
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 tiroiro I ngā whare I horo I
ngā rūwhenua o waitaha

Statement of evidence of Samir Govind in relation to 194
Gloucester Street

Date of hearing: 15 February 2012

Dated: February 2012

REFERENCE: Garth Gallaway (garth.gallaway@chapmantripp.com)

STATEMENT OF EVIDENCE OF SAMIR GOVIND IN RELATION TO 194 GLOUCESTER STREET

- 1 My full name is Samir Govind. I am a Technical Director in Structural Engineering at Beca in Christchurch. I have a Bachelor of Engineering degree with first class honours, graduated 1995 and a Master of Engineering degree, graduated in 1997, both from the University of Auckland. I am a professional member the Institute of Professional Engineer New Zealand (MIPENZ), current President of the New Zealand Institute of Building (MNZIOB), and a Chartered Professional Engineer (CPEng).
- 2 I have over 15 years of experience in providing design consultancy services for commercial buildings and industrial facilities while working at Beca in Auckland and in Christchurch. I have been leading and coordinating the earthquake response for Beca in Christchurch.

194 Gloucester Street
- 3 Beca undertook a Level 2 Rapid Assessment on 194 Gloucester Street on 6 September 2010, following the 4 September 2010 earthquake.
- 4 The Level 2 Rapid Assessment was conducted by a Beca engineer, and a yellow placard was placed on the building indicating restricted use.
- 5 It was noted that the parapet at the back of the building (ie: Southern elevation) had collapsed, and that there was cracking to the brick walls on the upper levels.
- 6 The "usability category" recorded that there should be no entry to the building until it had been repaired or demolished.

Preliminary Structural Engineering Evaluation
- 7 Devonia Realty Limited, on behalf of the building owner, then instructed Beca to carry out a Preliminary Structural Engineering Evaluation on 194 Gloucester Street. This report was prepared by two Beca engineers, reviewed by Richard Built (a Technical Director at Beca based in Auckland) who had visited the property, and approved for issue by me on 14 December 2010. The purpose of this report was to provide a structural assessment and strengthening concept following the 4 September 2010 earthquake.
- 8 The preliminary assessment report indicated the earthquake damage sustained and established conceptual feasibility of repairing and strengthening the building to as near as practical to the 67% NBS the Christchurch City Council had specified for yellow or red placard buildings (on 13 September 2010).

- 9 The building owner's insurer and loss adjustor had also requested a brief structural report detailing the nature and extent of the earthquake damage to the building and a preliminary indication of the structural work which might be required to meet the Council's requirements for the building to be re-occupied.
- 10 The report included an initial assessment of the lateral load capacity resulting in a Grade E provisional grading for seismic risk. Our report also stated that even with more detailed calculations, the building was likely to remain 'earthquake prone' (ie: less than 33% NBS).
- 11 The Beca report was signed off and provided to Devonia Realty for the building owner on 14 December 2010.

Earthquake event of 26 December 2010

- 12 Following the 26 December 2010 earthquake event, Beca provided advice to the building owner via Devonia Realty. There had been further, and more significant, damage to the uppermost level on the western elevation of the brick wall. Beca's advice related to the removal of the hazard posed by the damaged wall on the western side, collapsed stone mullions on the north elevation and loose bricks; so as to enable "the Clinic" to be re-occupied into the adjacent building.
- 13 The building was red-placarded after the 26 December 2010 earthquake event.
- 14 In early January 2011 the Christchurch City Council consented to the temporary securing works required at 194 Gloucester Street.
- 15 The work undertaken is described in drawings issued on 5 January 2011 (BUI.GLO.194.0008B.1-.9) and can be seen in photographs taken on 16 February 2011 (BUI.GLO.194.0008A.1-10). The work was undertaken so as to deal with the issues raised in the s 124 Notice issued by the Christchurch City Council on 27 December 2010.
- 16 After the temporary securing works were completed, I wrote to Devonia on 14 February 2011 stating:
- 16.1 On the basis of a visual inspection conducted on 14 February 2011 Beca was satisfied "*on reasonable grounds, that any potentially dangerous features have been removed or secured, and that the stability of the structure is sufficient that it does not pose a threat to adjacent buildings or the public that is significantly greater than prior to the earthquake*";

- 16.2 *Notwithstanding the above the building has suffered damage from the recent earthquakes and is potentially earthquake prone. The inherent risks due to being a potentially earthquake prone building still exist..."*
- 17 In determining that the building did not pose a greater risk than prior to the 4 September 2010 earthquake, I took into account the following factors:
- 17.1 Items of damaged and loosened brickwork were typically removed and stored (in recognition of the heritage classification of the building).
- 17.2 The localised hazard presented by damaged stone mullions on the upper level of the northern façade were removed and replaced with timber mullions.
- 17.3 The removal of the upper level of the western brick façade and concrete parapet, and substitution with timber framing and plywood cladding resulted in a reduction in weight at the upper level of the building. This reduction in weight reduced the seismic lateral loads when compared to the original building.
- 17.4 The plywood shear wall installed on the western elevation was intended to reinstate the in-plane shear stiffness and strength provided by the original brick masonry façade.
- 18 In making the comments in the letter of 14 February 2011 I was indicating:
- 18.1 The temporary securing work had been completed to a satisfactory standard;
- 18.2 The hazard posed by the potential falling of bricks on the western wall had been removed;
- 18.3 The stability of the building meant that the building did not pose a threat to adjacent buildings or the public that was significantly greater than prior to 4 September 2010.
- 18.4 The building has suffered damage and remains earthquake prone;
- 18.5 The inherent risks that arise from an earthquake prone building remained.
- Comments on Spencer Holmes Report***
- 19 Spencer Holmes report states they are unable to conclusively assess the extent to which the removal of the parapet on the

western elevation may have had on the restraint of the north wall near the NW corner (although they of course go on to say it is somewhat immaterial). We are pleased to provide the following clarification of the temporary securing works implemented in February 2011:

- 20 The photograph of the northern elevation is deceptive in that it appears the western end portion of the wall and parapet has been removed and replaced with plywood. In fact, the wall and parapet continued right through to the NW corner and have merely been clad with plywood over the end portion (to provide a consistent substrate for the corner flashing).
- 21 The temporary securing works in the NW corner were adapted on site as the works proceeded. As can be seen in the photographs of the building exterior taken in mid-February 2011, a steel angle "strong-back" member was provided near the NW corner. This strong-back was connected to a plywood shear wall on the building interior via bolts that passed through the northern façade and parapet.

Dated: February 2012

Samir Govind