

Proposed Co-Living Development, 175 – 177 Cleveland Street, Redfern

BCA Assessment Report Report 2020/3300 R1.1

Prepared for EG Funds Management Pty Ltd 2nd March 2021



Steve Watson and Partners Pty Ltd

 SYDNEY
 Level 17, 456 Kent Street, Sydney NSW 2000
 Phone +61 2 9283 6555
 Fax +61 2 9283 8500

 MELBOURNE
 Level 8, 350 Queen Street MELBOURNE, Victoria 3000
 Phone: +61 3 9380 5552
 Fax: +61 3 9380 5558

 BRISBANE
 Level 4, 276 Edward Street BRISBANE, QLD 4000
 +61 7 3088 2333
 Fax: +61 7 3088 2444

 CANBERRA
 Suite 8, 14 Lonsdale Street, Braddon ACT 2612
 +61 2 6100 6606
 Fax: +61 2 6100 6609

info@swpartners.com.au www.swpartners.com.au ABN 33 600 478 402 Principal Certifying Authority - Steve Watson & Partners



Project Contacts								
Client:		EG Funds Management Pty Ltd						
Architect: Mark Shapiro Architects								
SWP Q	uality Syster	n						
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R1.0	18/02/2021	BCA Report to accompany a DA Submission Joshua Hawke Nick Hontas			Nick Hontas			
R1.1	02/03/2021	BCA Report to Minor updated	o accompany a DA Si d	ubmission -	Joshua Hawk	е	Nick Hontas	

Disclaimer:

This report is based on a desktop audit of preliminary DA documentation only.

Details contained in the report address issues of significance to broad BCA compliance relevant to this stage of design resolution. This report is based on a review of the DA design documentation only. It represents a compliance report for "documentation to this point in time" and will be subject to amendment and further detailed assessment at the Construction Certificate stage.



Introduction

An assessment of the proposed design of a new co-living development located in the heart of Redfern has been undertaken against the Deemed-to-Satisfy (DtS) provisions of the relevant sections of the Building Code of Australia 2019 (Amendment 1) and the applicable Building Regulations.

Summary of BCA Parameters

Building Use:	Carparking, storage, ancillary retail and co-living units
Class of Occupancy:	Class 3, 6, 7a and 7b
Type of Construction required:	Туре А
Rise in Storeys:	7 Storeys
Number of Storeys:	8 Storeys
Effective Height:	19.8m

Description of Proposal

The proposal involves the construction of a new co-living development comprising of the following:

- A 6-storey Co-Living (boarding house) development on the site, comprising 120 studio-style units and associated communal facilities;
- A basement area for bicycle, motor bike and 8 car spaces;
- The accommodation would have a maximum capacity of 196 persons; and
- A commercial tenancy located to the corner of Eveleigh and Cleveland Streets for the purpose of being a café/food and drink premises run independently of the housing use.





Assessment

Steve Watson and Partners have undertaken a review of the proposed design that will form part of the application to Council. We confirm the design as shown on the drawings referenced below are capable of achieving compliance with the BCA and the Disability (Access to Premises – Buildings) Standards 2010.

Further detailed regulatory reviews will need to be progressively undertaken as the design develops to ensure compliance is achieved, in particular Section J. Compliance is proposed to be achieved by satisfying the relevant DtS provisions and/or JV3 Assessment undertaken by qualified ESD consultant.

Other aspects of the design are proposed to be addressed by way of a Performance Solution to meet the relevant Performance Requirements of the BCA (Fire Engineering and Access). A detailed review at Construction Certificate stage will need to be undertaken to confirm however, the anticipated compliance issues to be addressed via a Performance Solution as documented by the projects fire engineer MCD Fire Engineering include:

ltem	Non-Compliance	DTS Clause	Description	Performance Requirement
1.	Fire Resisting Construction	C1.1 & Spec C1.1	A reduction in FRLS is proposed to the following elements of the development:	CP1 & CP2
			 The storage componentry of the basement level (13.5% of the basement area so is to be reduced from an FRL of 4hrs); and A reduction of the class 6 component from an FRL of 3hrs down to an FRL of 2hrs. 	
2.	Fire Resting Construction	C1.1 & C3.11	Rooms located off the residential corridors located on level 1 (Entry Lounge & Lobby) and Level 5 (communal lounge and kitchen) are not fire separated by means of an FRL achieving 60/60/60 in stead they are directly connected with no separation.	CP1 & CP2
3.	Separation of Lift Shafts	C2.10	The glazed lifts located centrally to the courtyard pass by more than 2 levels and are not being completely fire isolated from the remainder of the building/floors.	CP1 & CP2
4.	Public Corridors in class 2 and 3 buildings	C2.14	The residential public corridors located on level 1 exceeds the 40m length permitted	CP2 & EP2.2
5.	Protection of openings in external walls	C3.2	Unit openings are proposed to remain unprotected when located within 3m of a fire source feature (site boundary).	CP2
6.	Exit Travel Distances	D1.4 & Spec E1.5a	Distances to an exit have been assessed on the residential levels to exceed the permissible 12m (14m) under the concessions granted under Specification E1.5a	DP4 & EP2.2
7.	Travel by non-fire- isolated stairways or ramps	D1.9	The stair serving the level 6 terrace requires occupants to traverse across level 5 to reach the fire isolated exit. Given this egress is considered to be that of a discontinuous nature.	DP4 & EP2.2
8.	Separation of rising and descending stair flights	D2.4	The western fire isolated stairway is not documented with separation of both rising and descending flights of stairs	CP2, DP4, DP5 & EP2.2
9.	Doorways and Doors	D2.19	The automatic door located on level 1 which serves the residential lobby is not proposed to fail open upon activation of a fire alarm or alternatively loss of power due to security reasons.	DP2



ltem	Non-Compliance	DTS Clause	Description	Performance Requirement
10.	Fire Hydrants	E1.3 & AS2419.1- 2009	 The following deviations apply to the proposed location of the booster assembly as well as the associated pumps and valves: The hydrant booster assembly is not located within site of the main entry as the building contain multiple entries across multiple streets; The booster is not located on the sites known street address; The pump room does not have direct access from a fire isolated stair. Access is required through means of an airlock; and Fire Hydrants are located on a mid-landing in lieu of being located on the level in which it serves. 	EP1.3
11.	Sprinklers	E1.5, E1.5, Spec E1.5 & AS2118.1- 2017	 The following deviations apply to the proposed location of the booster assembly as well as the associated pumps and valves The sprinkler booster assembly is not located within site of the main entry as the building contain multiple entries across multiple streets; Access to the sprinkler isolation valves is located through traversing up a fire isolated stair in lieu of being located on the level of the roadway. 	EP1.4
12.	Energy Efficiency	Section J	The building is to be assessed by an Energy Efficiency Consultant and non-compliances addressed within a JV3 assessment report.	JP1, JP2 & JP3

The anticipated compliance issues to be addressed via a Performance Solution as documented by the projects Access Consultant include:

ltem	Non-Compliance	DTS Clause	Description	Performance Requirement
1.	General Building Access Requirements	D3.1	A set of stairs has been documented within the confines of the western corridor on level1. This is a departure of Table D3.1 where access is required to be provided to the doorway of each SOU	DP2



Referenced Drawings

The following drawings issued by Mark Shapiro Architects have been assessed as part of this report

