

were superficial, did not affect the safety and structure.” There’s no reference there in your recounting then to him saying he’d had it inspected after Boxing Day or in fact after September. You don’t specify?

5 A. No.

Q. Is that correct what you’ve put there in terms of what you were told?

A. I’d like to put the email in context. So this is 1 March, not long after the building had collapsed and we were dealing with the aftermath of that collapse.

10 Q. I understand that.

A. In writing the email what I was wanting to document was some of the actions that I had taken. In my mind I was referring to the inspection after the Boxing Day damage because that’s what my previous emails had alluded to, um, in hindsight you can always make things clearer but I’m very clear that that was what I meant in the email.

15

Q. And that was what was said?

A. Correct.

**WITNESS CONTINUES READING BRIEF OF EVIDENCE AT PARAGRAPH
28**

20 A. “On 28 June 2010 Chris Cooke from the TVNZ Sunday programme approached Relationship Services. He informed us he had learned through an Official Information Act request that a Relationship Services representative had requested an inspection by the Council, but did not know my name. He informed our Communications Manager, Debbie
25 Hannan, that John Drew had denied telling me that an engineer had inspected the building after the Boxing Day earthquake. I was shocked at this news as I’m very clear that John Drew had told me the building was inspected after Boxing Day. The only reason I withdrew the request for an inspection was because of my understanding that the
30 new cracks had been inspected since Boxing Day. If he had told me the inspection had occurred after September 2010 I would not have agreed to withdraw my request.”

CROSS-EXAMINATION: ALL COUNSEL - NIL**QUESTIONS FROM COMMISSIONER FENWICK:**

- Q. In s 14 you refer to the cracks as being one centimetre wide and one to one point five metres in length?
- 5 A. Yes.
- Q. Was this in the plaster or how far did those cracks extend. Could I have stuck my pencil, blunt end first, into the cracks and how far would it have gone?
- A. Um,
- 10 Q. What one centimetre wide would enable me to put my pencil in?
- A. Yes I would think you could have in some of them.
- Q. It was just through the plaster was it or was it right into the concrete or are you not...?
- A. They were solid, I guess solid, I don't know which bit is plaster and
- 15 which bit is concrete. They seem to me to be going significantly into the body of the pillar. I'm familiar with very superficial cracks and they looked a little more than that.

QUESTIONS FROM COMMISSIONER CARTER- NIL**QUESTIONS FROM JUSTICE COOPER – NIL**

20 **WITNESS EXCUSED**

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

Q. Is your full name Graeme Robert Smith?

A. It is.

5 Q. You live in Christchurch?

A. I do.

Q. And you operate a business called Concrete Protection and Repair Limited based here in Christchurch?

A. I do.

10 Q. You've got a brief of evidence that you've signed?

A. Yes.

**WITNESS READS BRIEF OF EVIDENCE COMMENCING AT PARAGRAPH
2**

15 A. " I am a qualified Civil Engineer, having graduated from the University of Canterbury in 1994. Since that date I have worked in the concrete repair industry. After 4 September 2010 earthquake Concrete Protection and Repair was heavily involved in carrying out inspections and preparing estimates of costs of repairing cracks in concrete buildings caused as a result of the earthquake. We were instructed to
20 prepare an estimate in relation to the CTV building following the inspection and report of David Coatsworth of CPG Limited. We were provided with a copy of Mr Coatsworth's report by the CTV Building Manager, John Drew. I made three visits to the CTV building in early 2011. I recall that on my first visit I inspected the two shear walls of the
25 building from the outside, namely the north shear wall (North Core) and the wall to the south of the building (South Coupled Shear Wall). I could see no cracking in the exterior side of the walls. The exterior walls were covered by a textured coating. On my second visit to the CTV building I met with John Drew and looked at both the outside and the inside of the
30 building. My third visit was specifically to look at the inside of the lift shafts and the two lifts inside the building were stopped so that I could do this. The instructions that Concrete Protection and Repair received from John Drew were to quote on crack injections into the shear walls,

