AFFINITY
FIRE ENGINEERING

Reference: 172045_DA_01

1 June 2017

Deicorp Pty Ltd
Suite 301, Level 3
161 Redfern Street
Redfern NSW 2016

Attention: Mr. Greg Colbran,

RE: DA Letter of Support | 83-123 Eveleigh Street, Redfern NSW | Pemulwuy 3

The purpose of this statement is to provide confidence to the Consent Authority that prior to the issue of Development Application (DA) consent that the building design shall fully comply with the Performance Requirements of the Building Code of Australia (BCA), as applicable within New South Wales.

The proposed student accommodation development assessed by Affinity Fire Engineering is located at 83-123 Eveleigh Street, Redfern NSW. The site has street frontage to Eveleigh street on the western side with the south western tip of the triangular site extending to the corner of Lawson Street. The eastern side abuts to the Redfern Rail corridor and the northern boundary is adjacent to existing buildings.

The proposed development is developed through a joint venture incorporating Deicorp Pty Ltd, Blue Sky Funds and the Aboriginal Housing Company. The development is proposed to house 522 student accommodation style SOU's over a rising in storey of 24 and an effective height of more than 50m. The site will also incorporate a number of student relative facilities, including a gym, a small cinema and community facilities at the lower ground level, meeting rooms throughout all levels and a roof top garden community area.

The Student accommodation SOU layouts incorporate a number of different facilities room types including single independent apartments through to 5 SOU cluster and living area arrangements.

The Architectural design has been developed by Turner Studio Architects, in conjunction with BCA consultation provided by Vic Lilli and Partners and fire and life safety assistance by Affinity Fire Engineering.

The specifics of the design are detailed in the DA set of architectural floor plan prepared by Turner Studio Architects as listed below: -

- DA-110-007 – Lower Ground
- DA-110-008 – Upper ground
- DA-110-010 – Level 01
- DA-110-020 – Level 02
- DA-110-030 – Level 03
- DA-110-040– Level 04, 05
- DA-110-050 – Level 06
- DA-110-060 – Level 07
- DA-110-070 – Level 08, 09
- DA-110-080 – Level 10
- DA-110-090 – Level 11-14, 16
- DA-110-100 – Level 15
- DA-110-110 – Level 17
- DA-110-120 – Level 18-20
- DA-110-130 – Level 21
- DA-110-140 – Plant
- DA-110-001 – Roof
- DA-250-010 – Eveleigh Street_North Elevation
- DA-250-020 – Lawson Street_West Elevation
- DA-250-030 – Railway Line_South Elevation
- DA-250-040 – Terraces_East Elevation
- DA-350-010 – Section A-A
- DA-350-030 – Section C-C
- DA-350-040 – Section D-D

Through the design concept development, it has been determined that the proposed development incorporates design features that have been deemed to not fully meet the prescriptive Deemed to Satisfy (DTS) provisions of the BCA as advised by BCA consultant for the project – Vic Lilli & Partners Pty Ltd. As a result of, the design not conforming to the DTS provisions of the BCA, the building solution applied shall be performance based rather than wholly prescriptively based.

AFFINITY Fire Engineering has been engaged to develop a fire safety engineering strategy in order to satisfy the Performance Requirements of the BCA. We have worked closely with the design team to develop a solution that achieves the intent of the architectural vision and acceptable levels of occupant life safety.

The fire safety strategy and fire engineering design shall focus on the following site critical design issues in order to confirm compliance with the performance provisions of the BCA:

- Occupant egress in the event of a fire emergency and the maintenance of tenable conditions for occupant evacuation and fire brigade intervention;
- Fire and smoke spread throughout the building and its impact on occupant egress;
- Site access and fire services design to facilitate fire brigade intervention.

Amongst other matters which may be established through the full design development stages, the fire safety strategy and associated reports shall incorporate assessment of the following non-conformances with the DtS provisions of the BCA:

- BCA Clauses C1.1 and Specification C1.1: Reduce the required level of FRL afforded to the Class 7b bike store located on the Lower Ground Floor down from 240/240/240 to 120/120/120.
- BCA Clause C1.1 and C3.11: Rationalise the form of fire separation between the common areas of the Lower Ground Floor level from the residential areas on Level Upper Ground Floor and Level 1. The separation is to be achieved through the adoption of drencher protected glazing in lieu of solid construction. Similarly, between meeting rooms, lobbies, admin and meeting and common areas on all levels are proposed to utilise drencher protected glass to achieve the required bounding wall construction from the corridor in lieu of solid construction.

