. Is that right?

A. Correct.

30 Q. But you knew this was an unreinforced masonry building?

A. Correct.

Q. And I take it that you were aware that it was potentially earthquake prone?

A. From the age of it, yes, correct.

Q. As I noted with Mr Sinclair, there were in my count six engineers and/or building inspectors who looked at this building, so and none of those said the cordon was inadequate so you weren't alone in your assessment.

5

A. Mhm.

Q. But you were there of course specifically for the role of looking at the adequacy of the cordon on behalf of the Council?

A. Yes.

10 Q. And I'm going to put to you the same questions I put to Mr Sinclair. So if I could just note firstly given the state of that northern wall, the state of the strength of the mortar being poor, the fact that it was unreinforced masonry, your view the building as a whole was comprised.

A. Mhm.

15 Q. And I add to that your lack of awareness about the state of connections, would you agree that it should have been evident to you that the Colombo Street façade could fail in the way that it eventually did?

A. Depending on the forces that that building suffered, yes it always a possibility those façades can go out.

20 1238

Q. Would you agree that you could have identified in the inspection that there was a danger extending beyond the area protected by the existing cordon?

25 A. If that façade was to fail in the totality, I agree that it would have gone beyond the cordon.

Q. Would you agree that you should have advised the Council that the existing cordon was inadequate and should be extended east to at least 1.5 times the top storey height?

30 A. I agree that I could have said to the Council that that is a possibility, that in the context of what we were doing and the fact that it had survived quakes and we were expecting diminishing ones, and also given the context in my opinion that the strength of that façade other than the

parapet had not materially diminished much beyond you know what it was before these earthquakes, yeah, I just want to put that in context.

**CROSS-EXAMINATION: MR LAING - NIL**

**RE-EXAMINATION: MR MCLELLAN - NIL**

5

**COMMISSIONER CARTER:**

Q. Yes, I'd just like you to have a look at the photograph of the cordon placements, 0016.1, if you could see that for a moment.

**WITNESS REFERRED TO PHOTOGRAPH**

10 Q. And you'll notice those triangular marks which I just wondered whether they suggested to you that that was the direction in which the falling hazard might occur. Did that have some significance the way those triangles are drawn? I ask that because the cordons seem to be placed in such a way that they are protecting damage and falling hazards onto  
15 Mollett Street itself rather than onto Colombo Street?

A. Certainly everyone was concerned about Mollett Street. There's no key or anything saying what those are but if I was asked to guess I would say that the 'H' stands for a hazard from the 603 building and a hazard from the 601 building and the exclamation mark I'm assuming that that's  
20 just indicating whether the most serious damage was on the 601 building.

Q. I also note that the predominant direction of the earthquake shaking was in a north-south and yet the damage that occurred in February was from an earthquake which is more directed east-west.

25 A. That's (overtalking 12:41:20).

Q. Do you think that there was a thought in people's minds and perhaps including your own that the subsequent earthquakes would be somewhat of the same characteristic to the earthquake that had occurred and that the consideration of an east-west earthquake was  
30 less – taken less seriously than it ought to have been given the benefit of hindsight?

A. I wouldn't disagree with anything you said there, so yeah, we were certainly expecting a diminishing sequence of events, certainly basically the same fault, so yes I agree with what you're saying.

5 Q. You think this could have been – could have people lulled into a sense of false prediction about what the nature of an aftershock might be in terms of its direction?

10 A. Yes, with hindsight I think we were all lulled into a false sense of security. We thought, you know, the September was the big one, and then we had Boxing Day which is not an unexpected reasonable aftershock, and then we were just expecting you know sort of a diminishing sequence so I agree with what you've said.

**JUSTICE COOPER:**

15 Q. Mr Campbell, just following on really with the same theme and basing my starting point on your paragraph 4, I assumed that aftershocks would continue according to a normal aftershock sequence, namely a sequence involved in decaying or diminishing aftershocks.

A. Yes.

20 Q. That characterisation of a normal aftershock sequence, it's just based on the general experience of earthquakes around the world.

A. Correct.

Q. How valid will that approach be in the future at least in New Zealand having regard to the experience that we've had here in Christchurch? You can take time to consider your response to this question.

25 A. I find that a very difficult one to try and answer for you. I'm not a, you know, geoscientist or anything like that. I do think from an inspection and a disaster management point of view I think these sequence of events will shape the way we do things in the future and I would hope we've learnt some lessons from it and we'll – I hope we don't have to do better but if there is another event that we do do better. In terms of –  
30 no, I'm sorry, you'd have to ask a geoscientist what their view was on the way those things were going.

- Q. Well you're an engineer, just imagine there's another – in some other New Zealand city a disaster of similar proportions. You think that if this were repeated it would – inspecting engineers might be in a difficult position mightn't they, if they said we were expecting aftershocks to continue according to a normal aftershock sequence –
- 5 A. I see where you're coming from.
- Q. – the immediate response will be, well that's not what happened in Christchurch.
- A. And there's some validity in that, so I think to my mind certainly expecting the decaying aftershocks sequence, not expecting the epicentres to migrate towards the population mass is just what's happened here, I think that something that would have to be carefully looked at in the future.
- 10 Q. But of course until the rupture of the Lyttelton fault occurred on the 22<sup>nd</sup> of February, nobody knew of its existence did they?
- 15 A. No, no. I mean you don't know what you don't know. We were largely ignorant of some of those faults.
- Q. I suppose the least can be said is that given the uncertainties is that it behoves everybody to get on and to strengthen or demolish.
- 20 A. Most definitely.
- Q. The unreinforced masonry building stock.
- A. Most definitely.
- Q. Because the alternative is to expose people to possible loss of life.
- A. Yes. I agree wholeheartedly and also after we've had the events from a personal point of view, you know, getting the insurance companies and a lot of other parties to move a lot quicker where we do have damage and compromised buildings.
- 25 Q. Yes, well we had evidence earlier today that issues concerning insurance were potentially, were contributing to delays in this case.
- 30 A. Mmm.
- Q. And that would be a reasonably common experience I expect. Is that as you see it?

- A. I don't have personal experience of other disasters but I do know that New Zealand has a very high level of earthquake insurance so the volume of claims they had to process was you know sort of unprecedented.

**5 WITNESS EXCUSED**

**COMMISSION ADJOURNS: 12.48 PM**

**COMMISSION RESUMES: 1.30 PM**

**MR LAING CALLS**

**STEVEN JAMES MCCARTHY (SWORN)**

5 Q. Your full name is Steven James McCarthy?

A. Yes it is.

Q. You prepared a brief of evidence?

A. Yes I have.

Q. Could you start reading at paragraph 6 please?

10 **WITNESS READS BRIEF OF EVIDENCE**

A. Events after the 4 September 2010 earthquake. A level one assessment was carried out on 5 September 2010 and the buildings were issued with a red placard. The assessment noted that barricades were required but the location was not noted. It also noted that a level  
15 two assessment or detailed engineering evaluation was recommended. A level two assessment was undertaken for Longhorn Leather later on 5 September 2010 which resulted in that building being confirmed as unsafe. The assessments noted that the barricades were required along Mollett Street. Level two assessments were carried out for 601A  
20 and 601 Colombo Street by the council's building evaluation transition team on 15 October 2010 as part of the re-evaluation process referred in section 4.1 of the council's report and building safety evaluation processes in the central business district following the 4 September 2010 earthquake, the council's report. The assessments confirmed the  
25 existing red placard and noted that demolition was likely. In letters of 15 October 2010 and 18 October 2010 from the council to the building owners a CPEng report was requested.