the columns and facing panels, concrete repair to the south facing panels and siloxane exterior waterproofing to the southern and northern shear walls as identified in the CPG report. I do not recall receiving any additional verbal instructions from Mr Drew. As a general comment, the cracking that I observed in the CTV building and which I will discuss shortly was, in my experience, unremarkable and did not give me cause for concern. I can think of another building where the cracking did concern me and I advised the owner to contact a structural engineer. I can also say that the damage I observed in the CTV building was consistent with and did not appear to go beyond what was identified by Mr Coatsworth in the CPG report, namely fine hairline cracks. I recall on my second visit looking inside looking at the vertical crack in the plasterboard which was covering the Southern Coupled Shear Wall and which ran from the ground floor through to the floor above. I did not see this crack on the outside of the building. However, the exterior of both the South and North Shear Walls were covered with textured coating which meant that it was very difficult to see any cracking from the outside. I did not inspect whether this crack continued into the higher floors as this was not referred to in the CPG report. I could not access the outside of the South Coupled Shear Wall via the fire escape any higher than the first floor (Level 2) due to a locked gate blocking access to any higher levels. I recall that when I was looking at this crack I was behind the reception area for CTV on the ground floor and the room I was in had a lot of routers, servers and post production electronic equipment in it. The first floor room above this was someone's office. I needed to go behind a desk to observe the crack. I did not see the diagonal cracking that Mr Coatsworth referred to at the base of the South Coupled Shear Wall in his report and accompanying photograph.

1611

30 Like the south coupled shear wall, the north core was coated with a textured finish that meant it was very difficult to see any cracking from an outside inspection. On my second visit to the CTV building I inspected the stairwell of each level. The cracking I observed there was

consistent with what Mr Coatsworth's had recorded in his report. I do not remember seeing any cracking in the toilets. I remember looking closely at the cracking by the stairs because I was concerned that I had to remove the bulkhead under the stairs in order to repair the cracking on the wall adjacent to where the lifts were. It is for that reason and to view any cracking from the inside of the north core where the two lift cars were that I asked John Drew to arrange for the lifts to be stopped so I could get into that area. The lifts were stopped and I was able to get inside the lift shaft in that area. I noticed horizontal and vertical cracking. There was horizontal cracking at each level of the approximate location of the construction joint of each floor. There was also cracking about half way up each floor which appeared to correspond with the landings for the stairs and the adjacent stairwell. Both types of horizontal crackings were present the full height of the western and northern walls of the lift area of the north core but not in the eastern wall. There were two vertical cracks that ran the length of the lift shaft. One was approximately one metre from the western side of the lift shaft and the second was approximately 1.5 metres from the western side of the lift shaft. Both were in the range of 0.2 to 0.5 millimetres wide. I recall that this vertical cracking was just in the north core of the north, the northern wall of the north core. None of the cracks that I referred to in the north core had any spalling."

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Q. I'll just get you to pause there. Am I correct in saying that the horizontal cracking that you saw in the lift shaft corresponded to cracking that Mr Coatsworth had indicated in his report that he had seen in the stairwell area?

A. He simply said if I remember there was only cracking in the lift shaft and I assumed that what I saw related what he talked about in his report.

Q. You assumed that the cracking the horizontal cracking you saw in the lift shaft corresponded to the cracking he'd seen in the stairwell?

30
A. Yes.

Q. Yes and the vertical cracks that you saw in the lift shaft were not in the Coatsworth report, correct?

A. No.

Q. All right. I just want to ask you a bit more about those, and perhaps if I get brought up on the screen firstly a birds' eye view of the layout and BUI.MAD249.0284.46 might be one we could use, I think this is the architectural plans.

5

WITNESS REFERRED TO ARCHITECTURAL PLANS

Q. So if we can get the north core on the left-hand side expanded please. All right you can see the two lifts?

A. Yes.

10 Q. Now just using the mouse that's in front of you, can you indicate where the two vertical cracks were that you saw?

A. The first one was about there.

Q. Right and –

A. And that ran the length, the height of the lift shaft and the next one was about there.

15

Q. All right and you've referred to it as being the first one as being approximately a metre from the western side of the lift shaft?

A. Yep.

Q. So just indicate the western side of the lift shaft?

20 A. I call this the western side of the lift shaft.

Q. Okay. So a metre in from that?

A. Yep.

Q. Was the first one and 1.5 in from the western side was the next one?

A. Yes.

25 Q. And they ran the length of the height of the building rather –

A. Yes.

Q. – on that north wall?

A. Yep.

JUSTICE COOPER:

30 Q. So the second one's approximately in the position of the midpoint of the word lift if were extended out to the north wall?

A. Yep. Yes.

EXAMINATION CONTINUES: MR ZARIFEH

- Q. Now did you look on the outside of the north of the shear wall?
- A. Only from the ground.
- Q. Right and could you see those two cracks that you –
- 5 A. No there's a texture coating on there, you couldn't see anything.
- Q. Okay.
- A. You couldn't see the horizontal cracks from the ground floor that were in the report either that you could inside the stairs.
- Q. Right. When you saw those two cracks as you've said, they weren't in
- 10 the Coatsworth report were they?
- A. No.
- Q. Did they concern you at all?
- A. No.
- Q. Why is that?
- 15 A. One, I had seen a lot of cracking since then that was a lot wider and they were very fine, and then secondly because I knew that the building roughly its age, being of modern design.

