

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 WAYNE STRACHAN
IN RELATION TO THE CTV BUILDING**

DATE OF HEARING: COMMENCING 25 JUNE 2012

STATEMENT OF WAYNE STRACHAN IN RELATION TO THE CTV BUILDING

1. My full name is Wayne Lester Strachan. I live in Christchurch.
2. I worked for Alan Reay Consultants Limited (**ARCL**) between 1979 and 1988 as a structural draughtsman. I did the majority of the structural draughting for the building at 249 Madras Street, which became known as the CTV Building.

Experience

3. In 1971 I started as a structural draughtsman for Powell Fenwick straight from high school.
4. At the same time I started studying for my New Zealand Certificate in Engineering (NZCE), Civil and Structural, which I completed at the end of 1973.
5. In 1979 I left Powell Fenwick and took up a position at Alan Reay Consulting Engineer.
6. My main area of work for Alan Reay was tilt up factories. By tilt up I mean that the walls were precast and lifted into place. I also worked on the design of kitset buildings for Fletcher Brownbuilt.
7. I was also involved in doing site testing, test bores and inspections of construction. This was not usually part of a draughtsman's job but because I had my NZCE I had the knowledge to carry out these tasks.
8. When I was employed by Powell Fenwick I was involved in the draughting of multi-level column or shear core buildings in Wellington and Palmerston North. However prior to 1986 I had had no involvement in draughting multi-storey buildings with a shear core whilst working for ARCL.

9. I had no involvement in the draughting of Landsborough House. My only involvement with that building was when I took two draughtspeople who had just started at ARCL to see the steel reinforcing in the building at an early stage of construction and then I returned to measure the tenant area of the floors after the building was completed and occupied.
10. I had no involvement at all with the Mair Astley Building (now known as the Bradley Nuttall building). I had no involvement with the draughting of the Aged Persons Welfare Building but did a final inspection to check paint finishes and other details.
11. John Henry did the structural design for Landsborough House and he worked primarily with Terry Horn, who was one of the other draughtsmen at ARCL. Both John Henry and Terry Horn had come to work for ARCL from Holmes, Wood, Poole and Johnstone.
12. When I was first contacted by telephone by the Royal Commission earlier this year I had no recollection of being involved in draughting the CTV Building. It is now some years ago and the project was not particularly memorable for me as the detailed drawings only took about a month to do and I was not involved in doing any site inspections so I did not have an ongoing involvement in the project. I have also been involved in exposure to chemicals in my current employment which has affected my memory. However since I looked at a second full set of drawings for the CTV Building there was no doubt that I had done the majority of the draughting for this building. The matters which are familiar to me are the amount of detail on the drawings, in particular the completeness of the dimensions. Sometimes Alan Reay would tell me I was putting too much detail on the drawings as no other consultants were providing as much. I also recognise some of the handwriting. While most of the drawings were traced by a tracer, sometimes I had to do my own tracing or handwrite

the dimensions. For example on drawing S14 that is my handwriting in the middle of the beam.

13. I cannot recall any particular reason for my involvement in the CTV Building.
14. I can tell from my review of the drawings that I have not worked on every aspect of the drawings. I do not recognise the style of some of the steel reinforcing detail on the foundations and some of it does not include dimensions. I would have put dimensions on. I think that Terry Horn might have done those parts or supervised another draughtsperson.
15. I vaguely recall Gail Pringle working on the stairs which are on drawings S30 to S35.
16. I recall that Alan Reay was involved in the process of preparing initial drawings which were submitted to the Council with the building permit application. I recall that there was a rush to get the application into the Council. My involvement was in preparing a second, more detailed set of drawings. Most of the input I received as to the size of members, dimensions and where to put the steel came from David Harding.

Working with the Design Engineer

17. I have been asked to comment on the process of preparing structural drawings when I was working at ARCL and the different roles played by the design engineer and the draughtsperson.
18. The process would start with the engineer drawing on the architectural drawings. This would not include detail, just outlines and sizes. These drawings would not include the steel. I would then draw the members without steel. These would then be printed off. At this stage I would be working out the dimensions.
19. The engineer would add in the steel in freehand on the drawings I had prepared and then I would prepare a second set of drawings with the steel drawn on. Those drawings would usually go out to a tracer to make them neat. A copy of the traced

drawings would then come back to me for checking and then I would give them back to the engineer to review them and add any bits I had missed.

20. I would be responsible for any changes to the drawings. I would give the engineer their original marked up copies back so they could check I had interpreted them correctly. If I had not, he would mark on the traced copy and send it back to me to change. I would then put it back through the tracer.

21. Right at the end of the process the engineer would be given the complete set of traced drawings to go back through. Once he was happy he would sign the drawings.

22. I have been informed that David Harding has stated in correspondence with the Royal Commission that the ARCL draughtsmen were all under continuous supervision by Alan Reay and that he would *"visit each draughtsman at least once each day to look over the work they were preparing, to comment on their work and to ask them what information had been provided to them by the Engineer"*.

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23. I do not agree with this. At that time Alan Reay was so busy at that time he did not have time to look over everyone's shoulder. I had been working for him for five years by 1986, so he largely left me alone. My recollection is that when I was working on a job with David Harding, Alan Reay would only get involved with my work if there was a deadline looming or there was a need to get the permit application into the Council quickly. However, because of the way the office was laid out at that time, I could not see David Harding's desk from my desk. Accordingly, if Alan Reay was going down to David Harding's office to discuss matters with him I would not necessarily know anything about that.

Site Visits

24. I remember going to a site on the Madras Street side of town on two occasions. I am unable to be certain that it was the site that the CTV Building was constructed on, but because I do not remember being involved with any other building in this area I think it likely that it was. I remember the Arrow Building being next door to it on Madras Street.
25. On one of those occasions I recall going with Jason Drain, one of the other draughtspeople, to do test bores and, I believe to use a penetrometer to get an idea of what sort of bearing you could have. I recall David Harding had to arrange to have a red corrugated iron fence that was about 12 foot high unpadlocked.
26. The other occasion I recall attending that site was Tania Bruce, one of the other ARC draughtspeople to establish a benchmark for the site.
27. I do not have any memory of doing site inspections on this building once construction got underway. Generally it was the engineer who went to do site inspections during construction.



Wayne Strachan

Date: 18/5/2012