Q. At that stage October 2010.

30 A. Yes.

Q. Could you explain to the Commission why CPEng reports were being requested?



A. We were in a position I think where we wanted to be able to change the status of the placards from red or yellow and we needed a CPEng engineer's report to facilitate that change of the placard.

Q.

5 **JUSTICE COOPER:**

Q. Why would you want to facilitate the change of a red placard, from a red placarded building which owners wished to demolish?

A. At that stage it wasn't clear to the council I don't think that the, there was a demolition intended and so the building owner was left with a number  
10 of options. I guess they were negotiating with their insurer as to the best, as to what course of action they would take.

Q. Yes well it is a question that I have. I will come back to it at the end.

**EXAMINATION CONTINUES: MR LAING**

Q. If we could move to the next paragraph but I'll perhaps ask Mr McCarthy  
15 some more questions. We need to go to Boxing Day Your Honour we might able to throw some more light on this. Sorry Mr McCarthy, could you start reading again at paragraph 8?

A. Paragraph 9.

Q. Sorry paragraph 9.

20 **WITNESS CONTINUES READING BRIEF**

A. On 27 December 2010 a rapid assessment was carried out on the  
Longhorn Leather and Pleasure Plus buildings and red placard was  
issued. On 28 December 2010 a section 124 Building Act notice was  
issued for the building requiring work to be carried out by 31 January  
25 2011.

Q. Could you go over to firstly annexure E of your evidence which is  
WITMCC0006.21. Now that letter's referring to an inspection on  
15 October?

A. Yes.

30 Q. And then it goes on the Christchurch City Council engineers have requested an engineering evaluation by CPEng in order to move forward with ensuring safe occupancy of the building.

A. Yes.

Q. Now I think that's consistent with what you said in a previous question to His Honour?

A. That's correct.

5

**JUSTICE COOPER TO MR LAING:**

This is my point though Mr Laing because this correspondence and the notices assumed that the damaged building will be, that the owner will wish to reoccupy.

10

**MR LAING:**

And at that stage it's quite plain we heard this morning that the council had no indication from the owners that –

15 **JUSTICE COOPER TO MR LAING:**

I accept that but there is the documents there is a theme and I can understand why this would be the case. There's a theme which is all about what needs to be done to get a green placard, what needs to be done to have the building reoccupied, what needs to be done to repair the building.

20

**MR LAING:**

Correct.

**JUSTICE COOPER TO MR LAING:**

25 Whereas there would have been a category of buildings all along which were never going to be reoccupied and there was no, they don't seem to have had any emphasis in the council's systems or documents which along the lines of "if you wish to demolish this building, we'll help you do it".

30 **MR LAING:**

I'll come to that Your Honour but I just wanted to set the scene for after Boxing Day because I think that will come via Mr McCarthy through another few documents. It might become more apparent.

**JUSTICE COOPER:**

Yes.

**5 EXAMINATION CONTINUES: MR LAING**

Q. So that, I've dealt with annexure E Mr McCarthy.

A. Yes.

Q. Then can I get you to look at your exhibit G, annexure G, which is  
006.23. Now is that the letter that was written to the Yee brothers dated  
10 20 December 2010?

A. 28 December yes.

Q. Yes.

A. Yes it is.

Q. Can I ask you to turn to the next page .24 and could you read that  
15 paragraph please, "If you have not already..."

**WITNESS READS PARAGRAPH**

A. "If you have not already done so we recommend that you contact your  
insurers. You should also seek structural engineering advice from a  
qualified structural engineer on how to remove the danger."

20 Q. Yes. Now I'd like to take you to your appendix G which is .25.

A. Yes.

Q. Now is that the section 124 notice that was issued to the Yee brothers  
syndicate?

A. Yes it was.

25 Q. And if I could, I will ask you look at particulars in a minute, but could you  
look at the, could we have highlighted the section which says to reduce  
or remove danger (A-F). So if you look at that Mr McCarthy you will see  
A and does that relate to any notice which has been attached to the  
building prohibiting occupancy?

30 A. Yes it is.

Q. And B is fairly similar vein that refers to keeping persons away from  
danger/risk in the building?

A. Correct.

Q. And C does that relate to carrying out work on the building to remove danger?

A. Yes it does.

5 Q. And would there be a variety of ways that work, that danger could be removed?

A. Yes it is. The possibilities for this building clearly are demolition, ah repair and re-occupy and as we've heard this morning the possibility of retaining the façade and building in behind the façade. So there's a, there's a variety of options that were, that the owner was considering at that time.

10

Q. So the notice didn't necessarily point to repair. It could have been responded to by demolition, is that correct?

A. Yes it could.

15 1340

Q. And then D, that relates to a building consent?

A. Yes the, generally a building consent to carry out demolition on a building of this nature – less than three stories – would not be required. There were changes in the Building Act that exempted that type of work. The difficulty and the reason this one isn't exempt is because there's a party wall or a number of party walls involved between the buildings so buildings with party walls were not exempt from requiring a consent. Obviously if repairs were being affected then a building consent or structural works would be required as well.

20

25 Q. And can I then ask you to go back up to the particulars – could that be highlighted in the same form. I'll ask you to look at the second sentence, Mr McCarthy, and read that.

A. "Council records show – the building has been damaged, and there are structural defects to the building. Significant damage to structural walls, party walls, fire walls and/or structural frame (cracking, bowing, failed connections, spalling). Significant damage to roof structure. Loose or insecure debris (bricks, glass etc). Cladding damaged or veneer dislodged. (Insanitary Building refer Environmental Health)."

30

Q. Now in this case a level 1 rapid assessment had been carried out following the Boxing Day earthquake. Can I just ask you to identify that as your Appendix F please, .22.

A. Yes.

5 Q. After the Boxing Day earthquake was a state of emergency declared?

A. No it wasn't.

Q. So what was the basis on which rapid assessment forms were being completed?

10 A. The basis was that it gave an immediate evaluation of the buildings and it triggered, by doing that it was, we were able to trigger a s 124 Notice to repair or demolish or take some other action to remove the danger.

Q. Thank you, can we come back to your evidence now.

**JUSTICE COOPER TO MR LAING:**

15 Q. I suppose that expression 'remove the danger' has got into the form because it's a statutory expression.

A. Yes, yes.

20 Q. Whereas in terms of sort of communication with members of the public a phrase such as 'demolish or repair' might have been more straight forward, mightn't it.

A. Yes the situation seems to have been, Your Honour, that those options were open and clearly in this case the owner was contemplating demolition so....