JUSTICE COOPER:

- Q. You said you'd seen a lot of cracking since then?
- 20 A. No before, before that.
- Q. Before?
- A. Yes. And being a modern building I expected it to have plenty of capacity anyway and to be safe.

EXAMINATION CONTINUES: MR ZARIFEH

- 25 Q. All right, did you think of, or did you think of mentioning it to Mr Drew or to Mr Coatsworth?
- A. No.
- Q. For the reasons you've just explained?
- A. Yes.
- 30 Q. All right. Can you go back to your report please and, or your brief and read from 22.

WITNESS CONTINUES READING BRIEF OF EVIDENCE

A. "I did look at the beam column joints in the building where they were not covered by internal linings. I also looked at the columns referred to in the CPG report. I did not look at the block work on the western wall as this did not require crack injection treatment. I had understood that I would be returning to the building a fourth time once the painters had started their work on the outside of the building so that I could have a look at exterior columns of the building on higher floors. However, I was never contacted to advise that this could occur and I do not believe that the painting had started prior to the 22nd of February 2011. I have heard nothing further from Mr Drew – sorry, having heard nothing further from Mr Drew we prepared an estimate for repairs which was dated the 22nd of February 2011."

Q. And we'll just get that brought up, thanks.

15 WITNESS REFERRED TO ESTIMATE DOCUMENT

Q. Is that the estimate you're talking about?

A. Yes.

Q. And the next page? Thank you. Now I didn't get you to refer to, you referred to a photo of the, Mr Coatsworth took of the southern shear wall and I'll just get that brought up, please. It's WIT.COATSWORTH.0001D.11 thank you.

WITNESS REFERRED TO PHOTOGRAPH

Q. That was the Coatsworth photo that you referred to when you said that you did not see the diagonal cracking in the southern shear wall?

25 A. No.

Q. All right. Thank you and you said paragraph 22 that you did look at the beam column joints in the building where these were not covered by internal linings?

A. Yes.

30 Q. Was that in the first level or ground floor?

A. Ground floor.

Q. And did you make any obs- do you recall any observations of those?

A. Only that they were exactly as the report was.

Q. Okay. So you didn't see any cracking or damage?

A. No.

CROSS-EXAMINATION: ALL COUNSEL – NIL

QUESTIONS FROM THE COMMISSIONERS FENWICK AND COOPER- NIL

5 QUESTIONS FROM JUSTICE COOPER- NIL

WITNESS EXCUSED

MR ZARIFEH CALLS**PETER ROBERT HIGGINS (SWORN)**

Q. Mr Higgins is your full name Peter Robert Higgins?

A. Yes.

5 Q. You live here in Christchurch and are you the southern regional manager for Construction Techniques Limited?

A. That's correct.

Q. You've got a brief of your evidence signed by you in front of you?

A. Correct.

10 Q. Can I ask you to please read that starting at paragraph 2.

WITNESS READS BRIEF OF EVIDENCE FROM PARAGRAPH 2

1621

A. Construction Techniques Limited was contacted by John Drew, the CTV Building Manager in early 2011 and requested to provide an estimate of
15 costs to repair cracking in various elements of the building. I made two visits to the CTV Building in February 2011. Just a clarification, reference to levels in this statement are consistent with those adopted by the Royal Commission and they are of appended correspondence relate to the convention applicable at the time of inspection thus level 5
20 was previously referred to as the fourth floor. The first visit was on 8th of February 2011. I met John Drew at his office on level 5, fourth floor of the CTV Building at 1.00 pm. Prior to that meeting I had not received any reports or other information about the building. We went to the north end of the building where the shear core was and Mr Drew
25 showed me typical crack damage in the stairwell at the north end of the building and the level 5 bathroom end wall at the north end of the building. We also went up to level 6, fifth floor and Mr Drew pointed out the cracked column and beam outside the lift doors facing Madras Street. We then returned to Mr Drew's office and Mr Drew told
30 me during that first visit that a structural engineer had visited the building and at the completion of this first visit and while I was still in his office he located the report by David Coatsworth of CPG dated 6 October 2010 and emailed me a copy for future reference. Because I

hadn't seen the CPG report prior to my first visit to the CTV building, my inspection at that time could only be preliminary and relied on Mr Drew pointing out examples of crack damage. Once I had had a chance to review the CPG report I undertook a second visit to the CTV building, which took place on 14th of February 2011. The CPG report did not quantify the scope of work that was required and the purpose of my second visit was to determine an approximate quantity of the reported crack and spall repair in order to provide an initial budget estimate for the remedial works based on the CPG observations. The main areas that I looked at during my second visit, guided by the CPG report, was the crack outside the fire escape in the south shear wall, the level 2 beam cracks on the north face of the building, the stairwell walls, the cracked column on level 6 outside the lift shaft and the adjoining lintel beam spall/crack. I did not form any view about the nature of the damage in these areas as the purpose of my visit was simply to quantify the scope of works required and prepare an estimate. The cracks that I observed in the stairwell walls were generally horizontal and were consistent with construction joints as illustrated in photograph 3 in the CPG report.

