

UNDER

THE COMMISSIONS OF INQUIRY ACT 1908

IN THE MATTER OF

**ROYAL COMMISSION OF INQUIRY INTO
BUILDING FAILURE CAUSED BY CANTERBURY
EARTHQUAKES**

**KOMIHANA A TE KARAUNA HEI TIROTIRO I
NGA WHARE I HORO I NGA RUWHENUA O
WAITAHA**

AND IN THE MATTER OF

THE CTV BUILDING COLLAPSE

**STATEMENT OF EVIDENCE OF LEONARD FORTUNE
IN RELATION TO THE CTV BUILDING**

DATE OF HEARING: COMMENCING 25 JUNE 2012

**STATEMENT OF LEONARD FORTUNE
IN RELATION TO THE CTV BUILDING**

1. My name is Leonard Arthur Fortune. I live in Burwood, Christchurch. I am currently on ACC.
2. I was employed by Bruce Campbell Roofing from 2005 to 2012. My role involved roofing, cladding, water proofing and fixing iron longrun roofing. I was helping to weather proof the western wall of the CTV Building (the Building) when it collapsed on 22 February.
3. I have been asked to comment on the following topics:
 - My observations of the western wall of the CTV Building.
 - The collapse of the CTV Building.
4. Attached and marked “A” is a plan of the CTV Building. I have marked on it my approximate location when the earthquake struck.
5. I have drawn a plan of the western wall of the Building. This is attached and marked “B”. The structural elements that I refer to in my evidence are marked on this plan.

My observations of the western wall of the CTV Building

Demolition

6. The building to the west of the CTV Building was demolished towards the end of 2010. I wasn't involved in the demolition.
7. After they removed the building three floors of the western wall of the CTV Building were left exposed without waterproofing. Bruce Campbell Roofing Ltd was contracted to weatherproof this newly exposed section of the wall. This

involved recladding the first three storeys of the Building to meet up with the existing iron cladding on the western side (Figure 1). The work began on Monday, 21 February and was expected to take a couple of days to complete. Working on the wall with me were Bruce Campbell, director of the company, and James Askew, a labourer.

8. Foundations were still being cleared from the demolition site. We would sometimes watch the work on our breaks. A digger was used to flatten out the ground and a wrecking ball was used to break up big hunks of concrete. They would drop the ball from a height of about 6 metres and as it landed you could feel it through the Building. It felt like there was an earthquake. The Building would jump and creak and made really weird groaning noises. You could see mortar from the wall we were working on just break off as the Building shook. I had to go inside the Building to run a lead and noticed that it made weird groaning noises inside, even without the demolition going on next door. I am not sure what was causing these noises. I had said to my workmates, Bruce and James, that I didn't think people should be working in there. It just didn't feel right.

Structure

9. The masonry infill blocks (masonry blocks) had been laid in a brick bond formation held together by mortar (Figure 3). Mortar was used to join the blockwork to the columns and horizontal beam. There were no gaps in the joints (Figure 1).
10. The top rows of masonry blocks in each section of blockwork were hollow (Figure 1). It may be that these masonry blocks could not be filled with concrete with the beam in the way.
11. I noticed other hollow masonry blocks too, but these seemed to exist in the blockwork at random. It seemed to me like the concrete hadn't filled all of the masonry blocks properly when it was poured, perhaps due to the masonry blocks not being lined up correctly.

12. I remember the horizontal beam was one single structure. The columns were then fused to it with concrete. There were no gaps in the joins (Figure 1).
13. We needed a flat surface to work on and had to scrape off a lot of excess mortar in order to smooth down the wall. When the Building was built they may not have been able to access the western side of the wall because of the existing building being in the way. This may explain why the mortar that had spilled through had not been smoothed away (Figure 2).
14. On our first day at the Building a staff member from CTV came out to speak with us. He was concerned because bricks were being knocked to the ground on the other side of where we were working, which was the ground floor (Level 1) car park. I think the bricks were being knocked out accidentally when we drilled into the top row of hollow masonry blocks.
15. I don't think that anything I saw was a result of general wear and tear.
16. Nothing that I saw about the wall concerned me.

