Job no SY130111

02/04/2014

Mr James Joy
Savills Project Management
Level 7, 50 Bridge Street
Sydney NSW 2000

Dear James

161 Sussex Street, Sydney – Four Points by Sheraton – Fire safety engineering review

The design of the proposed development at 161 Sussex Street incorporates alternative solutions complying with the performance requirements of the National Construction Code Series 2013 Volume One – Building Code of Australia (BCA). Defire are currently preparing an alternative solution report for the proposed development and have undertaken a fire safety engineering review of the proposed design changes associated with the section 96 modification submission at the request of Savills Project Management on behalf of GL Investment Co. The review was based on the drawings and information listed in Attachment 1.

The intent of the review was to determine whether we believe the change to the design can be demonstrated to achieve compliance with the performance requirements of the BCA.

The alternative solutions identified to date are listed in Table 1.

Item	Description of alternative solution	DTS provision	Performance requirement
1.	The maximum travel distances within the ground and mezzanine floors proposed are: • 30m to a point of choice to two alternative exits in lieu of 20m • 60m to the nearest of two exits in lieu of 40m • 100m between alternative exits in lieu of 60m	Clauses D1.4 and D1.5	DP4, DP6 and EP2.2
	The mezzanine floor is provided with an aggregate exit width of 12m in lieu of 16m	Clause D1.6	
	A performance-based smoke hazard management system is proposed in the circulation areas on the lower ground, ground and mezzanine floors of the hotel including: • Smoke exhaust inlet locations and quantities • Omission of smoke exhaust from all day dining restaurant and back of house areas	NSW table E2.2b and specification E2.2b	
2.	Travel distances from the sole-occupancy units in the hotel tower on levels 2 to 15 are up to 8m to an exit or a point of choice in lieu of 6m.	Clause D1.4	DP4 and EP2.2
3.	It is proposed to reduce the maximum fire rating required for the class 6 all day dining restaurant and kitchen areas on the ground floor from 180 minutes to 120 minutes.	Clauses C1.1, C2.8, C2.9 and specification C1.1	CP1 and CP2

Item	Description of alternative solution	DTS provision	Performance requirement
4.	The proposed fire control room is accessible from a single door, direct from the front entrance of the site in lieu of two accessible paths.	Clause E1.8 and specification E1.8	EP1.6
5.	The point of discharge of fire-isolated stair 3 is in the northern ground floor lobby, within the confines of the building. An alternative discharge location is also provided on the lower ground floor at the bus parking bays on Slip Street.	Clause D1.7	CP2, DP4, DP5 and EP2.2
6.	The point of discharge of fire-isolated stair 2 is in the main ground floor lobby, within the confines of the building	Clause D1.7	CP2, DP4, DP5 and EP2.2
7.	The steel roof trusses forming the roof structure of the northern and southern convention rooms on the mezzanine floor are not proposed to be fire rated.	Clause C1.1 and specification C1.1	CP1
8.	The Wharf Lane bridge is proposed to be constructed with a steel structure and timber floor in lieu of achieving the required FRL of 120/-/- and 120/120/120 respectively.	Clause C1.1 and specification C1.1	CP1

Table 2 List of alternative solutions

The areas of the design which impact upon fire brigade operations were discussed with Fire and Rescue NSW in a fire engineering brief meeting held on 12/02/2014. This includes smoke hazard management, travel distances, discharge of fire-isolated stairs and access to the fire control room. Fire and Rescue NSW were supportive of the design proposed.

Defire are currently developing alternative solutions for the issues identified to demonstrate compliance with the relevant performance requirements of the BCA. It is Defire's professional opinion that the alternative solutions can be supported without major changes to the proposed design for the section 96 modification.

The details of the proposed alternative solutions are subject to the outcome of the fire engineering brief and analysis which will be carried out in accordance with the International Fire Engineering Guidelines.

The alternative solutions for the building will be documented in a format suitable for submission to the relevant approval authorities. It is noted that additional alternative solutions may be identified during the ongoing design development process in consultation with the design team.

Please contact me on 02 9211 4333 if you have any questions.

Yours sincerely

Jack Tam
Fire safety engineer
Defire – Innovative fire safety

Jason Jeffress
Managing director
Defire – Innovative fire safety
Accredited certifier C10 – BPB 197

Attachment 1 Drawings and information

Drawing title	Dwg no	Date	Drawn
Lower ground level plan	A-DA-0200 rev O	21/02/2014	Cox Architecture
Ground level floor plan	A-DA-0201 rev F	21/02/2014	Cox Architecture
Mezzanine level plan	A-DA-0202 rev O	21/02/2014	Cox Architecture
Level 1 floor plan	A-DA-0203 rev O	21/02/2014	Cox Architecture
Level 2 floor plan	A-DA-0204 rev O	21/02/2014	Cox Architecture
Level 3 floor plan	A-DA-0205 rev M	21/02/2014	Cox Architecture
Level 4 to level 10 – typical floor plan	A-DA-0206 rev M	21/02/2014	Cox Architecture
Level 11 to level 14 – typical floor plan	A-DA-0207 rev M	21/02/2014	Cox Architecture
Level 15 – plant level plan	A-DA-0208 rev O	21/02/2014	Cox Architecture
Level 16 to level 22 – typical commercial level plan	A-DA-0209 rev L	21/02/2014	Cox Architecture
Plant level plan (level 23)	A-DA-0210 rev M	21/02/2014	Cox Architecture
Roof level plan	A-DA-0211 rev L	21/02/2014	Cox Architecture
North & south elevation	A-DA-0301 rev L	21/02/2014	Cox Architecture
East elevation	A-DA-0302 rev K	21/02/2014	Cox Architecture
West elevation	A-DA-0303 rev L	21/02/2014	Cox Architecture
Slip Street east elevation	A-DA-0304 rev I	21/02/2014	Cox Architecture
Slip Street detail east elevation	A-DA-0305 rev G	21/02/2014	Cox Architecture
Section 01 & 02	A-DA-0401 rev L	21/02/2014	Cox Architecture
Section 03 & 04	A-DA-0402 rev M	21/02/2014	Cox Architecture
Section 05 & 06	A-DA-0403 rev M	21/02/2014	Cox Architecture
Section 07	A-DA-0404 rev G	21/02/2014	Cox Architecture

Other information	Ref no	Date	Prepared by
Draft BCA Report – Four Points by Sheraton Redevelopment	13-201181_FourPointsRedev_ DraftBCAReport_R01a_20052013	20/05/2013	Philip Chun Building Surveying