20 Q. That is just being brought up now.

WITNESS REFERRED TO BUI.MAD249.0082.14

A. My recollection is that there was a thin plaster render over the concrete in the stairwells which had cracked with the joint movement and this render would need to be removed along the crack line for setting up and injection of the construction joints. I saw cracks on both sides of the stairwell as well as in the north shear wall.

25 Q. Looking at that photo that is on the screen, do we see an example of that cracking?

A. Yes I do.

30 Q. That is the horizontal cracking about the middle of the photo?

A. Yes.

Q. Thank you. Paragraph 12?

A. The cracked column and adjoining beam that I inspected on level 6 outside the lift shaft appears to be the same column that appears in photograph 4 of the CPG report

Q. I think that is just coming up.

5 **WITNESS REFERRED TO BUI.MAD249.0082.14**

A. I have recorded six horizontal circumferential cracks in this column with concrete spalling in the overhead lintel beam adjoining this column approximately 1200-1500mm out from the face of the column above the window. I have provided the Royal Commission with a scanned
10 photograph which I took of this column and the adjoining beam and I have drawn along the lines of the cracks with a pen. I have not been unfortunately to find the original photograph in my records.

Q. Just get that brought up.

WITNESS REFERRED TO BUI.MAD249.0454

15 Q. So there is in fact two photographs?

A. Correct.

Q. And the first one shows them majority of that column?

A. That's right.

Q. And the cracking is, as you say you have drawn, have you drawn on all
20 of the cracking you could see?

A. Ah, not all of it, the main ones.

Q. And the photograph on the right we can see two of the higher cracks –

A. Yes.

Q. – on the column?

25 A. Yes.

Q. And the damage to – I think you called it the lintel?

A. Yeah.

Q. We can see that above the column in the ceiling?

A. Above the window.

30 Q. Above the window in the ceiling area?

A. Yes.

Q. Was that the only damage to that lintel area?

A. The only damage that I saw, or could see at that time.

Q. I will just get a photo brought up I think it is the
WIT.COATSWORTH.0001.H.35

WITNESS REFERRED TO PHOTOGRAPH

5 Q. This is a photo taken of that, you will see there fifth floor column in lift
lobby, minor cracking and beam soffit. This is taken on the 19th of
October 2010. Can you make any comment about the damage to that
soffit or lintel area that we can see on that photo?

A. I can't recall that specific damage and from this resolution I couldn't tell
whether that was a crack or perhaps paint.

10 Q. Is that the crack that you saw in that lintel area?

A. No.

Q. The one that you saw was that further along from the column?

A. Yes.

15 Q. I will just get one more photograph put up, WIT.PAGAN.0001.45. This is
a photograph of the same area taken by a quantity surveyor that was
with Mr Coatsworth and this was taken as I understand it on the
29th of September 2010.

WITNESS REFERRED TO PHOTOGRAPH

20 Q. If we can expand the photo on the top left please. Do you see that
perhaps a better photo of that cracking?

A. Yes.

Q. All right, do you recall seeing that cracking on the 14th of February?

A. Look I can't recall and I don't have a record that –

25 Q. Again though is that the same cracking as you have indicated on your
photo or not?

A. I believed it was further out from the column than that.

Q. We might be able to bring your photo up next to it actually, .0454.

WITNESS REFERRED TO PHOTOGRAPH

30 Q. So the crack
1631
1631

Q. So the crack on the top left photo, on the left side appears to be close to
the column, correct?

A. Yes.

Q. And can you faintly see it in your photograph?

A. I, I can now, yes.

5 Q. So the damage that you've circled in your photo is separate damage that you saw on the 14th of February?

A. In addition to the, to that photo, ah, cracks that you're referring to, yes.

Q. Can I take you back to your brief please, paragraph 13?

10 A. I have also recorded that the level 2 beam on the north elevation over the entry off Madras Street had five near vertical or diagonal cracks in it above the glass entry area of approximately one metre (in length). This is shown in photograph 5 of the CPG report.

Q. Let's get that brought up?

WITNESS REFERRED TO PHOTOGRAPH

15 Q. If we can focus on the top photo please? Can we see the cracking you're talking about?

A. Yes, they're very fine in that area.

Q. Can you mark it? Can you indicate it with the mouse please?

A. Sorry, up there, there's another one we can see up there.

Q. Paragraph 14?

20 A. My notes also record that the south shear wall had one fine, near vertical or diagonal crack in the wall adjacent to the fire escape landing of approximately two metres. This is the same area shown in photograph 2 of the CPG report.

