



David Chandler  
NSW Building Commissioner  
NSW Fair Trading, Department of Customer Service  
4 Parramatta Square, 12 Darcy Street  
Parramatta NSW 2150

Dear David

### **11-15 Charles Street Canterbury – PWA -EEM inspection**

#### **Engagement:**

On Tuesday 12<sup>th</sup> October, Martin Dwyer (Director Engineering Emergency Management) was contacted by the Office of the NSW Building Commissioner to review a structural consultant's report for 11-15 Charles Street Canterbury. The issues of concern included immediate/urgent matters such as whether evacuation and/or emergency propping was required and longer-term questions about further investigations of the building and remediation matters. Following an initial review of the structural consultant's report, it was decided a site visit was required. The site visit was organised for Wednesday 13<sup>th</sup> October.

#### **EEM (Public Works Advisory) Team:**

Martin Dwyer, Director Engineering Emergency Management, Public Works Advisory  
Ram Singh, Structural Engineer, Engineering Emergency Management, Public Works Advisory  
Mikhail Kogan, Structural Engineer, Engineering Emergency Management, Public Works Advisory

#### **Reports considered:**

- EXPERT REPORT - STRUCTURAL CONDITION & PATHOLOGY – Rothshire, 10 Oct 2021
- Response to Rothshire Report, items identified by the Office of the Building Commissioner – ACE, 13 Oct 2021

#### **Site visit:**

11-15 Charles Street, Canterbury NSW 2193, 13 October 2021 at 2:30pm.

#### **Other Parties in attendance:**

Office of the Building Commissioner  
Structural Consultant for the building owners – Rothshire  
Structural Consultant (Design) for the Developer (Toplace) – ACE  
Structural Consultant (Review) for the Developer (Toplace) – TTW  
Owners Corporation  
Developer (Toplace)

## **Summary of Recommendations and Conclusions:**

### Immediate (today):

- Evacuation of the building is not required at this time. Based on the distress/cracking observed at site, the risk of partial or complete failure is very low, and any potential collapse associated with the observed cracking would further manifest over time unless accidental or natural disaster make it worse in a short period of time.

### Urgent (next week):

- An immediate monitoring program be commenced, particularly focussed on the transfer structure. Install crack monitoring (tell-tales) at all cracking in the transfer structure, and other major structural locations where cracking is apparent, to establish if the cracks are active (still growing) or have stabilised. Establish survey marks under soffit of the cracked transfer slab to monitor deflection.
- Monitoring of deflection of slabs including balcony cantilever slabs. Survey points to be established on the facade and survey undertaken initially every month.
- Should monitoring show further evolution and development of cracking and deflection in these areas, appropriate temporary propping should be installed until full remediation of the issues has been completed.
- Analysis of ground floor transfer slab at the locations identified by Rothshire in its recommendations (page 93).

### Moderately urgent (next 2-3 months)

- All the “non-conformance” issues raised in the Rothshire Report require further investigation for confirmation, or otherwise, and assessment for their impact on compliance with the National Construction Code.

#### including:

- 3D modelling of the building structure for earthquake action as per AS1170.4 to determine adequacy to resist earthquake loads.
- Re-modelling of as constructed transfer structure to establish deficient strength and serviceability as identified by Rothshire.
- Calculation and NDT (Non Destructive Testing) investigation of columns identified as non-complying columns under dead load and live load by Rothshire.
- Develop a rectification plan and schedule to address and repair all structural faults required to bring the building into compliance
- Depending upon the results of modelling, further consideration of additional monitoring and/or temporary propping should be considered.

### Moderately urgent (next 6 months)

- Investigate balustrade cracking at the slab edges
- Investigate water leaking (water pouring down into the basement)
- Investigate doors jamming in two units.
- Survey the building for other faults.
- Develop a rectification plan and schedule to address and repair all identified faults

## **Some observations and findings from the review of documents and site visit:**

- From the carpark, there is visible cracking in the slab/beam under columns.
- There is no adequate monitoring program even on cracking in the transfer structure and deflection of slabs and balcony cantilever slabs.

- The documentation seems to indicate that the building changed from an 8-storey development to 10 stories during construction. Complete as built documentation is not readily available. There is little clarity around what structural design changes were made to accommodate this increase in height.
- Questions over the floor plate-slab serviceability.
- Confirmation during construction of the specified concrete strength of critical structural components was not available.
- Questions over the adequacy of connections between the floors and the lift core in the atrium.
- Questions over the adequacy of steel ties and steel detailing in some structural elements
- The retention system's missing capping beams and some piers appear to be stopped short.
- Some cracking in non-load bearing walls.
- There are significant water ingress and leak problems (including the installation drains rather than repaired leaks) that would likely cause long-term structural steel corrosion and serviceability issues.

**Final comments:**

We recommend that the Structural Consultant (Review) for the Developer (Toplace) – TTW, to focus on all short-term and long-term safety related matters/issues and to prepare remediation plan as required for long-term stability, durability and serviceability of the building for its remaining life. Should the Office of the Building Commissioner wish, the EEM team at Public Works Advisory will be available to review all new analysis and remediation plans as they are developed.

Yours sincerely



**Martin Dwyer**  
**Director Engineering Emergency Management**

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