

CANTERBURY EARTHQUAKES ROYAL COMMISSION

STATEMENT OF MICHAEL RONALD FLETCHER IN RELATION TO BUILDING AT 603 – 615 COLOMBO STREET

1. INTRODUCTION

- 1.1 My full name is Michael Ronald Fletcher, and I am a director of Buchanan & Fletcher Ltd, Consulting Structural Engineers. I hold a Bachelor of Engineering degree and I am a Chartered Professional Engineer. I am a member of the Institution of Professional Engineers NZ and the NZ National Society of Earthquake Engineering.
- 1.2 I have practised as a structural engineer in Christchurch since completing University studies in 1972. I was a co-founder of Buchanan & Fletcher Ltd in 1986.

2. BUILDING DESCRIPTION

- 2.1 The building at 603 – 615 Colombo Street was on the west side of the street and extended from Tuam Street to Mollet Street. It was a single building that had possibly been built in stages. It was divided into 3 separately owned parts:
- 603 at the south end was occupied by TeaNet. We had no involvement with this part.
 - 605 – 613 was owned by Benson Chen Holdings and occupied by Khmer Satay Noodle House (605) & Kiwi Disposables (611).
 - 615 at the north end was owned by S Yee and occupied by Leather Direct.
- 2.2 The 605 – 613 section of the building was about 26 metres long x 12 metres deep, divided into 5 equal units each about 5 metres long.
- 2.3 This section of the building had a steeply pitched roof, predominately clad with clay tiles but with some areas in corrugated steel. The first floor was timber framed, and there was a partial mezzanine (also timber framed) over 605. The perimeter walls, and the dividing walls between units, were of unreinforced brick. There was a brick parapet, estimated to be 1200mm high x 450mm thick, on the Colombo Street (ie eastern) frontage.

3. OUR ENGAGEMENT

- 3.1 At 605 – 613 we were initially engaged by Bushnell Builders Ltd in September 2010 to carry out a visual inspection of the building.
- 3.2 In late October 2010 we were engaged by the insurers China Taiping Insurance, via Mainland Claims, to carry out further inspections and report to them.
- 3.3 At 615 we were engaged directly by the Owner, Simon Yee.

4. HISTORY OF OUR INVOLVEMENT AT 605 - 613

- 4.1 Our first inspection was made by my co-director, Dave Eaton, on 14 September 2010. He noted cracking in the east/west walls, particularly on the first floor and adjacent to the east (Colombo Street) wall.

He recommended propping of the front edge of the verandah along the Colombo Street frontage, and this work was carried out by Bushnell Builders.

- 4.2 I inspected the building on 27 October 2010, accompanied by Peter McLeod of Mainland Claims. I found that there did not appear to be any new cracks in the cross walls near the eastern frontage, but existing cracks had widened. The east wall had separated from the cross walls at each end of the building, but the parapet and the east wall itself showed no signs of damage.

Following this inspection I prepared a report dated 5 November 2010. The report recommended:

- Tying the east wall and parapet back to the east/west cross walls with steel ties.
- Using a building contractor to investigate apparent separation between the main building and lean-to buildings to the west, and the lean-tos themselves.
- Advising that the building was likely to be earthquake prone and to require earthquake strengthening in accordance with the Council's current policy.

- 4.3 We designed and sketched steel ties for tying back the east wall and parapet, and forwarded these to Mainland Claims on 23 November 2010. On 30 November Mainland Claims emailed us asking us to arrange for a quote from Bushnell Builders for installing the ties.

- 4.4 On 2 December 2010 I met with Russell Keast of Bushnell Builders on site to brief him and to establish the number and extent of the tiebacks that would be required.

Bushnell's budget estimate was sent to Mainland Claims on 13 December.

- 4.5 On 13 January 2011 Peter McLeod of Mainland Claims emailed the Owner, with a copy to us, saying that the building had probably been further damaged by the earthquake of 26 December 2010, a further engineering inspection would be required, and raising the possibility of demolition. We agreed to inspect the building on 17 January.

- 4.6 On 17 January 2011 I carried out a further inspection, accompanied by Robin Cheng (Owner), Matthew Bushnell (Bushnell Builders) and Peter McLeod. I found that the existing cracks between the east wall and cross walls had widened and some new cracks had appeared. At the south end, where the separation was biggest, there was a gap of 50 – 60mm.

After discussion it was agreed that demolition was probably the best option, but this would have to be co-ordinated between the 3 owners and take into account heritage requirements.

Matthew Bushnell undertook to talk to the owners and the City Council to establish the process for getting permission to demolish.

- 4.7 Following the meeting I emailed Mainland Claims summarising verbal advice I had given during my visit to site. In the email I advised it was becoming urgent that a decision be made to either be secure or demolish the building.
- 4.8 On 2 February 2011 Matthew Bushnell phoned me to say that the meeting with the City Council had taken place the day before, and that Resource consent would be required in order for the building to be demolished. This would require an engineering report or reports covering the whole building – ie 603 through to 615 inclusive. As I recall, I was not instructed to prepare any report at that stage.
- 4.9 On 17 February 2011 Matthew rang to ask me to prepare a report covering demolition of the whole building. This was the first time I had any instruction to be involved with 603.

5. HISTORY OF OUR INVOLVEMENT AT 615

Although this part of the building is not included in the Royal Commission enquiry, it formed part of the larger building so we think it is worth recording our involvement.

- 5.1 Our staff engineer, Malcolm Browne, first inspected the building on 4 October 2010. He found mostly cosmetic damage inside the building, although many of the brick walls were obscured by linings. He noted some minor strengthening work had been carried out in the roof space, and that mortar in the brickwork was in poor condition in places.

He was concerned about cracking visible in the parapet from outside, and recommended closer inspection of the parapets.

- 5.2 On 19 October 2010, the Owners representative, Nigel Yee, emailed photos of damage above roof level.
- 5.3 Malcolm returned to the building on 27 October 2010 to inspect the roof and parapets.

Following this visit he designed and sketched repair work for the parapet, and issued these sketches to Nigel Yee and to Bushnell Builders on 5 November. The sketches included details for a steel tie to connect the east wall of 615 to the party wall between 613 and 615 Colombo Street.

- 5.4 Following an on-site discussion with Bushnells the detail was amended and a new sketch issued on 13 January 2011.
- 5.5 Repair work was complete by 27 January 2011. Malcolm inspected the work on 31 January and issued a site report saying that the work was in accordance with our sketches and appeared to be of a high standard.
- 5.6 Photographs taken after the earthquake of 22 February 2011 show that, while some of the east wall parapet fell, most of the upper east wall remained in place. The parapet in the vicinity of the tie appears to have collapsed inwards and was sitting on the roof.

Dated 31 January 2012



Mike Fletcher