Q. But didn't really tell the Council.

25 A. Didn't tell the Council and in that situation you couldn't really make any assumptions as to –

Q. No, I understand.

**EXAMINATION CONTINUES: MR LAING**

Q. Mr McCarthy could you just continue where you left off please.

30 A. On 28 December 2010 a s 124 Building Act Notice was issued for the building requiring work to be carried out by 31 January 2011. The case manager's notes indicate communications between the building owner's

representative, the building owner's engineer and the Council followed the issuing of the s 124 Notice. The Council files record a walkabout on 10 and 20 January 2011 observing the status of the building as having a red sticker and a continued existence of a barrier. On 24 January 2011 the case manager spoke to the owner's representative and lawyer, John Dallison, about the building and he advised that the owner intended to demolish the building and that they would go through the consent process to do this soon. On the same day the case manager emailed the owner's representative requesting that he forward any relevant engineer's report for the building. A re-inspection of damaged buildings was carried out on 31 January 2011 by Paul Campbell who was an engineer on contract from Opus. The assessment stated that the engineer's report was required on the Colombo Street façade and that temporary works were required to move the barriers. The barriers were recorded as existing. On 1 February 2011 the case manager spoke to Marton Sinclair, the owner's engineer, who advised that he had not completed the engineer's assessment but would be leaning towards demolition. The case manager also spoke to Mr Dallison and advised him that an engineer's report for the building was required. Mr Dallison advised that he would get back to the case manager with something as soon as possible. The building was re-inspected again on 14 February 2011 and the assessment stated that the building was badly damaged and an urgent CPEng report required. On 15 February 2011 the case manager spoke to John Dallison about the fact that the Council had still not received an engineer's report from the building owner. Mr Dallison said he would forward the required the information to the case manager as soon as possible. A CPEng Certification form was never received from the building's owners. The case manager's notes, already supplied to the Royal Commission, indicate that the Council had followed up on a request for the CPEng certification form numerous times.

**Cordons:** I am unable to ascertain from Council records exactly when the barricades were erected outside the building. However, I attach a

5 photograph taken on 24 September 2010 which indicates the nature and extent of the barriers that were in place in the area on that date. The photo indicates that the barricades were placed in front of the building and across the entrance to Mollett Street to prevent access across along that street. The photos indicate that the barricades were erected in such a way that access was prevented to Mollett Street from Colombo Street. A map of CBD streets affected by road closures dated 22 October 2010 is attached. This map indicates the location of cordons on that date and that Mollett Street was closed as a result of the  
10 cordons.

**JUSTICE COOPER:**

- Q. Just tell me, could you just indicate where Colombo Street is on this because the copy I've got I can't make out any of the street names.
- 15 A. It's rather vague isn't it.
- Q. We've got Moorhouse Avenue is about two-thirds of the way down, running across the page so then if one could find a street running north/south you might have something to go on, a named street I mean.
- A. Yes I'm struggling, I can't see it on this plan so...
- 20 Q. Could we magnify it, just see if that helps. So we've got St Asaph, Lichfield, Tuam. None of the north/south streets seem to be named. Oh there's Durham Street I can see.
- A. Yes –
- Q. Oh okay so it's above the blue arrow.
- 25 A. Yeah that's what I was just about to say, so it would appear.
- Q. Okay right and I don't know where, I don't know whether Mollett Street is shown on this.
- A. I think you can see Tuam Street two-thirds of the way up the page and Mollett Street would be round the corner, so where it's got a red block –
- 30 Q. Yep I see that.
- A. – that would be Mollett Street I imagine.
- Q. And what does the yellow and red legend, we'll have to go back to the ordinary size to get the yellow – rescinded is that.

**MR LAING:**

I think it's supposed to be 'restricted' Your Honour.

**5 JUSTICE COOPER:**

Q. And the red is road closed all right so go back to the picture. Okay. So the, I suppose that's the part of Mollett Street marked off by the containers although this map shows Colombo Street closed doesn't it?

A. Yes it does, I don't, don't think it's an accurate map Sir.

10 Q. No. All right well thanks for that. I just couldn't follow it in the copy I'd seen.

**EXAMINATION CONTINUES: MR LAING**

A. I'll start at 18 shall I?

Q. Please.

15 A. "A map of CBD streets affected by road closures dated 22 October 2010 is attached. This map indicates the location of cordons on that date and that Mollett Street was closed as a result of the cordons. There was nothing on the Council records to indicate that the barricades were changed between 5 September 2010 and 22 October 2010. I attach the  
20 following documents which provide a more complete picture of the nature and extent of the cordons round the building from Boxing Day on. Photographs taken by staff from the Council's parking unit following the Boxing Day earthquake which indicate the extent of the cordons on  
30 December 2010."

25 Q. That's the photograph which is now in front of you?

A. Yes.

**WITNESS REFERRED TO PHOTOGRAPHS****JUSTICE COOPER:**

Q. That's really showing 603 isn't it?

30 A. The other end.



Q. On the corner the other side of Mollett, the northern side of Mollett Street. It's Colombo Street but Mollett Street's on the left isn't it?

A. Yes.

**EXAMINATION CONTINUES: MR LAING**

5 Q. Could you look at .34?

A. Yes, yeah that's a more accurate photograph obviously.

Q. And .35 and .36? Thank you.

A. Yes.

Q. Next bullet point?

10 A. "A spreadsheet dated 7 January 2011 which states the fencing was still present outside 601 to 603 Colombo Street. An email dated 26 January 2011 which confirms that pedestrian ramps had been installed at the Colombo Street Mollett Street intersection as a result of the barriers and pedestrians being forced on to the road. A spreadsheet  
15 dated 2 February 2011 confirming the installation of wheelchair, pedestrian ramps at the intersection of Colombo Street Mollett Street. This indicates that the barriers were still present."

Q. Yes could you look at .39. That's it there yes, right?

**WITNESS REFERRED TO PHOTOGRAPH**

20 A. Yes, two ramps.

Q. Thank you. Proceed.

A. "A map showing the barriers that were in place as at the week ending  
25 18 February 2011. The purple lines at the intersection of Mollett Street and Colombo Street show that the barriers were still in place. These records indicate that the location of the cordon was not changed between September 2010 and 22 February 2011. Council staff who were in charge of erecting and moving cordons on instruction from engineers have no record of the cordon being removed prior to  
30 22 February 2011. The re-inspection form dated 14 February 2011 had a reference to protection fencing being required. There was nothing however on the form to indicate that the existing barriers were inadequate for this building. The Council's process was to require

engineers to advise on the appropriate location of barriers and any modifications to the barriers. The Council contracted engineers who inspected the cordons, the barriers and reviewed the adequacy in terms of protecting public safety. They would often seek a second opinion when they had a doubt about a decision on a cordon barrier on a building and would often visit buildings together. If any inspecting engineer had considered that the façade at 601 to 601A Colombo Street posed a significant risk to public safety the process would have been for the engineer to advise the traffic management team to move the cordon or barrier and deal with that risk. These buildings were noted as possible earthquake prone buildings. The buildings would have been deemed to be earthquake prone in terms of s 66 of the Building Act 1991. After the commencement of the earthquake prone building policy 2006 the building consent application for a significant alteration was received. The strength of the building structure would have been assessed and dealt with in accordance with the policy. There is no record on the Council file of any strengthening work being carried out.”