- BCA Clause C1.1 and C2.2: Rationalise the form of fire separation associated with the cluster arrangement between each SOU and common kitchen living space. As each SOU is required to have full fire separation.
- BCA Clause C2.14: Allow extended distances between smoke separation within the residential corridors to a maximum of 55m in lieu of the BCA required 40m.
- BCA Clauses C3.2 and C3.4: Rationalise the level of protection afforded to window openings located within 3m of the eastern rail corridor and the adjacent allotment boundary to the north.
- BCA Clause D1.2: Justifying the following locations having access to only a one (1) exit in lieu of the two (2) exits as required for a building with an effective height exceeding 25m:
    - Level 17 plant room.
    - Roof plant rooms.
- BCA Clause D1.4: Assessment of travel distances to a single exit, point of choice or the nearest of two or more alternative exits exceeding the prescriptive BCA DTS limitations;
    - Travel distances from the residential SOU typically exceed the DTS limitation of 6m to an exit or point of choice throughout; with a maximum of up to 13m.
    - Travel distances from the rooms abutting a public corridor not within an SOU typically exceed the DTS limitation of 20m to an exit or point of choice throughout; with a maximum of up to 22m.
    - Travel from the bike store on the Lower Ground Floor to a point of choice is up to 22m in lieu of the DTS limitation of 20m.
    - Travel from the Level 7 plant room to a point of choice is up to 22m in lieu of the DTS limitation of 20m.
- BCA Clause D1.5: Assessment of travel distances between alternative exits exceeding the prescriptive BCA DTS limitations in the following locations:
    - 48m on the Upper Ground Level in lieu of 45m;
    - 70m around the central court yard on the Lower Ground Floor in lieu of 60m associated with the point of choice for the Garbage room, the gym, the bike store and the loading dock.
- BCA Clause D1.7: Rationalising the discharge point of the fire-isolated stairs not being in accordance with the prescriptive BCA DTS requirement. Specifically–
    - Fire-isolated stair FS03A which discharges within close proximity of external glazing to the Gym and the Community space at the lower ground level and also it discharges into a covered area that is not 1/3 open and requires travel back through the building to reach a road Eveleigh Street from the central courtyard.
    - Fire-isolated stair FS04 discharges within close proximity of external glazing to the Gym and openings of the bike store at the lower ground level and requires travel back through the building to reach a road Eveleigh Street from the central courtyard.
    - Fire-isolated stair FS01 discharges into the courtyard where it requires travel back through the building to reach a road Eveleigh Street.
- BCA Clause D2.20: Prepare a solution to justify the lobby, and loading dock entry doors (being used as required exits) swinging against the direction of travel.

- BCA Clause E1.3: Assess the location of the fire hydrant booster assembly not being in sight of all main entrances to the building and not being provided with compliant 90/90/90 protection extending 2m each side of the valve.
- BCA Clause E1.5: Assess the location of the Sprinkler valve room to be located within the Lower ground floor which requires travel via stairs to reach open space.
- BCA Clause E2.2: Address the use of an alarm verification system or other alarm acknowledgement arrangement to minimise the impact of unwarranted alarms on building occupants.

The subject design for the residential student accommodation development which forms the Development Application for consent being requested is considered by Affinity Fire Engineering to not compromise the proposed fire safety strategy, fire brigade intervention or conformance with the building regulations. Hence, Affinity Fire Engineering anticipate that a fire safety engineering assessment is able to be conducted for the site which will achieve compliance with the Performance Requirements of the BCA.

We trust that the above information is sufficient for Consent Authority's needs with respect to fire safety design and compliance with the relevant building regulations in this regard. Should any further information be required for a determination to be made please contact the undersigned on (02) 9194 0590.

Yours faithfully

Thomas O'Dwyer
Director

Fire Safety Engineer [C10 - BPB 0766]

Affinity Fire Engineering Pty Ltd