

CANTERBURY EARTHQUAKE ROYAL COMMISSION

Statement of Marton David Sinclair in relation to Building at 603 – 615 Colombo Street, Christchurch

Introduction

1. My full name is Marton David Sinclair. I am a director of Eliot Sinclair & Partners Ltd, Engineers, Surveyors and Planners of Christchurch and am a Chartered Professional Engineer in the disciplines of Civil and Geotechnical Engineering. I am a member of the Institution of Professional Engineers NZ (IPENZ) and a Fellow of the NZ Institute of Surveyors. I am also a member of the NZ Geotechnical Society, a technical group of IPENZ.
2. I have practiced predominantly in the Christchurch region for the past thirty five years in the fields of Civil and Geotechnical Engineering including structural engineering for low rise buildings and complex residential structures on the Port Hills.

Building Description

3. The buildings at 603 - 615 Colombo Street were a block of seven contiguous units fronting on to Colombo Street and extending between Tuam Street and Mollett Street. They were known as the Austral Buildings and were of two story unreinforced masonry construction with ornate facades and a heavy masonry parapet. The buildings were obviously built as one block with unreinforced masonry walls perpendicular to Colombo Street separating each unit. The central five units, being 605 - 613 were owned by Benson Chen Holdings Ltd. The façade of these units appeared to have been extensively renovated in the past and appeared superficially different from the two end units at 603 and 615 Colombo Street. The complete block of units was demolished after the 22nd February 2011 earthquake.
4. The southern unit on the corner of Mollet and Colombo Streets was owned by S, L, D, E and N Yee and had not had renovation work done on the façade.
5. The northern unit at 613 Colombo Street was owned by S Yee and had not had renovation work done on the façade but there was an indication that there may have been some earthquake strengthening undertaken some years ago judging by tie rods and plates visible on the exterior of the building.
6. I understand that only the buildings at 603 and 605 – 613 Colombo Street are the subject of this enquiry.

Instructions

7. Our firm was instructed to inspect the building at 603 Colombo Street on 6th September 2010 by John Dallison of Dallison Stone Lawyers on behalf of the owners. We were not instructed on the buildings at 605 – 613 Colombo Street and had no involvement in inspections or investigations of these buildings. Our instructions on the building at 615 Colombo Street were not clearly defined. This building was apparently not damaged and no report or investigation was undertaken after the 4th September earthquake. We did undertake a brief visual inspection and took photographs of the exterior whilst in the locality.
8. A post earthquake report on the building at 603 Colombo Street was prepared on 20th September 2010 after preliminary inspection on the 16th and 19th September. This report concluded that the building would need strengthening and that it was unsafe to occupy. The report also noted that the whole of the units from 603 to 615 Colombo Street would need to be considered as a single entity for the purposes of demolition or strengthening.
9. The report noted that as we were not instructed on the Benson Chen Holdings Buildings at 605 – 613 Colombo Street and that I anticipated some difficulty in dealing with the buildings as a whole because of the three separate ownerships.

Subsequent Inspections

10. Exterior inspections of the building at 603 Colombo Street were undertaken after the Boxing Day earthquake but no obvious additional cracking was found.
11. My recollection is that the original wire fence barriers were still in place and that the Acrow props were still in place under the verandah of 605 - 613 Colombo Street at this time.
12. After the Boxing Day earthquake I was called on to inspect the building at 626 Colombo Street on the South East corner of Colombo and Tuam Streets. This building is directly opposite the Austral Buildings.
13. My inspections found that the west wall of 626 Colombo Street at the third floor level had separated from the main structure and was in danger of collapse onto Colombo Street. I raised this matter with the Civil Defence engineers and a number of site visits and inspections were undertaken with them in order to discuss the options for temporary stabilisation work and the effect on Colombo Street in the event of a failure.

Heritage Status

14. The building at 626 Colombo Street was a Category 3 listed building in the City Plan and was also an archaeological site due to its age. The Austral Buildings were a Category 4 listed building but not an archaeological site. I was aware that because of these listings we could not demolish the buildings or even make changes to the façade for the purposes of stabilisation without a resource consent.