Q. We'll get that brought up.

25 **WITNESS REFERRED TO PHOTOGRAPH**

Q. Can you indicate on that photograph where that is?

A. My, I'm only going on recollection but it was approximately midway under the stairwell and heading up towards the right.

Q. But from the ground towards the door?

30 A. From the ground towards the door.

Q. Did it go all the way to that doorway or not?

A. I can't recall.

Q. Paragraph 15?

5 A. On that second visit to the CTV building I was only able to access parts of the building that were identified in the CPG report or were pointed out to me by Mr Drew. I did not visit any other areas which were occupied at the time or were inaccessible. The inaccessible areas included the lift shaft and columns or beams above ground level, unless these were in public spaces. I did not look at all of the columns. External assessment of the building could only be carried out from ground level and external scaffold or access platforms would be required for a full inspection. We did not remove any wall linings. It was our practice following the 10 4 September 2010 earthquake to note in estimates that until all wall and floor linings, paint and plaster render were removed and the surface laitance along the line of any crack was ground back, it was difficult to quantify the scope and therefore a cost of repair work, and this is the reason that a budget estimate was submitted, and this was a typical 15 approach at this time.

Q. Just so we're clear, are you saying that until you removed wall linings you couldn't see what was involved in repairing a crack or the extent of the crack?

A. Both.

20 Q. And if the crack was more extensive it would probably cost more, does that follow?

A. The, until those were removed you couldn't actually quantify, um, we've worked in other buildings and continue to work in other buildings where what you see and what you finally end up with are different by a 25 significant multiplier.

Q. And in your experience with concrete buildings such as this you were working on at the time, once you removed wall linings were you finding big differences in terms of what you'd estimated for on looking visually from the plaster linings?

30 A. Yes.

Q. What, in relation to more repair work or more extensive cracking?

A. Ah, if I can give one example, ah, it was quoted on, or it estimated on 500 linear metres that was visible, ah, on completion of the remedial works we'd done approximately 4200 linear metres.

Q. Right. Paragraph 17?

5 A. I submitted a budget estimate to Mr Drew on 15 February 2011. He then telephoned me on Friday, 18 February 2011, noting that my estimate had omitted any quantification of the cracking in the lift shaft. I advised Mr Drew that this cracking was not included in the estimate because I had not been able to access the lift shaft during my visits.
10 Mr Drew then requested that the budget estimate be amended to provide a contingency for approximately 80 linear metres of cracks in the lift shaft walls and to re-submit the estimate on that basis. I had no other information as to the basis of the 80 linear metre figure but was prepared to incorporate this figure on the basis that the initial budget
15 estimate would be refined as matters progressed.

Q. If we could please have that brought up?

WITNESS REFERRED TO DOCUMENT

Q. That's your estimate?

A. Correct, yes.

20 Q. And it looks from the total there on the second paragraph that the total was 80 metres?

A. Correct.

Q. Eighty linear metres, so Mr Drew was suggesting you doubled it basically?

25 A. Yes.

Q. But you don't know on what basis, you didn't discuss with him whether he'd been told that by someone else?

A. No but that was a, it was reasonable to make that assumption.

Q. What was?

30 A. If he was receiving other quotes.

Q. Thank you, 18?

A. I did not have an opportunity to resubmit the estimate with this amendment prior to 22 February 2011.

CROSS-EXAMINATION: ALL COUNSEL - NIL

**QUESTIONS FROM THE COMMISSIONERS FENWICK AND COOPER –
NIL**

QUESTIONS FROM JUSTICE COOPER - NIL

5 WITNESS EXCUSED

MR ZARIFEH CALLS**STEVEN JOHN KISSELL (SWORN)**

5 Q. Your full name is Steven John Kissell, you live in Russley, Christchurch and you're currently employed by Otis Elevator Company Limited as a service technician?