**CROSS-EXAMINATION: MR ZARIFEH**

- Q. Mr McCarthy, the level 1 rapid assessment on the 5<sup>th</sup> of September –
- 20 A. Yes.
- Q. – was carried out by Simon Wall and we, you’ll recall we’ve evidence from him in relation to 593 Colombo. He recommended barricades, he’s ticked barricades are needed?
- A. Yes.
- 25 Q. But hasn’t stated the location and I think his evidence in relation to 593 was that he didn’t have any role in determining where the barricades would be set up. Do you know who did?
- A. Ah, originally no we don’t. It was the practice at that time for the engineers in the assessment teams to mark on the road with fluorescent
- 30 paint where they believed the barriers should go and that generally the process that was undertaken at that time .

- Q. Right so would there have been an inspection following this or a visit by engineers to assess where the barriers should go?
- A. Ah, it may well have happened at the same time.
- Q. And was any record kept of that? It doesn't appear so?
- 5 A. No.
- Q. No. And then on the same day as you've noted, 5<sup>th</sup> of September, there's a level 2 that again ticks barricades and says along Mollett Street?
- A. Yes.
- 10 Q. So that was an indicator to the Council and as you say a group of engineers – what similar to Mr Campbell's role – would have gone along and...
- A. Yes.
- Q. And said up the barriers?
- 15 A. Ah, the, yes, yes. We had a traffic management crew that was specifically assigned to putting barriers around buildings.
- Q. Right.
- A. And they would have done that under the direction of the engineer.
- Q. Right so was it a requirement, a Council requirement before barriers were erected in a building like that that there be a level 2 inspection or not?
- 20 A. Not necessarily.
- Q. No, and you recall in relation to the hearing of 603 Colombo Street there was questioning about whether a proper assessment of the placement of barricades had been made without a level 2 assessment?
- 25 A. Yes.
- Q. In this case there was a level 2 on the 5<sup>th</sup> of September and it must have been an internal inspection as well presumably because it's got "internal wall badly cracked" although of course that could have been evident from the exterior given the damage couldn't it?
- 30 A. It could have been.
- Q. But you say it wasn't necessarily a requirement to have a level 2 before barricades were put in place?

- A. No in some cases buildings were so unsafe that you barricaded them without a level 2 and I think as Mr Sinclair said you know the building was inherently unsafe. We didn't require our engineers to go if they felt there was a degree of, if there was a safety issue.
- 5 Q. Okay. On the 15<sup>th</sup> of October there was a level 2?
- A. Yes.
- Q. By I presume Mr Hyde, G Hyde?
- A. Yes.
- Q. Who filled out the notices cover sheet subsequently?
- 10 A. Yes.
- Q. He noted that demolition was likely, correct?
- A. Yes.
- Q. Now we haven't heard from him so we don't know why he put that there but that was clearly his view at the time?
- 15 A. Yes.
- Q. And that presumably would have been available on the Council file that assessment and that view?
- A. Yes.
- Q. And then he completed that cover sheet and said in the middle of it, this
- 20 is 0012.1 "area fenced off safe"?
- A. Yes.
- 1400
- Q. And can you tell us if Mr Hyde was an engineer or is?
- A. I don't know the answer to that.
- 25 Q. But he's requested an engineer's report on that form?
- A. Yes.
- Q. What was the purpose of that report, do you know?
- A. I think it's an engineer's report on the building and that would be common practice at that time. What we were trying to do was clearly to
- 30 get some resolution. This was a building that was severely damaged, so we're looking for the engineer to report on the building so, and to encourage I guess the owner to make a decision.

- Q. Does it relate at all to the issue of safety, the obtaining of the CPEng report?
- A. I don't believe so in this case.
- Q. Well on the 15<sup>th</sup> of October and presumably following that inspection,  
5 there's a letter to the Yee Brothers Syndicate, that's 0013.1.
- A. Yes.
- Q. And refers to that inspection of 15 October in the first paragraph and a request by the engineer for a CPEng report?
- A. Yes.
- 10 Q. And it says in addition we require a statement from the CPEng stating that the building is not dangerous, correct?
- A. Yes.
- Q. Then the second paragraph says "the requirements detailed in this letter are designed to ensure public safety is protected which ultimately is  
15 Council's primary responsibility"?
- A. Yes.
- Q. "In order to balance public safety requirements against the financial impact on individual businesses as a result of buildings that remain closed, Council needs your assistance in insuring [sic] that the  
20 engineering certification provided to Council clearly and specifically covers the criteria detailed in this letter". So just tell us about that, what that paragraph means. It seems to say that the – what's been required in that letter is going to the issue of public safety?
- A. Yes I believe that's before the building could be opened up to the public.  
25 Clearly there needed to be some certification to say that it was safe so I think that's the intent of that and I think we've previously seen the certification that we require from engineers to change the status of –
- Q. Red and yellow back to green.
- A. Yes.
- 30 Q. So that's nothing to do with the cordon issue?
- A. I don't believe so.

Q. Now the Council was notified as you've said and Mr Dallison said on 24 January, and I appreciate that he said he thought that he'd notified earlier, but there's a record of it 24 January, correct?

A. Yes.

5 Q. Why would the Council want a report after they're told it's going to be demolished?

A. I think Council's often in the situation where people make assertions, promises, they're not always delivered on, so it's important for us to cover the bases. There were a number of options that, and the owners I think we've heard this morning, the owners still hadn't formalised the decision about what they were going to do. We were all assuming they were going to demolish the building but we hadn't received any application for a demolition consent or had formal notification that that was going to happen. So we cover the bases, we get an engineering report. In this case a demolition consent probably would have required some sort of engineer's report because there was a party wall. The building that would be demolished would affect the rest of the block. There were weather tight issues or weather proofing issues with the adjacent shops so we would have been looking for a detailed engineering evaluation to inform the approval of that demolition consent.

10

15

20

Q. So that's not the same report that was being sought on the 15<sup>th</sup> of October then, or not for the same purpose then?

A. There's a variety of purposes that a detailed engineering evaluation can lead to. It allows the owners to make a number of decisions, informed decisions based on those engineering evaluations and we need to see those as well.

25

Q. But Mr Dallison said that he notified the Council on that date, that they did intend to demolish, so a decision had been made and I think he said it was coming late 2010 early 2011, but you're saying it wasn't notified in writing or any formal application made?

30

A. That's right.

Q. And is that the same reason or basis that the re-inspection form Mr Campbell's re-inspections, he was seeking a CPEng report too wasn't he?

A. Yes he was.

5 Q. But his evidence was that he wanted that to for consideration of whether the barriers could be moved back essentially.

A. Clearly there was a – we were trying to get rid of barriers in the centre of the city. We were a lot of months down the track and there didn't seem to be a lot of progress so we're trying to, and appreciate right through  
10 this process we're trying to get – we're trying to elicit some sort of progress from the owners or the owner's representative and we needed to be informed, and the way to do that was to give us the information, the detailed engineering evaluation was going to help. I think Mr Campbell also said that the detailed – taking the barriers back would  
15 be linked to other actions to make safe the building, so there might be a temporary barricading of the building, so it could have been concrete blocks with steel struts or something other than barriers, so that's what we – at that time was where we were going.