The collapse of the CTV Building

17. We began work at 11 o'clock because it had been raining that morning. We were working on the western side of the Building preparing it for the iron sheeting. James Askew was working alongside me. Bruce Campbell had just disappeared to get us some McDonalds for lunch. James and I had taken the scissor lift about 3 metres high on the south-western corner of the Building. The location of the scissor lift is shown in Figure 1 ("B"). We were just finishing the preparation for the iron cladding and it was as I turned to ask James for the drill that the earthquake struck.
18. There was a strong vertical jolt and the scissor lift seemed to jump. My first thought was that it was James playing a trick on me, but I quickly determined

that it was an earthquake. I remember leaving the scissor lift and then coming back down onto it. The Building almost seemed to jump upwards. The masonry blocks in the wall in front of me looked like they had jumped too. I would say the vertical movement was probably about 200 millimetres.

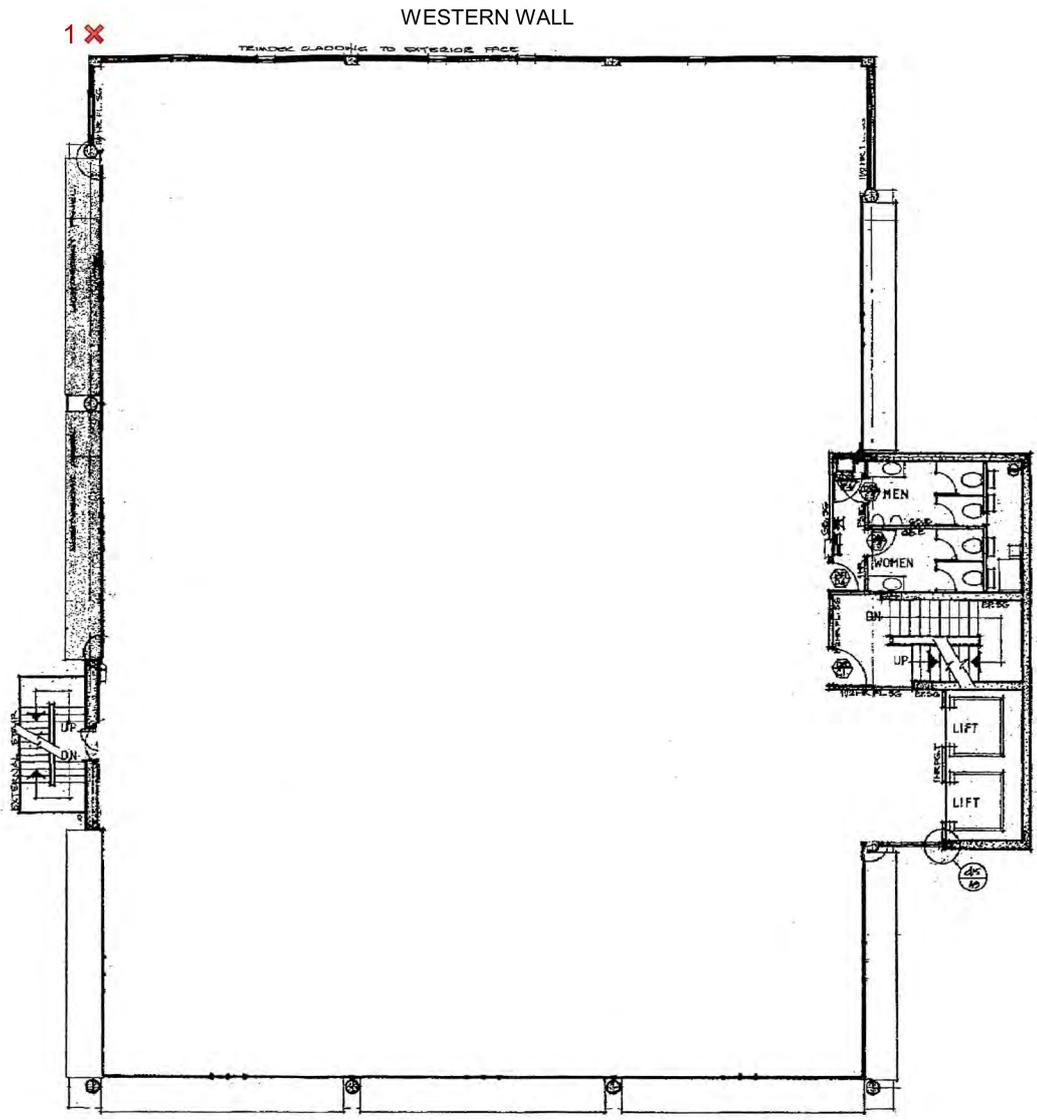
19. I looked up and saw the Building was pretty much above my head. I would say the top of the Building had swayed a good 1.5 metres over to the west. I assumed it was going side to side. We had fixed wall covering against the wall and you could see the masonry blocks spitting out into it. It was at this point that I knew we had to get down and get away from the Building.
20. I could see James was struggling to reach the door because of the movement in the scissor lift. I knew I had to help him out so grabbed him by his tool belt and threw him over the edge of the scissor lift to safety. This was before I realised the Building was coming down.
21. I then looked back at the Building to make sure nothing was coming down. It was then that I saw a column on the southwest corner of the Building, between Levels 3 and 4, that had cracked in the middle. This column - and the location of the fracture - is shown in Figure 1 (“**B**”). It appeared to me like the two bits held together by the steel had fractured outwards and the whole column was buckling under the weight. This is shown in Figure 4. It looked like the fractured sections were sticking out towards the west by about 300 millimetres.
22. As I jumped out of the scissor lift I glanced up and saw a piece of concrete falling towards me. I tried to push it out of the way but in doing so I ended up pushing myself off it.
23. On the ground I curled up next to the wheel of the scissor lift for protection. After a few seconds I thought I should try and crawl further away from the Building.