A. That's correct.

Q. And your role involves providing safe lift shaft access, and I think you've worked for Otis since 1 November 2010?

A. Yes.

10 Q. You've got a signed brief in front of you of your evidence?

A. Yes.

Q. Can I ask you please to read that from paragraph 2?

15 A. I was asked to provide access to the lift at the CTV building so that someone from Concrete Repair and Protection Ltd could inspect the lift shaft. I met with a person from that company (who I understand is Graeme Smith), around lunchtime on Friday the 18th of February 2011. I have been asked to give evidence about this. My role was to provide access to the lift shaft and drive the lift up and down. To enable us to get on top of the lift, it was "crash stopped". This is when the lift is
20 stopped and the doors opened while in motion using a unique tool, called a v-key. This enables access to the roof of the lift where it can then be driven up and down the shaft providing a view of the internal lift well, which consists of the three outer walls and a cross-section of the floors. The area I am referring to is marked on a plan of the north core attached and marked "A". We gained access to the lift shaft at the top
25 floor (level 6) and we made our way down the shaft checking the internal walls between each of the levels. We performed this procedure on both lifts. As Graeme noticed cracks he would point them out to me. I helped Graeme by pointing out some cracks to him too. When we
30 found cracks we would stop the lift so Graeme could investigate further. My recollection is that there a number of horizontal and vertical cracks in the lift shaft, however I cannot remember exactly how many or exactly whereabouts these were. I accompany a lot of inspectors and none of

the cracks I saw on this occasion caused me concern. I've been told that Graeme has said that he saw two vertical cracks essentially running the length of the north wall of the lift shaft. I do vaguely recall Graeme pointing out these cracks to me but don't recall how extensive they were. Graeme was standing at the back of the lift nearest the north wall and I was at the front driving it so he would have had a better view of the wall. I've been shown a picture of part of a drag bar which remained attached to the wall of the lift well and asked whether I remember seeing any. I've also been shown a plan of the north core and it has been explained to me where one might expect to see them. The areas pointed out to me are marked on the plan attached and marked A. I do not recall seeing any drag bars but they were not something I was looking out for. I noticed a crack in the foyer on level 6. The location of this crack is marked on the plan attached and marked A.

15 Q. Just show us where that is, is that the X?

A. Yes.

Q. As you would walk out of the lift on the left?

A. Yes.

Q. Thanks.

20 A. It was underneath the window in the eastern wall by the lift. It ran from under the windowsill diagonally towards the corner of the lift. Its width was approximately three millimetres but it's hard to recall exactly how wide it would have been. I've seen a lot of damage in buildings but thought that this crack was serious because of its width and because it was on a diagonal. It appeared as though there wasn't a lot of strength in the wall which concerned me. I've drawn a sketch of the crack that I saw, this is attached and marked B. The location of the crack and its dimensions is approximate only. I cannot remember –

25 Q. We'll just get that one brought up. So you've drawn in the crack and that's the window immediately to your left as you exit the lift?

30 A. Yes.

Q. And we've heard some reference to this area, before you might have heard it, there's a column on the corner to the right of your diagram?

A. Yes.

Q. Did you notice any damage to that column?

A. Yes I saw cracks in that column.

5 **JUSTICE COOPER:**

What's the grey line in this diagram going from top to bottom? Is it just some imperfection?

MR ZARIFEH:

10 I think it is yes.

JUSTICE COOPER:

Q. You see what I see?

A. Yeah, yeah.

15 Q. It's nothing you've drawn?

A. No.

EXAMINATION CONTINUES: MR ZARIFEH

Q. All right, paragraph 12.

A. I cannot remember whether I pointed this crack out to Graeme or
20 whether I discussed my concerns with him. I've been shown two
photographs by the Royal Commission. The first is of the lift lobby on
the second floor, level 3, the second is taken in the lift lobby on the fifth
floor, level 6. The layout of the foyer was the same on each floor. The
windows shown in the photograph of level 3 is the same as the one I
25 would have seen on level 6. With this being said I confirm that the crack
I saw on level 6 ran under this window in a downward diagonal direction
towards the lift. Unfortunately the placement of the crack is out of shot
in the photographs of level 6. However I can confirm that the crack I
saw underneath the window was similar to, if not slightly worse, than the
30 crack that can be seen horizontally across the pillar in the photograph of
level 6.

Q. All right, and that's the photograph to the right at the moment?

A. Yes.

Q. Can you just tell us anymore as to why you were concerned about this crack you saw in the wall?

5 A. As I was standing there in that area I noticed quite a few cracks, not just in the column but also around the lifts, the doors of the lift.

Q. In the plaster?

A. Yes.

Q. Right, but this crack in particular that you've spoken of –

10 A. It's the way it was running of, knowing that the lift shaft is the strong part of the building and that that was an external wall, that was all.

Q. Okay, and you say you can't remember raising it with Graeme Smith?

A. No, not sure if I mentioned it to Graeme.

Q. Presumably didn't raise it with anyone else?

15 A. No well as far as I was aware the building was being inspected by people, you know, appropriate people to do that job.

Q. Thank you, 14 please.

20 A. I noticed various other minor cracks in the walls and columns on level 6 but none that caused me any concern. Graeme and I came straight into the lifts off Madras Street. We didn't get off at any other floor apart from level 6. This was the only occasion where OTIS was asked to provide access to the lift shaft.