Q. The issue of cordons and replacement of them was primarily for the  
20 Council wasn't it?

A. Yes it was.

Q. The responsibility?

A. Yes.

Q. Why was there no level 2 assessment conducted after Boxing Day?

25 A. We didn't feel that, well there was a section 124 notice issued and I think as I – as I explained previously we did the level 1 assessment and then we issued a 124 notice which asked the owner to reduce – to remove the danger.

Q. But there was a level 1 assessment following the Boxing Day aftershock  
30 on the 27<sup>th</sup> of December?

A. Yes there was.

Q. And that's at 0014.3 and that continued the red placard that was in existence?

**WITNESS REFERRED TO DOCUMENT**

A. Yes.

5 Q. Might have had a new red sticker from the looking of it, but it recommended, under further action recommended, bottom left, level 2 structural report, correct?

A. Yes. That's correct. So the explanation for that and which I think I've previously given, is that there was no state of Civil Defence emergency so a level 2 assessment wasn't the appropriate course for us to go down. Our recourse, in the absence in the state of emergency was to go down the section 124 route, which was where we went so I think there was a 124 notice issued shortly after this on the 28<sup>th</sup>.

10 Q. And was that to be instead of the level 2?

A. Yes.

1410

15 Q. So why did the level 1 assessment, do you know why a level two was required following Boxing Day.

A. I think they, the decision not to declare was, they were using these standard forms to inform the process. They came to the decision not to declare was made so the 124 was the appropriate course of action at that time.

20 Q. I understand what you're saying but my question is you don't know why when the person who conducted the level 1 ticked that level 2 should be carried out, you don't know why he thought that?

A. I assumed that they imagined they were acting in a state of civil defence at that time and it may have been subsequent to that that the decision not to declare was actually made.

25 Q. Right, but that's someone else made that.

A. Yes they did and so the person who was filling out this form may not have been aware of that.

30 Q. The person filling out this form has clearly come to the view that because of, presumably, damage to the building post Boxing Day or as at 27 December a level 2 structural report was required.



- A. Yes or a detailed engineering evaluation which I think was asked for in a 124 notice.
- Q. Right but that was, in effect, instead of the Council carrying out that that was passing it off to require the owner to wasn't it?
- 5 A. Yes it was.
- Q. And what if you had an owner that didn't comply for whatever reason?
- A. Then the Council would follow up, as it did, looking for that detailed engineering evaluation.
- Q. And what if the detailed engineering evaluation, at least in part, was  
10 required to properly assess the safety and stability of the building? Wouldn't that be then passing it on to the owner who might not comply?
- A. Well clearly the stability of the building was something that needed to be assessed, and yes it was the owner's responsibility to do that so that's why we followed them up.
- 15 Q. But it wasn't the owner's responsibility to ensure that the cordons were in the right place was it?
- A. No it wasn't but, equally, that detailed engineering evaluation would have helped to inform the placement of cordons but, as Mr Campbell has said, it wasn't essential in his view.
- 20 Q. I guess what I'm questioning is why the Council would, instead of ensuring that they carried out a level 2 why they would pass it onto the owner in a situation where there'd been a request for a CPEng I think back on 15 October hadn't there?
- A. Yes.
- 25 Q. And one hadn't been forthcoming.
- A. That's correct.
- Q. And wasn't, in fact, later.
- A. No, it's clearly, we wanted the owner to deliver on that request and they didn't but I think we took every care to make sure the cordons were in  
30 the right place. We sent out CPEng engineers who made that evaluation on our behalf and we depended on that advice from them.
- Q. But it doesn't appear that there was any assessment, internal assessment, feeding into this cordon issue.

A. That's correct.

Q. And yet there might have been if that level 2 had been done as recommended on Boxing Day, after Boxing Day rather.

A. If it was possible to get inside, yes, a level 2 would normally have an internal assessment, yes.

**CROSS-EXAMINATION: MR ELLIOTT**

**WITNESS REFERRED TO DOCUMENT WITMCC.0006.25 – BUILDING ACT NOTICE DATED 28 DECEMBER 2010**

Q. If the bottom section could be highlighted beginning 'Work required by this notice'. So just paraphrasing that, the requirement of the Notice was that work be carried out by 31 January.

A. Yes.

Q. And then in the second paragraph the Notice says that if work's not carried out before 31 January, or another agreed date, the Council can carry out the work required and the owner would be liable for costs unless there was an application to the District Court.

A. Yes.

Q. And Mr Laing can confirm this, if you're not aware, but did that reflect the position set out in the amendment to the Building Act in the Canterbury Building Earthquake Act Order 2010 in that under the previous version of the Act there had been a process whereby the Council would need to go to the District Court first before carrying out work but, as a result of the Order, it could go ahead and do so without taking that step? If you can't –

A. That's a fine legal point. I think s 129 of the Building Act provided that we could do the work and then we had to go to the District Court to seek confirmation of the work that we had done. I think the Order said that we didn't actually need to go to the District Court, that we could make that decision ourselves and we didn't need to seek their confirmation of that decision.

Q. Yeah so the Council was empowered to take it's own action –

A. Yes it was.

Q. – after the expiry of this and other notices.

A. Yes.

Q. And the type of work that the Council could have done included demolition of all or part of a building.

5 A. Yes it did.

Q. According to the Council's report into building safety evaluation there were a number of Building Act Notices issued. The majority of the building owners received notices requiring compliance by 31 January 2011.

10 A. Yes.

Q. In this case Mr Dallison gave evidence that at the meeting on 1 February 2011 he confirmed the syndicate's intention to demolish the building and the Council staff appeared satisfied with this and the Council doesn't dispute that evidence does it?

15 A. No.

Q. So as at 1 February, given the Notice had expired, the Council could have taken its own action to demolish all or part of the building, irrespective of what the owner did or didn't do.

A. Yes, the normal course would be to allow the owner to make his own decisions and undertake that work themselves.

20

Q. Do you know how many demolitions, if any, the Council carried out from 1 February 2011?

A. From 1 February?

Q. From 1 February 2011 which is the date after expiry of many of these notices.

25

A. I don't believe we carried out any demolitions. The demolition on 160 Manchester Street, which was enacted under s 129, was still underway. The Angus Donaldson building had already been demolished. I think we only exercised those powers in respect of two buildings and that was pre the 1<sup>st</sup> of February so we didn't do any post 1 February to my knowledge.

30

Q. Are you aware of the Council carrying out any work on any building which was subject to a notice to remove the danger posed by any of those buildings?

5 A. Yes, yes, we, so it was common practice for us to construct container barriers in front of buildings, to put up props to stop buildings from falling into public places, to secure those buildings on their own properties, yeah so there was a number of those actions taken.

Q. The process that Mr Campbell was embarking upon was a part of the Council's attention to the prospect of danger I take it.

10 A. Yes.  
1420

Q. I take it and one of the issues which Mr Campbell and others was exploring was that of the adequacy of the cordons that were in place. Is that right?

15 A. Yes.

Q. Mr Campbell answered some questions this morning about the criteria that he was using and he talked about the damage based assessment?