Subsequent Events

15. Sometime in January 2011 I was contacted by Matthew Bushnell of Bushnell Builders Ltd as he was engaged by Benson Chen Holdings, the owners of 605 – 613 Colombo Street to advise on repairs for the Austral Buildings. I advised him of my concerns about the building of 626 Colombo Street and we discussed the need for a joint approach for the Austral Buildings. As a result I arranged a meeting at the Christchurch City Council offices on 1st February 2011 to discuss the options for the buildings. Both Matthew and I attended the meeting.
16. At the meeting the various options were discussed and both Matthew and I expressed our concern over the buildings and the risks of failure of the walls.
17. We were advised by the council staff that it was Council policy that a resource consent was required before we could apply for a demolition consent and that this would be a notified application. I recall that the timeframe mentioned for the granting of a notified resource consent was up to six months and I expressed concern over this time scale
18. As a result of this meeting we proceeded with the arrangements for a resource consent application for 626 Colombo Street as this was seen as the most urgent of the two buildings and was only in one ownership. Further discussions and arrangements were required between the various owners of the Austral Buildings before work could proceed on a resource consent and demolition or repair plans for that building.
19. On 10th February 2011 temporary propping of the verandah was undertaken at 626 Colombo Street and the Civil Defence arranged for additional wire barricades along the Colombo and Tuam Street frontages of 626 Colombo Street.

Observations

20. In hindsight, although the hazard posed by the facades on both sides of the street was raised at our meeting and at other times I do not think that the risks posed by the facades of 626 and 603 – 613 Colombo Streets were fully appreciated by the Civil Defence when balancing a number of conflicting requirements. Certainly the severe earthquake of 22nd February 2011 was not anticipated. The Civil Defence decision on the extent of safety barriers may also have also been influenced by the fact that Colombo Street was a major thoroughfare giving access to the City Centre. Because of the two dangerous facades, one on either side of the road the whole of Colombo Street should in my view, have been closed until the buildings could be made safe or demolished.
21. In my opinion, after the September earthquake the whole process of dealing with dangerous buildings had become far too complex and time consuming. This was a result of the Christchurch City Council decision on notification of resource consents. This decision effectively prevented urgent decision making and action on dangerous buildings.

22. In my view the damage to both the 626 Colombo Street and Austral Buildings was such that demolition was the only practical and economic option. This was expressed at the meeting. The resource consent process was only delaying an inevitable outcome.
23. It has become apparent to me that in emergency situations such as we have faced, the decision making processes must be simple and efficient, as far as is possible. Complex planning and approval processes impede the recovery after an event. I also observe that in my experience the process worked much more efficiently after the 22nd February earthquake although at the expense of limited public and heritage input.
24. I think that it is clear that severe aftershocks can be expected after any major earthquake and that all unreinforced masonry buildings are a risk to occupants and passers-by. As it is often not possible to be certain of the remaining strength of a building without considerable investigation and analysis it would be appropriate to cordon off all unreinforced masonry or other obviously dangerous buildings after a major earthquake. It is also clear that strengthening of all dangerous buildings in our towns and cities needs to proceed immediately if we are to avoid loss of life in future earthquakes.

Available Documentation

25. Attached are photographs of the Austral Buildings and my post earthquake report on 603 Colombo Street.

Marton Sinclair

22 November 2011

Eliot Sinclair

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land developments consultants: land surveyors: civil, structural, geotechnical, environmental engineers: resource management planners: landscape architects: hydrographic surveyors

Our Ref: 318027

20 September 2010

John Dallison
Dallison Stone
137 Armagh Street
Christchurch 8011

Dear John

Re: Post Earthquake Structural Report - 603 Colombo Street, Christchurch

No. 603 Colombo Street is the southernmost unit of a two-storey brick building known as Astral Buildings. This building extends between Mollett Street and Tuam Street on the west side of Colombo Street and appears to contain seven separate units.

The south end unit on the Mollett Street corner and the north end unit in the Tuam Street corner are wider than the five central units, however it is clear that the seven units were built as one building as the style of the façade is similar for all buildings. It also appears that each unit is separated by a common firewall.