CROSS-EXAMINATION: ALL COUNSEL – NIL

CROSS-EXAMINATION: MS BRYANT

25 Q. I wonder if we could bring those photographs you have back up. Mr Kissell are you able to inform the Commission as to whether the panel under the window there was gib board or concrete?

A. No, I'm unsure, I don't recall.

QUESTIONS FROM COMMISSIONERS FENWICK AND CARTER – NIL

QUESTIONS FROM JUSTICE COOPER – NIL

WITNESS EXCUSED

MR ZARIFEH CALLS**PHILIP JAMES REYNISH (SWORN)**

Q. Mr Reynish, is your full name Philip James Reynish?

A. Yes.

5 Q. You've got a brief of evidence in front of you that you've signed?

A. I have.

Q. Can I ask you please to read that starting at the second sentence in paragraph 1.

10 A. I live in Prebbleton, Christchurch. I have been the managing director of Reynish Decorators Limited for approximately 15 years. Reynish Decorators completes painting and decorating services for domestic and commercial buildings.

Q. Carry on, 2.

15 A. Reynish Decorators was contracted primarily to facilitate the rebranding of the CTV building for the doctor's surgery, which occupied the 4th floor. This involved painting the following, the parapets and soffits on the exterior around the top perimeter of the building, all internal doors on level 5 and the entry lobby. On completion of the work set out we were then asked to apply water-proofing membrane to the external support
20 columns on every level. The work began in late January and had not yet been completed when the building collapsed on 22 February 2011. I was not at the building at the time of its collapse and have been asked to give evidence about my observations of the building when I was there.

25

To gain access to the parapets we came up through the roof hatch on level 6. We then affixed harnesses to the roof of the building so that we could reach over and paint from the top down. There were already some anchor points on the building for us to clip to our harnesses. However,
30 at some points around the building we had to put in our own anchor bracket. This involved affixing the bracket to the edge of the roofing iron. I noticed that the roofing iron looked newer than the building. I understood that the building was built in the 1980s but the roofing iron

looked about 10 years old. I estimated this based on the way it appeared to have weathered. The anchor point brackets attached to the building also looked new. The model was one I hadn't seen before and I thought it must have been a new and therefore a recent addition to the building. I took this to mean that there had been some recent work done on it. The soffits were accessed via the windows and fire exit on level 6. We attached our harnesses to the ropes that were already in place by a window repair company who were also present doing some work on the building. This would have been about mid-February 2011. While I was on level 6 I noticed large gaps around the perimeters of the windows along the eastern side and part of the south side of the building. I have marked on a plan the areas I am referring to with crosses. This is attached and marked "A."

Q. And just, you'll see that on the screen, is that – show where you've marked the, so the windows on the east side and going into the south on that corner.

A. Yes. The join between the steel window frame and the concrete window opening is generally filled with silicone but in some places the steel window frame had pulled completely away from it and you could feel a draft. I have drawn an example of what I saw. This is titled figure 1 in the attachment marked "B".

Q. Just so explain that and take us through that please?

A. Well the internal bit is what I drew is the window sash, the window frame itself, and the external bit is the – would be the opening in the concrete, external concrete wall and the gaps down the side is sort of an indication of what I saw on most of the windows where there'd be, the gap around the window would not be uniform, it'd look like it was pulled away on one side and it consequently had stretched all the silicone which seals the window from the elements, stretching (inaudible 16:51:03) those gaps.

1651

Q. And on that one you've indicated 5 to 10 millimetre gap at the bottom and 20 millimetre at the top?

A. Yeah that'd be approximately for most of them, yeah.

Q. So was it similar in most of them that it was a bigger gap at the top?

5 A. Yeah, tended to be, tended to look like that which made me think that the opening was not square, I'd imagine that the window would have stayed square otherwise the glass would have broken in the window itself so I assumed it to mean that the concrete was not square, the opening wasn't square.

Q. Right, but it was the frame itself rather than the glass that was out, pushed out?

10 A. No the metal frame of the window was, I, in my opinion, was square but the concrete opening that it fitted into was not square.

Q. Right but the gap was as a result of the frame moving out in relation to the (inaudible 16:51:52)

15 A. No, no, the steel, between the steel frame of the window and the concrete of the building that was the bit that was not square.

Q. Right, I understand that.

A. Yeah.

Q. But I'm just trying to understand what had moved, what parts?

20 A. In my opinion the concrete building had moved but the window had stayed square, the metal, the metal in the glass of the window frame was square and stayed still and the building had moved and that's what it looked like to me.