A. Yes.

20 Q. These are not his words but I'll just paraphrase it. I understood him to mean that he would be looking for damage to determine danger but if no damage no danger on that test?

A. Yes.

Q. Now he says he wasn't told directly to do that by the Council but that he derived that test from the form that the Council provided to him?

25 A. Yes.

Q. So was it the Council's intention that people such as Mr Campbell would carry out a damage based assessment such as the one he described?

A. Yes.

30 Q. Wasn't the type of inspection that Mr Campbell, Mr Ryburn and others were carrying out not a rapid inspection in the sense that post earthquake inspections were, is that right?

A. They, they weren't rapid assessments, no you're correct.

Q. Weren't they intended to be a more detailed assessment of a building which had been previously assessed?

A. I think they were intended to see if the situation had actually changed, or so we were in a position where there was repeated aftershocks. We were also in a position where we were awaiting action from the owner so we were constantly having to assess barriers and cordons and look at the situation and, and make an assessment and as I think was pointed out to Mr Campbell and he agreed the longer the situation remains, the longer a situation remains in place the situation changes, perhaps a greater danger so we needed to be assessing that constantly right throughout that period.

Q. So if we distinguish these types of examinations that Mr Campbell and others were doing from the initial post earthquake inspections?

A. Yes.

Q. Do you agree that the test which the Council should have directed those engineers to apply should not have just been confined to an assessment of damage but should have required consideration of the likely overall strength of the building and structural weaknesses?

A. I can't agree with that because whilst that's hugely desirable it's also very impractical. It wasn't possible in those, in the time that we had and the number of buildings involved, the number of engineers we had to actually undertake those sort of assessments. Those assessments take days to do by a qualified CPEng engineer undertaking calculations so in a sense desirable but not practical.

Q. Wouldn't it have led to a situation where people such as Mr Campbell rather than just examining the presence of cracks for example in that north-eastern section of the wall?

A. Yes.

Q. Would have been giving a much wider consideration to the overall strength of the Colombo façade?

A. So that's why we were looking for a detailed evaluation of the whole building by the, by the owner's engineer. That would have helped to

inform obviously ongoing decisions about a number of things including barriers.

5 Q. My point is that Mr Campbell and others could have given a much more thorough consideration to the overall strength of the building pretty much at the time they were doing this inspection just based upon knowledge of unreinforced masonry buildings and the fact that it was likely to be earthquake prone?

10 A. I think we depended on the engineers to carry out whatever investigations in their professional judgment they felt relevant at the time. That's why we engaged CPEng engineers to do that work for us.

Q. My point is the Council was mistaken in the test that it appears to have given those people whom it engaged?

A. Ah, in terms of damage assessment, is that what you're alluding to?

Q. Yes.

15 A. At the time that was yes that's what we were, that's what we were doing. We didn't have an overall assessment of all of these buildings so we didn't, we, we didn't have that advantage.

Q. The other comment Mr Campbell made was that he had a certain understanding about the aftershock sequence diminishing.

20 A. Yes.

Q. What lay people perhaps now appreciate is that the issue of importance is the accelerations that might affect a building at a particular site.

A. Mhm.

25 Q. Rather than the magnitude of an earthquake irrespective of where it is. And my question is did the Council not seek advice about the potential horizontal accelerations buildings in the CBD may face based upon different earthquake scenarios?

30 A. I think the Council was in, was engaging with a lot of geotechnical scientists and engineers at that time as, as many elements of the community were. We – a lot of that focus actually around the engineering fraternity who were having at that stage regular two-weekly meetings with those very same geotechnical scientists and were receiving a lot of information. We depended on their professional

capacity to make judgments on our behalf as a Council so – and that information was being communicated straight to them so we were in a position where we didn't, we didn't fully understand the earthquake sequences, but we were being informed and the engineers were being informed by the scientists at the time.

5

Q. So as far as you're aware did any engineer come to the Council and say, "Well let's not talk about magnitude, let's talk about potential horizontal accelerations at sites in the CBD and then make our assessment"?

10

A. Yeah, to the best of my knowledge that never came up as a subject when anyone engaged with us at the Council and to the best of my knowledge it didn't come up at the engineering seminars that were actually being conducted at that time .

15

Q. There are ongoing aftershocks in Christchurch and I wonder if the Council is now taking advice from scientists, seismologists or engineers about the likely horizontal accelerations in the city produced by various possibly earthquakes?

20

A. I think we're all taking advice from the scientists about that, CERA, ourselves, the government, Tonkin and Taylor, we all want to know. There's no firm answers that, there's still a degree of uncertainty isn't there?

Q. But advice has been taken?

A. Yes.

Q. Is that advice available to the public?

25

A. Yes.

Q. How would one find it?

30

A. Well I think it's broadly televised or broadcast to the public. The information that the Council has is the same information I believe that the CERA and the government is being given so yeah that's, we're as well informed as other parties.

Q. Is it available to the public on request?

A. We're not the source of that information I guess is but I'm sure if you went to the source it would be?

Q. That's GNS?

A. Mhm.

Q. GNS science?

A. Yes I would think so.

**5 CROSS-EXAMINATION: MR MCLELLAN – NIL**

**RE-EXAMINATION: MR LAING – NIL**

**QUESTIONS FROM COMMISSIONER CARTER:**

Q. Yes I'd just to look at that slide that I asked Mr Campbell to look at. That's 0016.1 which is showing the cordons placed in Mollett Street, if we could just have a look at that for a moment?

A. Yes.

**WITNESS REFERRED TO PHOTOGRAPH 0016.1**

1430

Q. My question to Mr Campbell I will repeat to you. You notice the symbols that are indicating a triangular shape do you think they were indicating the direction which the buildings are expected to fall and therefore that influenced the decision on where to put the barricades or do you have any knowledge of how the council people you know determined their barricade locations?

A. I don't believe these notations indicated where the cordons go but they certainly indicate where with regard to those particular buildings there were issues. Mr Campbell's explanation is that that's about as accurate as I could surmise. They would be just broadly those arrows indicate where the damage to those suspected buildings was.

Q. So you can see the location of the barricade that closed off Mollett Street from Colombo Street?

A. Yes.

Q. I wonder whether you would agree that that was attending to show protection for the corner of 601 rather than the façade of 600/601?

A. Yes I agree.



Q. Anticipation by the person who made that recommendation which I believe was followed from the photographs we've seen did not have a consideration that there may be a collapse of the wall on Colombo Street itself. Would you agree with that assumption?

5 A. Yes I would.

**JUSTICE COOPER:**

Q. Mr McCarthy, are you in a position to confirm that no resource consent would have been required to demolish this building?

10 A. I can confirm that sir.

**WITNESS EXCUSED**

**MR ZARIFEH CALLS****PETER SMITH (SWORN)**

Q. Mr Smith, have you prepared an independent assessment on the failure of the building at 601, 601A Colombo Street?

5 A. I have.

Q. And that's dated November 2011?

A. Correct.

Q. Just wondering if you can give us a brief description of the building and its construction and how that related ultimately to its failure?