PROPOSED CO-LIVING DEVELOPMENT 175-177 CLEVELAND STREET, REDFERN

DRAWING No	DRAWING NAME	SCALE	REV
DA0000	COVERSHEET		А
DA1000	SITE LOCATION PLAN		А
DA1200	SITE ANALYSIS PLAN	1:200	А
DA2000	DEMOLITION PLAN	1:200	А
DA2001	BASEMENT PLAN	1:200	А
DA2002	GROUND FLOOR PLAN	1:200	А
DA2003	LEVEL 1 PLAN	1:200	А
DA2004	LEVEL 2 PLAN	1:200	А
DA2005	LEVEL 3 PLAN	1:200	А
DA2006	LEVEL 4 PLAN	1:200	А
DA2007	LEVEL 5 PLAN	1:200	А
DA2008	LEVEL 6 PLAN	1:200	А
DA2009	ROOF LEVEL	1:200	А
DA2010	SITE & ROOF PLAN	1:200	А
DA2011	UNIT TYPE A & B TYPICAL PLANS	1:50	А
DA2012	UNIT TYPE C TYPICAL UNIT PLANS	1:50	А
DA2013	UNIT TYPE D & E TYPICAL UNIT PLANS	1:50	А
DA2014	UNIT TYPE F & G TYPICAL UNIT PLANS	1:50	А
DA2015	TYPE H TYPICAL UNIT PLAN	1:50	А
DA2300	SECTION A	1:200	А
DA2301	SECTION B	1:200	А
DA2302	SECTION C	1:200	А
DA2303	SECTION D	1:200	А
DA2304	SECTION E	1:200	А
DA2400	NORTH ELEVATION (CLEVELAND STREET)	1:200	А
DA2401	EAST ELEVATION (WOODBURN STREET)	1:200	А
DA2402	SOUTH ELEVATION	1:200	А
DA2403	WEST ELEVATION (EVELEIGH STREET)	1:200	А
DA2404	MATERIALS FINISHES - CLEVELAND STREET N/E CORNER		А
DA9000	GROSS FLOOR AREAS	1:500	А
DA9001	COMMON AREAS	1:500	А
DA9002	PHOTOMONTAGE N/E - EXISTING		А
DA9003	PHOTMONTAGE N/E - PROPOSED		А
DA9004	PHOTOMONTAGE N/W - EXISTING		А
DA9005	PHOTOMONTAGE N/W - PROPOSED		А
DA9100	WINTER SOLSTICE PLAN SHADOW DIAGRAMS 9AM-12PM	1:500	А
DA9101	WINTER SOLSTICE PLAN SHADOW DIAGRAMS - 1PM-3PM	1:500	А
DA9102	EQUINOX PLAN SHADOW DIAGRAMS 9AM-12PM	1:500	А
DA9103	EQUINOX PLAN SHADOW DIAGRAMS 1PM-3PM	1:500	А
DA9104	SUMMER SOLSTICE PLAN SHADOW DIAGRAMS 9AM-12PM	1:500	А
DA9105	SUMMER SOLSTICE PLAN SHADOW DIAGRAMS 1PM-3PM	1:500	А
DA9200	WINTER SOLSTICE SUN EYE VIEW DIAGRAMS 9AM-12PM		А
DA9201	WINTER SOLSTICE SUN EYE VIEW DIAGRAMS 1PM-3PM		А



Fire Rating Requirements – Type A Construction

Type A Construction: FRL of Bu	ilding Elements			
Building element		Class of building - FRL:	: (in minutes)	
		Structural adequacy/Ir	ntegrity/Insulation	
	2, 3 or 4 part	5, 9 or 7a	6	7b or 8
EXTERNAL WALL (including any where the distance from any fire-	column and other bui source feature to whic	lding element incorporat ch it is exposed is-	ed within it) or other ex	ternal building element,
For loadbearing parts-				
less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3 m	90/60/60	120/ 90/ 90	180/180/120	240/240/180
3 or more	90/60/30	120/ 60/ 30	180/120/90	240/180/90
For non-loadbearing parts-				
less than 1.5 m	-/90/90	- /120/120	- /180/180	- /240/240
1.5 to less than 3 m	-/60/60	- / 90/ 90	- /180/120	- /240/180
3 m or more	-/-/-	-/-/-	-/-/-	-/-/-
EXTERNAL COLUMN not incorpor	rated in an external wa	all-		
For loadbearing columns	90/-/-	120/-/-	180/ - / -	240/ - / -
For non-loadbearing columns	-/-/-	-/-/-	-/-/-	-/-/-
COMMON WALLS				
and FIRE WALLS	90/90/90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS-				
Fire-resisting lift and stair shafts-				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120
Non-loadbearing	- /90/90	- /120/120	- /120/120	- /120/120
Bounding public corridors, public	lobbies and the like-			
Loadbearing	90/90/90	120/-/-	180/ - / -	240/-/-
Non-loadbearing	- /60/60	-/-/-	-/-/-	-/-/-
Between or bounding sole-occup	ancy units-			
Loadbearing	90/90/90	120/-/-	180/ - / -	240/-/-
Non-loadbearing	- /60/60	-/-/-	-/-/-	-/-/-
Ventilating, pipe, garbage, and lik	e shafts not used for tl	he discharge of hot produ	ucts of Combustion-	
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120
Non-loadbearing	- /90/90	- / 90/ 90	- /120/120	- /120/120
OTHER LOADBEARING INTERNAL	L WALLS, INTERNAL BI	EAMS, TRUSSES		
and COLUMNS	90/-/-	120/-/-	180/ - / -	240/-/-
FLOORS	90/90/90	120/120/120	180/180/180	240/240/240
ROOFS	90/60/30	120/60/30	180/60/30	240/ 90/ 60