The southern unit is owned by the Yee family, the northern unit by S Yee and the five central units by Benson Chen Holdings Ltd. We have commented on the northern unit as it is part of the seven unit complex. Our understanding is that we were not instructed on this unit.

The façade of the five central units has been recently renovated and the brickwork plastered and painted. It also appears that the ornate window facings and detailing has been repaired. It is not known what interior restoration has been done in these units. The two units occupied by Leather Direct at the north end and an Internet Café at the south have not been renovated.

The whole complex appears to have considerable architectural merit and it is likely that it would be classed as a heritage building by the Council.

The presence of common firewalls between the units and the continuous façade indicates that restoration and repair work will have to be considered as a whole, especially as the units are all structurally interconnected.

Inspection of the exterior of the southernmost unit revealed significant cracking on the Mollett Street façade and deterioration of the ornate plasterwork. The Colombo Street façade is in much better condition and no major cracking is evident.

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It is not known whether the complex has been listed on the Council earthquake prone buildings list but the northern and southern units will fall into this category. The five units owned by Benson Chen Holdings Ltd may have been earthquake strengthened as part of the refurbishment.

At the present time the southern unit is potentially unsafe given the extensive cracking in the Mollett Street façade and it should remain unoccupied until investigation and structural strengthening can be undertaken.

The northern unit on the Colombo/Tuam Street corner appears to have withstood the earthquake with little damage. This may in part be due to strengthening which is visible at first floor level. This consists of a horizontal steel angle section bolted to the brickwork and a series of ties through the west wall into the structure of the building. It is also possible that there are ties behind the roof level parapet, given the good performance of the parapet.

It is likely that any strengthening and crack repair on the southern unit will require building consent and that this will trigger the need for structural upgrading in accordance with the current Council policy which requires that the building meets 67% of the current code loadings. This will be a relatively expensive exercise and will have to take into account the five units in separate ownership. If these have already been strengthened as part of the refurbishment then this will simplify the matter. However please note that it is only the structural design that would need to take the five units into account. They would not need to be strengthened because of the strengthening to the southern unit.

In our view, given that these units are part of a single building it is unlikely that consent would be given for demolition of the southern end unit. It is almost certain that strengthening will be required. Our inspections have not indicated that strengthening would be impractical or impossible to achieve, however we have not had access to the interior of this building.

Due to the current emergency situation the Council engineers are not yet available to discuss the council requirements. It is also not possible to start on detailed strengthening design. However initial investigations to determine what work Benson Chen Holdings Ltd undertook could proceed.

Earthquake strengthening is likely to involve considerable disturbance to any tenants in the south unit. Further vacant a tenancy would greatly facilitate this remedial work. For this reason it is considered that on strengthening grounds alone the unit should remain empty. It is also likely that on safety grounds it should remain unoccupied until the strengthening work is complete.

We anticipate that the design, consenting and construction work will take several months to complete.

It is unclear whether the northern unit will require any further strengthening. It appears at this stage that it survived the earthquake well and may be regarded as not earthquake prone. However any change in use or alteration requiring a building consent would trigger earthquake strengthening.

Yours sincerely,

ELIOT SINCLAIR & PARTNERS LTD



Marton Sinclair

603 Colombo Street



Figure 1 - 1st Floor Mollett Street Façade, 15th Sept 2010



Figure 2 - 1st Floor Mollett Street Façade 15th September 2010



Figure 3 - 1st Floor Mollett Street Façade 15th September 2010



Figure 4 - 1st Floor Junction 603 & 605 Colombo Street, 15th September 2010



Figure 5 - 1st Floor Colombo Street Façade, 15th September 2010



Figure 6 - Colombo Street frontage 16th Sept 2010



Figure 7 - 601A Mollett Street and 603 Colombo Street 9th September 2010



Figure 8 - Austral Buildings Colombo Street, 9th September 2010



Figure 9 - Benson Chen Holdings Units, 9th September 2010



Figure 10 - 603 Window head deterioration, 9th September 2010



Figure 11 - 603 Mollett Street facade, 9th September 2010



Figure 12 - Cracking generally old, 9th September 2010