10 A. The building at 601A is the end building in a row of buildings of very similar construction. The buildings had a metal roof supported on timber framing. The timber framing was supported by the east–west walls, which in one case it's the wall along the Mollett Street frontage. The other was the internal wall in the, for 601 the roof was supported on the  
15 party wall with 599. The buildings had timber floors which again were supported on those east–west running walls. The building had quite an open façade to Colombo Street especially on the ground floor and the windows to the upper floor were reasonably significant also. The building had a reasonable parapet above the top floor and the building  
20 at 601A extended a lot further to the rear than the building at 601. I believe that in the, if we look at the aerial photograph if I could have that it's BUI.COL6010028.8. The rear of the building 601A is right at the back of the site. The rear of the building at 601 is about 50% of that distance.

25 Q. And what's the significance of that in the position of the building?

A. I think the resulting damage to 601A is certainly contingency by the building being the end of a row of, a number of buildings of similar construction where the energy from the earthquake is often dissipated against the end wall and I'm sure that contributed towards the failure of  
30 the first floor wall of the Mollett Street in the September event.

Q. Now can I ask you about the failure in the February earthquake of the building, and just tell us what happened?

A. Yes in the February earthquake the building had already been quite significantly damaged in the September earthquake. It appears that the remains of the north wall, especially the east end of it, fell out into Mollett Street and the façade of the building above the high level ground floor windows rotated and fell onto Colombo Street with a tragic result. I think in that photograph you can see that the roof has collapsed. If you look at the Mollett Street sign the height of it and that's the upper level windows at ground floor which allow light into the ground floor. They've been painted over and the wall located above the supporting structure for the masonry above those windows and similarly the wall on Mollett Street there's some evidence that some may have fallen inwards.

Q. So rotated and fell out onto Colombo Street?

A. Certainly the Colombo Street façade fell out and there was quite heavy damage there at that north east corner or the eastern end of the north wall.

Q. Right. Now just while we're looking at that photo the roof in the after September earthquake had been substantially damaged hadn't it?

A. Certainly its support had been lost towards the centre of the building.

Q. Right. And can you tell what effect if any that would have had on the structural stability of the building?

A. I'm not sure. Well certainly the collapse of the wall did compromise the building. The eastern end of the north wall which is above the white wall in the photograph displayed, the, that portion of wall although it didn't collapse was certainly compromised after the September earthquake.

**JUSTICE COOPER:**

Q. Well half of that wall has gone hasn't it?

A. Yes exactly and that compromised what was left of the wall and clearly the rear of the building was quite heavily compromised although strangely you can see that's still standing in some form.

Q. Would the 6.34 show the –

A. After Boxing Day. It's not significantly different I don't think sir. In the September earthquake a large portion of the upper floor to the north wall

failed in the central area. Clearly the rear of the building was heavily compromised. The roof was inadequately supported.

**EXAMINATION CONTINUES: MR ZARIFEH**

5 Q. So what effect would that have had do you think on the Colombo Street side, end of the building?

A. I don't actually believe it would have been that significant.

Q. Why's that?

A. There was a photograph which showed the roof, it looked into the north east corner of the upper floor in Mr Sinclair's photo.

10 Q. Right.

A. Has that one.

1440

Q. WITSIN0002.3.

15 A. If you could take the middle photo please. My interpretation of that photo is that the – that is the construction of the roof above, in that north-east corner.

Q. Right.

20 A. There is sarking which is running across the building. There is very little connectivity really between the roof and the front wall and I don't think there's an awful lot of potential for the sag in the roof to the left-hand side of that photograph to actually transfer much load to the front.

Q. If we go back to that photo 0005.2 please?

**WITNESS REFERRED TO PHOTOGRAPH**

25 Q. What about the cracking that was referred to, and you can see on the north wall near the eastern façade at the top?

A. There is some concern I think with the cracking after Boxing Day. There's a crack which starts at the step in the north wall approximately, probably two metres, two and a half metres back from the Colombo Street façade, and it runs diagonally down to almost the height of the top of the windows in the Colombo Street façade, and then appears to drop another metre or more down the façade.

30

Q. Is that a crack or not?

A. Well it's difficult from a photograph to be sure but it would appear to be a crack at that location. It wasn't evident in the photograph we had previously, which –

Q. You can see the enlargement there.

5 A. Yes. I mean, it certainly would appear to be a crack, because it's extending to approximately 700 or 800 below the top of the windows.

Q. And you heard Mr Campbell and Mr Sinclair talk about the significance of that crack in their minds.

A. Yes.

10 Q. What about the significance of that crack in yours?

A. I – it's easy in hindsight I think to – I think that the assessments that were being done were based on the damage to the building. They were based on a perception that the aftershocks were going to be diminishing and therefore there was not the likelihood of the sort of significant  
15 aftershock we had in February. I think in hindsight we must be pretty cautious if there is cracking in the order showing on that photograph and certainly the cracking which was evident on the internal wall.

Q. That's the –

A. The one from –

20 Q. – the party wall between the two.

A. Yes, the party wall between, well it was virtually – there was not a lot of restraint present between the party wall and the façade and I think under those circumstances I would hope in the future we would be more cautious about the actions we take in allowing public access around the  
25 building.

Q. Well what would follow from those comments in terms of cordon placement then?

A. Clearly if something isn't done to restrain the façade and we are to protect against a significant aftershock, it would be necessary to place  
30 cordons in accordance with the Christchurch City Council policy, presuming the façade would fail.

Q. So what would that mean in relation to where that cordon is shown?

A. It would effectively close the road I suspect.

Q. Close Colombo Street?

A. Yes.

Q. What, because the cordon for that side anyway would come out well into the road?

5 A. That's a good four and a half metres, probably the height of that wall, if you take one and a half times that effectively closes the road.

Q. And are you talking about a more strength based assessment or risk based?

10 A. I think the real issue with the unreinforced masonry is that a lot of those buildings have a very low level of strength and if you actually try to calculate the strength of that façade even in its own cracked condition it would be very low. In the cracked condition it would be even lower. Clearly a building which has such low strength is very vulnerable to a – severe earthquake in the direction which is out of plane.

15 Q. And finally you make a comment in your report about the upgrading of unreinforced masonry buildings and that's already been commented on today in this hearing hasn't it?

20 A. Yes it has. I mean, the lessons, I think the lesson is less about cordons after the main event because I think in future it's much more probable that the significant earthquake will be the first and if we haven't taken action to secure these buildings we could get a repeat of what happened in February. Again I think we just need the very best advice we can from people like GNS Science as to the likelihood of a significant aftershock and it has been pointed out today that the likely ground  
25 acceleration is probably the key issue in assessing the consequences of an aftershock.

**JUSTICE COOPER:**

30 Q. You can't predict the ground accelerations likely to result in the rupture of a fault that you don't know about though can you?

A. Absolutely sir. And I think that's the tragedy of Christchurch. I think where the fault occurs along a known and established fault line I

suspect the ability to predict the likelihood of an aftershock should be much better.

Q. And you've told us a number of times now Mr Smith that you think that the Christchurch situation will be exceptional and that on another  
5 occasion perhaps in another city the first earthquake will be the big one.

A. I think –

Q. But after the experience of Christchurch would anybody be justified in taking the attitude that there will be a decaying sequence of aftershocks?