Q. In what direction then?

A. It had moved to, if, towards Cashel Street.

25 Q. So south? To the south?

A. To the south, yeah.

Q. All right, carry on please.

WITNESS CONTINUES READING BRIEF OF EVIDENCE

30 A. "The gap on the right-hand side of the window frame and it appeared to be larger at the top than the bottom estimated the gap at the top of the window to be around about 20 millimetres and the gap at the bottom to be 5 or 10 millimetres. This gap concerned me because I took it to mean that the building was no longer square and it was leaning away from the

stairwell and the lift tower. I also noticed that the building would vibrate quite a lot when a truck would go past. This didn't concern me because I hadn't been in the building before and I didn't have anything to compare the movement to, however it did seem livelier than I would have expected.”

5

Q. Just before you leave that topic, figure 2 on your diagram, what, just take us through that?

A. Oh yeah, that's the general picture of the concrete columns that we out –

10

Q. Oh you're coming to that, sorry.

A. Coming to that, yeah.

Q. Jumping ahead. Carry on reading.

WITNESS CONTINUES READING BRIEF OF EVIDENCE

15

A. “We made a start on the waterproofing the columns about a week before the 22nd of February earthquake. We had completed most of the columns along level 6 by the time the earthquake had occurred. The reason we were instructed to waterproof them was because they had fine hairline cracks through them and I've drawn an example of what I saw, this is titled figure 2, in the attachment marked B.”

20

Q. And what can we see in that?

A. It's just sort of that was like a picture of the columns that were on the outside of the building and it was just fine hairline cracks, commonly called like crazy cracking but and the reason they wanted them waterproofed was obviously to stop any moisture penetrating the concrete and getting into the structural steel of the pillars.

25

Q. And how many columns were there like that, that needed that work?

A. We were instructed to paint them all from the stop storey right down to the ground.

Q. And on which side?

30

A. Round the whole perimeter of the building.

Q. Perimeter? All right. How far had you got with that work?

A. We almost completed the top of level 6, level 6, yeah the very top floor.

Q. And did you find that similar fine cracking on all of the columns or not?

A. Yeah, there was pretty much on all of them.

Q. Carry on, just finish off please, 14?

WITNESS CONTINUES READING BRIEF OF EVIDENCE

5 A. "These cracks didn't concern me because I'd seen this type of fine
cracking in concrete before."

CROSS-EXAMINATION: MR REID – NIL

CROSS-EXAMINATION: MR RENNIE – NIL

MS BRYANT:

10 Your Honour, I wonder if I am able to pull up a series of photographs,
BUI.MAD249.0476?

CROSS-EXAMINATION: MS BRYANT

Q. Mr Reynish, we're looking there I believe at the east side of the
building?

15 A. Yes.

Q. And those are the harnesses that you were talking about?

A. That is the ropes of the clip, harnessed on to when we were doing,
when we started painting the columns themselves.

20 Q. When you were talking about a separation between the building frame
and the concrete?

A. Yes.

Q. Whereabouts were you talking? Are you able to indicate on the mouse?

25 A. Yeah, down the side of here where it joins up to the building where the,
between the edge of that, where the frame, the steel frame of the
windows meets up with the concrete –

Q. Thank you.

A. – building itself.

RE-EXAMINATION: MR ZARIFEH – NIL

COMMISSIONER FENWICK:

5 Q. The opening you have got there between the windows and the concrete, the gap was between made quite sure the gap was between the concrete and the steel frame?

A. The frame of the window, yes.

Q. Now you say this was on level 6. Did you look at any other levels to see if they had the corresponding movement in the lower levels?

10 A. No I hadn't. Those ones just got out to me particularly because when were accessing that area there was only the Relationship Services in there and the rest of the floor was empty so you got quite a good view and there was no furniture or anything in the road and we were accessing the exterior through those particular windows as we went
15 outside.

Q. So you wouldn't have had the opportunity to see lower down at any rate?

A. No, no, probably more so as we went down the floors.

20 **COMMISSIONER CARTER:**

Q. Just a question regarding the columns that these window framed into, you noticed the, I think you referred to as crazy cracking. On your sketch they seem to be marked, that cracking seemed to be mostly vertical rather than, did you notice (inaudible 16:57:47)

25 A. Yeah, they were sort of, they'd come down and cross-reference sort of almost zigzag sort of shape and so you would, I mean it was possibly not all that clear but it looked more like fine irregular shaped diamonds and –

Q. Could that have been sort of shrinkage cracking in the –

30 A. There was something that could be distributed in the surface of the concrete, yes see it quite a bit on tilt slab panels and that.

Q. You didn't notice anything that you would call a structural –

A. No, no.

Q. – crack that was circumferential on those columns?

A. No, no there was more just like fine crack, fine crazy cracking.

Q. Thank you.

WITNESS EXCUSED