24. A few seconds later a piece of concrete landed directly on the scissor lift bringing it to the ground. It landed with such force that it pushed the wheels about 150 millimetres into the ground.
25. There was debris everywhere; it looked like a warzone. The masonry blocks we had been working on had completely disintegrated. There was a pile of them on the end of the scissor lift.
26. I was surprised to see how high the pile of debris was in comparison to the height of the Building. It looked like the Building had fallen into a hole.

Signed: L.A. Fortune

LEONARD FORTUNE

Date: 18/5/12



- KEY
- 1. Location of Leonard Fortune

"B"

WIT.FORTUNE.0001.8

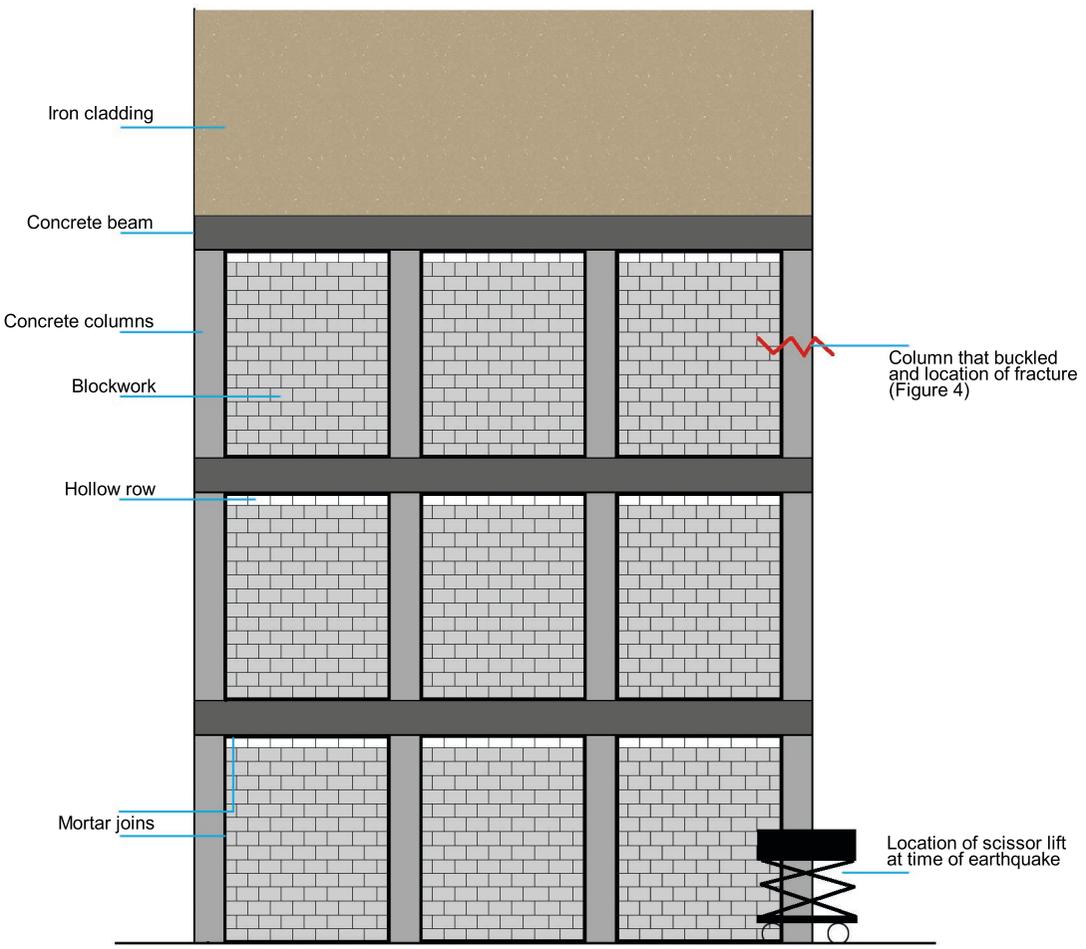


Figure 1
Western wall

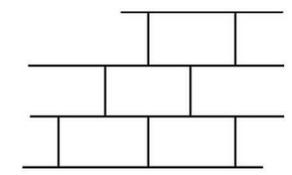


Figure 2
Brick Bond Formation

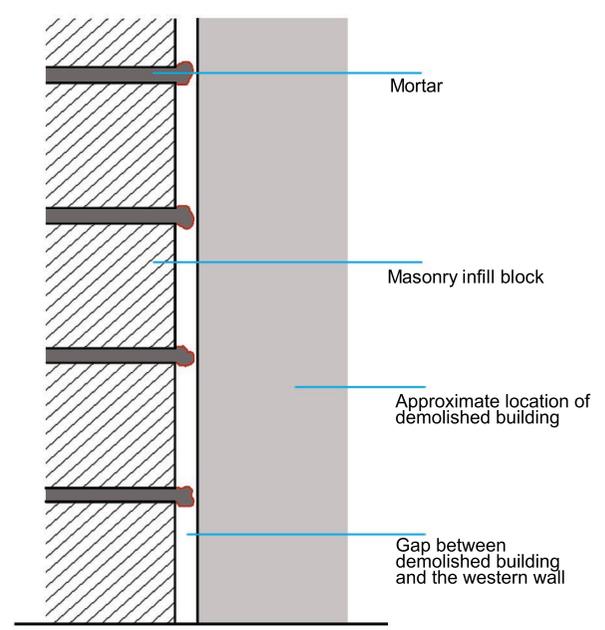


Figure 3
Western Wall Cross Section

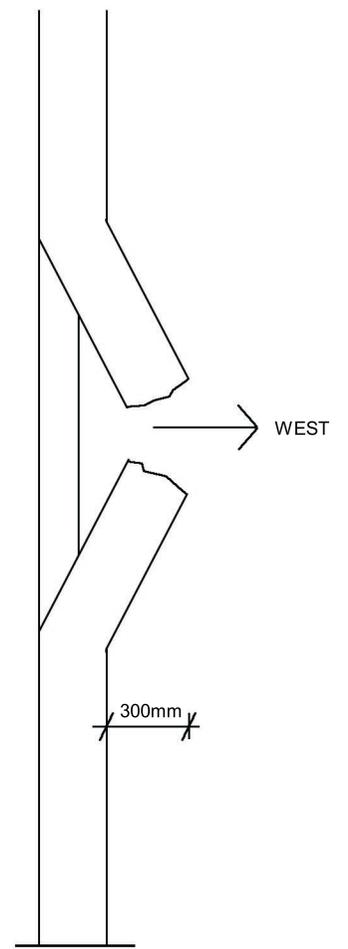


Figure 4
Cracked column