10 A. With great caution Sir I think. I suspect that if you had the great Wellington earthquake, one would have to be cautious about the consequences of say Masterton from an aftershock. So I think it's really looking very objectively at what has happened, what might happen in the future and where the centres of population are in relation to those  
15 events.

#### **CROSS-EXAMINATION: MR ELLIOTT**

Q. You referred to the cracking at the eastern section of the north wall and the internal cracking.

A. Yes.

20 Q. The transverse wall, and I think you said in hindsight perhaps there may have been more caution in the assessment of the building. Is that right?

A. Yes I do, and I think it's important that the Council has a knowledge of a level 2 assessment early on and that you can't predict from an external inspection of these buildings what condition they really are in.

25 Q. Do you think there's any scope in the training and/or education of engineers to allow for the sorts of issues that have arisen here?

A. Yes I do. I think as time goes on it becomes even more important because a lot of engineers don't get exposure to unreinforced masonry. They're not familiar with the failure modes of the buildings and I think it's  
30 important that engineers who are undertaking the assessments fully understand the significance of cracking in these buildings.

Q. Are earthquakes and their effects specifically addressed during engineers' degrees or –

A. Oh, very much so, yes.

Q. They are. Do you think they're adequate?

5 A. I think you know in terms of modern design but I think unreinforced masonry, unless people are experienced in strengthening unreinforced masonry buildings, is more of a specialty than it is a standard knowledge.

### **CROSS-EXAMINATION: MR LAING**

10 Q. Just going on from His Honour's questions to you Mr Smith. If you have a significant earthquake you could make the decision to close off the whole of the CBD of Wellington or Christchurch to deal with the risk from unreinforced masonry buildings, but that is really only a temporary solution isn't it?

15 A. Correct.

Q. So you need then to put in something else in place to decide, and I think you've given evidence about this before, you need to put something else in its place to decide what buildings can be reoccupied, don't you?

A. Yes, obviously the authorities that are controlling the situation need  
20 better assessment of buildings in order that they can make the right decisions.

Q. Yes.

A. It'll always be a risk, we will never accurately predict exactly what the aftershock will be.

25 1450

Q. Mr McCarthy was asked a number of questions about detailed CPEng reports and I think he said that was impractical. In your experience how long and what would be involved in a significant detailed CPEng report?

A. I certainly think a proper assessment of a building like this would be  
30 maybe one or two days to give a proper assessment of the strength of the building and of portions of the building such as façades and parapets. They are a much more detailed summary of the building



strength and the real issue is resourcing of such reports in the event of a significant earthquake.

Q. And that would be a resourcing issue not only for the Council but also for the profession generally wouldn't it?

5 A. For the whole industry.

Q. And do you agree with Mr McCarthy's view that that would have impractical given the resourcing and other issues following September?

A. I think that given the circumstances of the September earthquake it would have been seen as an over-reaction. I think, at the end of the day, if we do have a very significant earthquake and these buildings are in areas of high public usage we do need to be more cautious.

10

**CROSS-EXAMINATION: MR MCLELLAN**

Q. Just a couple of questions Mr Smith about Mr Campbell's inspection. You'll recall that his, well page 3 of your report you say that the building, this is about the second paragraph from the bottom on page 3, you said that the building was re-inspected again on the 14<sup>th</sup> of February and the assessment noted that the building was badly damaged and –

15

A. I just, on page?

Q. Page 3, second paragraph from the bottom.

20 A. "As noted in the report....." Have I got a wrong copy here.

**JUSTICE COOPER:**

Q. The second paragraph from the bottom Mr Smith.

A. Yes.

25 Q. "As noted in the report...."

A. Yes.

Q. Is that the paragraph you're after Mr McLellan?

**CROSS-EXAMINATION CONTINUES: MR MCLELLAN**

Q. I've got a different version. It's actually over the page on page 4 and this is the fourth paragraph from the top of page 4.

30

A. Yes.

Q. “The building was re-inspected and the assessment noted that the building was badly damaged and an urgent CPEng certification form was required”.

**WITNESS REFERRED TO MR CAMPBELL’S REPORT 601.0017.3**

5 Q. Could we enlarge the general comments. He recommended an urgent CPEng report was required. You’re referring to a CPEng certification form. Are you sort of one step –

A. It’s intended to be the one and the same.

10 Q. So if he’d, if that recommendation had been followed and a report was completed by a CPEng engineer I suppose, theoretically, one possibility was that the building would be recommended okay for occupation though that seems a very unlikely outcome for this particular building.

A. I would agree.

15 Q. In which case the most likely scenario would be that the engineer would recommend some temporary works.

A. That’s possible. Either that or we’d consider that there was a risk to the front façade that required the cordon to be moved.

Q. To be?

A. For the cordon to be moved would be the other option.

20 Q. And if the, certainly where Mr Campbell seems to be coming from was that, if we have a look back at his earlier 31 January report, which is 17.1, where he said he required an engineering report on Colombo Street façade and any temporary works required to move barriers.

A. Yes.

25 Q. You’d take that to mean that if the engineer had a look at the, did an assessment of the building and recommended temporary works then the barriers could be removed.

A. Certainly yes.

30 Q. So if that happened and the temporary works were carried out you’d also expect them or the CPEng engineer to give a certificate stating that the works had been completed.

A. Yes there was a standard format that the Council required.

Q. Which we’ve seen in other hearings.

A. Correct.

Q. That certified that the building had at least the strength that it had before the earthquake.

A. That's correct.

5 Q. So given the limited scope of the inspection, or these re-inspections that Mr Campbell was doing, would you agree that that recommendation to leave the cordons in place until that CPEng process was completed was an appropriate one?

10 A. Yes I considered the recommendations given in both his assessments were totally appropriate.

**COMMISSIONER CARTER:**

15 Q. Yes Mr Smith you've reported on several buildings of this type to us and I think in most, if not all, of those you've pointed out that given the standard of earthquake force required by the codes that this, that these buildings may well have all suffered rotation of the façade even if they had been secured at roof level. Is that correct?

A. I believe that's correct yes.

20 Q. So, in fact, and these calculations of yours were based on the Z factor that applied in Christchurch prior to the recent increase?

A. Correct.

25 Q. And so that if one assumed that the standard being expected from Christchurch was similarly calculated for other parts of New Zealand then places where there are rows of unreinforced masonry buildings all built around the same time may well exhibit a similar characteristic?

30 A. Yes I think there are concerns. There was mixed success in restraining façades of buildings that had been strengthened. In some cases it did improve the performance, in others it made little difference. I think the severity of the Christchurch event was quite unique. I would hope that we are unlikely to experience similar levels of acceleration in a built up area.

Q. But that being, that's accepted, but nevertheless there are design standards which have recently been increased for Christchurch.

A. Yes correct.

Q. And without that increase the calculations have indicated that even supported at roof level may well not have, these façades may well not have survived the design standard.

5 A. The intensity.

**HEARING CONCLUDES INTO FAILURE OF BUILDINGS AT 601 AND 601A  
COLOMBO STREET**

10 **COMMISSION ADJOURNS: 2.59 PM**

15