

Fire Safety Engineering Design Review for DA Submission



CBA Childcare Centre, The Darling Exchange NSW

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1. General

Scientific Fire Services Pty Ltd has undertaken a preliminary review and assessment of the proposed architectural design drawings and concepts for the proposed CBA Childcare Centre situated on Levels 3 and 4 of the Darling Exchange Development NSW. The following provides a summary of the fire safety risk engineering aspects in support of the design in principle.

2. Building Description

The proposal is to provide a Class 9b Childcare Centre situated on Levels 3 and 4 of the Darling Exchange Development. The proposed fitout has been designed such that the two (2) levels have been separated into the various age groups. Level 3 shall comprise the Under 2 age group (i.e. 0 -2 year) and Level 4 shall comprise the Over 2 age group which have playrooms separated into 18 months to 2.5 years, 2-3 years and 3-5 years. The primary layout of the floor plates are noted to be internal and external areas that are accessible from the respective play areas. The tenancy is provided with staff and office amenities which include store rooms, outdoor shed, Admin Office areas, Storage rooms, nappy change/toilet, kitchen, laundry and utilities areas. Access and egress from the respective levels is provided through a lift lobby as part of the everyday use. In addition, the building is afforded with a scissor stair with two points of access that discharge directly to a road or open space at the ground floor.

As part of the function and use of the area, the Childcare Centre has been designed such that the occupants are provided with two (2) separate paths of egress from either the internal space to the scissor stair or directly from the outdoor play area via the lift lobby to the scissor stair. In addition the internal environment has been separated into various fire and smoke compartments to maintain ongoing tenable conditions for the occupants in the event of an emergency.

3. Project Information

The information relied upon by Scientific Fire Services for the review of the design captured in the architectural drawings and detailed consultation with the design team associated with the proposed Childcare Centre development at the Darling Exchange development. These include the following:

1. BCA regulatory advice provided by McKenzie Group Consulting Pty Limited; and
2. Design Meetings and discussions conducted with representatives from Commonwealth Bank, CBRE and KU Children's Services; and
3. Architectural drawings have been prepared by Davenport Campbell Pty Limited (Refer below to Table 3.1).

Table 3.1: Architectural Drawings

Drawing Number	Drawing Title	Date / Revision
15096-A2-03	Level 3 – Reflected Ceiling Plan	14.12.16 / Revision: C
15096-A2-04	Level 4 – Reflected Ceiling Plan	14.12.16 / Revision: C
15096-A4-03	Level 3 – Finishes Plan	14.12.16 / Revision: C
15096-A4-04	Level 4 – Finishes Plan	14.12.16 / Revision: C
15096-A6-03	Level 3 – Proposed Floor Plan	14.12.16 / Revision: D
15096-A6-04	Level 4 – Proposed Floor Plan	14.12.16 / Revision: D

4. Purpose

The preliminary fire safety engineering design review was undertaken to determine ‘in principle’ whether the design will achieve compliance with the Performance Requirements of the National Construction Code (NCC) – Volume 1. It is noted that as part of the preliminary design review conducted there are no specific deviations from the prescriptive provisions that have been identified. Nonetheless, the overall function and use of the Level 3 and 4 Child Care Centre will be formally assessed and evaluated in an ensuing Fire Engineering Brief (FEB), Fire Engineering Brief Questionnaire (FEBQ) and Fire Safety Engineering Report (FSER) process in accordance with the International Fire Safety Engineering Guidelines (IFEG 2005) where it is the expectation that a suitable alternative design solution will be developed and supported through robust fire engineering methodologies to support the current design proposal.

5. Preliminary Assessment

The preliminary review of the information stated in Section 3 indicates that compliance can be achieved for the proposed Childcare Centre either through a prescriptive solution or through a performance based solution namely in relation to:

- Section C: - Fire Resistance, Compartmentation and separation; and
- Section D: - Access and Egress; and
- Section E: - Services and Equipment.

With respect to any identified design aspects, the design objectives for the project will consider the following:

- To satisfy the architectural vision and design specifications without compromising the life safety of building occupants; and
- Consideration and adherence where applicable of the relevant standards, legislations and guidelines for Childcare Centres; and
- Preserve the functionality and operational requirements of the subject Childcare Centre; and
- To ensure an ‘Alternative Solution’ is developed which demonstrates that the code performance requirements are satisfied.

6. Statement of Endorsement

Scientific Fire Services can confirm that the proposed Level 3 and 4 Childcare Centre shall readily meet and satisfy the relevant Performance Requirements from Volume One of the NCC. This can be achieved through a robust alternative design solution in combination with the prescriptive provisions of the NCC.

The formulation of the Fire Engineering Brief (FEB) and Fire Engineering Brief Questionnaire (FEBQ) represents the next step in the approvals process. Scientific Fire Services are in the process of developing this document and will provide a formal comprehensive FEB and FEBQ submission subsequent to the meeting or formal commentary with Fire & Rescue NSW and emergence of detailed design information.

The proposed assessment methodology to be detailed within the FEB, FEBQ and the formal fire safety risk engineering process shall be used to firm the above design engineering judgements into a definitive result.

On the basis of the review of the proposed design, Scientific Fire Services can confirm that the documentation in relation to the development and construction of the Level 3 and Level 4 CBA Childcare Centre at The Darling Exchange can achieve fire safety design compliance to the relevant Performance Requirements of the National Construction Code (NCC) – Volume 1.