Statutory Fire Safety Measures

Measure	Standard of Performance
Access Panels, Doors And Hoppers To Fire Resisting Shafts	BCA 2019 Amendment 1 Clause C3.13 and tested prototypes (AS 1530.4 – 2014)
Automatic Fail Safe Devices	Scheduled devices release upon trip of smoke detection, fire detection and sprinkler activation in accordance with BCA 2019 Amendment 1 Clause D2.21.
Automatic Fire Detection And Alarm System (Smoke Detection System)	BCA 2019 Amendment 1 Clause 4 of Specification E2.2a and AS 1670.1 – 2018
Automatic Fire Detection And Alarm System (Smoke Alarm System)	BCA 2019 Amendment 1 Clause 3 of Specification E2.2a and AS 3786 – 2014
Automatic Fire Detection And Alarm System (Smoke Detection System To Automatically Shutdown Air-Handling System)	BCA 2019 Amendment 1 Clause 6 of Specification E2.2a and AS 1670.1 – 2018
Automatic Fire Suppression Systems (Residential Sprinkler System)	BCA 2019 Amendment 1 Specification E1.5 and AS2118.4 – 2012
Building Occupant Warning System	BCA 2019 Amendment 1 Clause 7 of Specification E2.2a and AS 1670.1 – 2018
Emergency Lighting	BCA 2019 Amendment 1 Clause E4.2, E4.4 and AS/NZS 2293.1 – 2018
Exit Signs	BCA 2019 Amendment 1 Clause E4.5, NSW E4.6, E4.7, E4.8 and AS/NZS 2293.1 – 2018
Fire Alarm Monitoring System	BCA 2019 Amendment 1 Clause 8 of Specification E2.2a and AS 1670.3 $-$ 2018
Fire Dampers	BCA 2019 Amendment 1 Clause C3.15 and AS 1668.1 – 2015 (AS 1682.1 – 2015 and AS 1682.2 – 2015)
Fire Doors	BCA 2019 Amendment 1 Specification C3.4 and AS/NZS 1905.1 – 2015
Fire Hydrants Systems	BCA 2019 Amendment 1 Clause E1.3 and AS 2419.1 – 2005
Fire Seals Protecting Opening In Fire Resisting Components Of The Building	BCA 2019 Amendment 1 Clause C3.15, Specification C3.15, AS 1530.4 – 2014, AS 4072.1 – 2005 and installed in accordance with the tested prototype.
Hose Reel System	BCA 2019 Amendment 1 Clause E1.4 and AS 2441 – 2005
Lightweight Construction	BCA 2019 Amendment 1 Specifications C1.8, Clause A2.3 and AS 1530.4 – 2014
Mechanical Air Handling System (Automatic Shut Down Of Air-Handling System)	BCA 2019 Amendment 1 Clause E2.2 and AS 1668.1 – 2015
Mechanical Air Handling System (Carpark Mechanical Ventilation System)	BCA 2019 Amendment 1 Table E2.2a, Clause 5.5 of AS/NZ 1668.1 – 2015 and fans with metal blades suitable for operation at normal temperature may be used and the electrical power and control cabling need not be fire rated
Portable Fire Extinguishers	BCA 2019 Amendment 1 Clause E1.6 and AS 2444 – 2001
Warning And Operational Signs	BCA 2019 Amendment 1 Clauses D2.23, D3.6, Specification D3.6, E3.3, E3.9 and E3.10

NOTE: Fire safety schedule may need to be amended subject to the inclusion of a fire engineered alternative solution.

STEVEWATSON& PARTNERS

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