FIRE SAFETY STRATEGY

Project:	Triple Two Nine Caringbah Estate	**Ref No.:**	F202041_Childcare_FSS_02
Address:	13 Endeavour Rd, Caringbah NSW 2229	**Date:**	16 June 2025
		Issue:	Childcare

To: Andrew Whiteman, Aliro Group

RE: Fire Safety Strategy – Issue Specific for Childcare Facility

1. INTRODUCTION

1.1 OVERVIEW

CORE Engineering Group has been engaged by Aliro Group to prepare a Fire Safety Strategy for the proposed new multi-building warehouse estate at 13 Endeavour Rd, Caringbah NSW 2229. Specifically this report relates only to the proposed childcare facility in Building 5 (Block 1).

1.2 SCOPE

The purpose of this report is to document the proposed fire safety strategy for the building, including guidance on the likely fire engineering trial design which has been established based on review of the BCA report, inspection of the existing building, and CORE Engineering Group's previous experience. This document is intended to be a guidance document for the design team to inform detailed design documentation and shall be further developed as necessary through ongoing consultation.

The specific details included are:

- The proposed Performance Solutions to address identified non-compliances, if applicable.
- The proposed fire engineering requirements.

1.3 SOURCES OF INFORMATION

- BCA report (Ref: 230188, Rev r0) by BM+G, dated 13/06/2025 for the childcare facility.
- Architectural plans by Watson & Young for the childcare facility:
  - 21366-005, Rev G, 'Estate Masterplan' dated 12 June 2025.
  - 21366-505, Rev D, 'Building 5C Commercial Ground Floor', dated 13 June 2025.
  - 21366-506, Rev C, 'Building 5C Childcare First Floor', dated 13 June 2025.
- Estate Fire Safety Strategy by CORE Engineering Group dated 10 December 2024.

1.4 LIMITATIONS AND ASSUMPTIONS

- This document represents the opinions of CORE Engineering Group based on the information known at the time of preparation of this document. Opinions, findings, and recommendations detailed in this document are based on our understanding and interpretation of current statutory and regulatory obligations and standards and should not be construed as legal opinions.
- This report does not constitute a fire engineering report (FER) that addresses the Performance Requirements of the BCA. Any recommendations herein are subject to detailed fire engineering analysis, and the relevant approval process.
- This document has been prepared as a guidance document only, and any parties relying on this should be cognisant that the recommendations are preliminary and subject to detailed analysis and authority approvals.

2. PROPOSED WORKS

2.1 SITE CONTEXT

The site is approximately 124,000 m² accessed by Endeavour Road to the north -west and Captain Cook Drive to the south-west as shown in Figure 2-1. The site is also bounded by a riparian corridor to the north-east, and Solander Fields to the east.

Building 1 is an existing warehouse facility accommodating multiple tenants and shall be retained and is the largest building shown in Figure 2-1 below. Building 2 is also existing, and the remainder of the site is proposed to be redeveloped as depicted below in Figure 2-2.

Figure 2-1: Existing Site

2.2 SITE DESCRIPTION

The proposed scheme for the estate is shown in Figure 2-2. With buildings 1 and 2 being existing, the scope of the new works relates to buildings 3 to 8.

- Building 3 – a row of multiple warehouse tenancies.
- Building 4 – a multi-level industrial building (2 warehouse levels, each with mezzanine offices, for a 'rise in storeys' of 4).
- **Building 5 Block 1** (A,B & C) – three warehouse tenancies, with an adjacent commercial portion accommodating an **early childcare facility** and a café.
- Building 5 Block 2 (D & E) – two adjacent warehouse tenancies.
- Building 6 – two warehouse tenancies.
- Building 7 – a group of warehouse tenancies.
- Building 8 – two adjacent warehouse tenancies.

All tenancies are proposed to be served by dedicated ancillary office facilities.

Figure 2-2: Site Layout including existing and proposed Fire Brigade Infrastructure

2.3 PROPOSED CHILDCARE FACILITY

The proposed childcare facility is located on Level 1, above the commercial tenancy(ies) on ground level of Building 5 (Block 1), highlighted in green in Figure 2-3. The childcare facility is approximately 1,200 m^2 including around 570 m^2 of outdoor space (Figure 2-5).

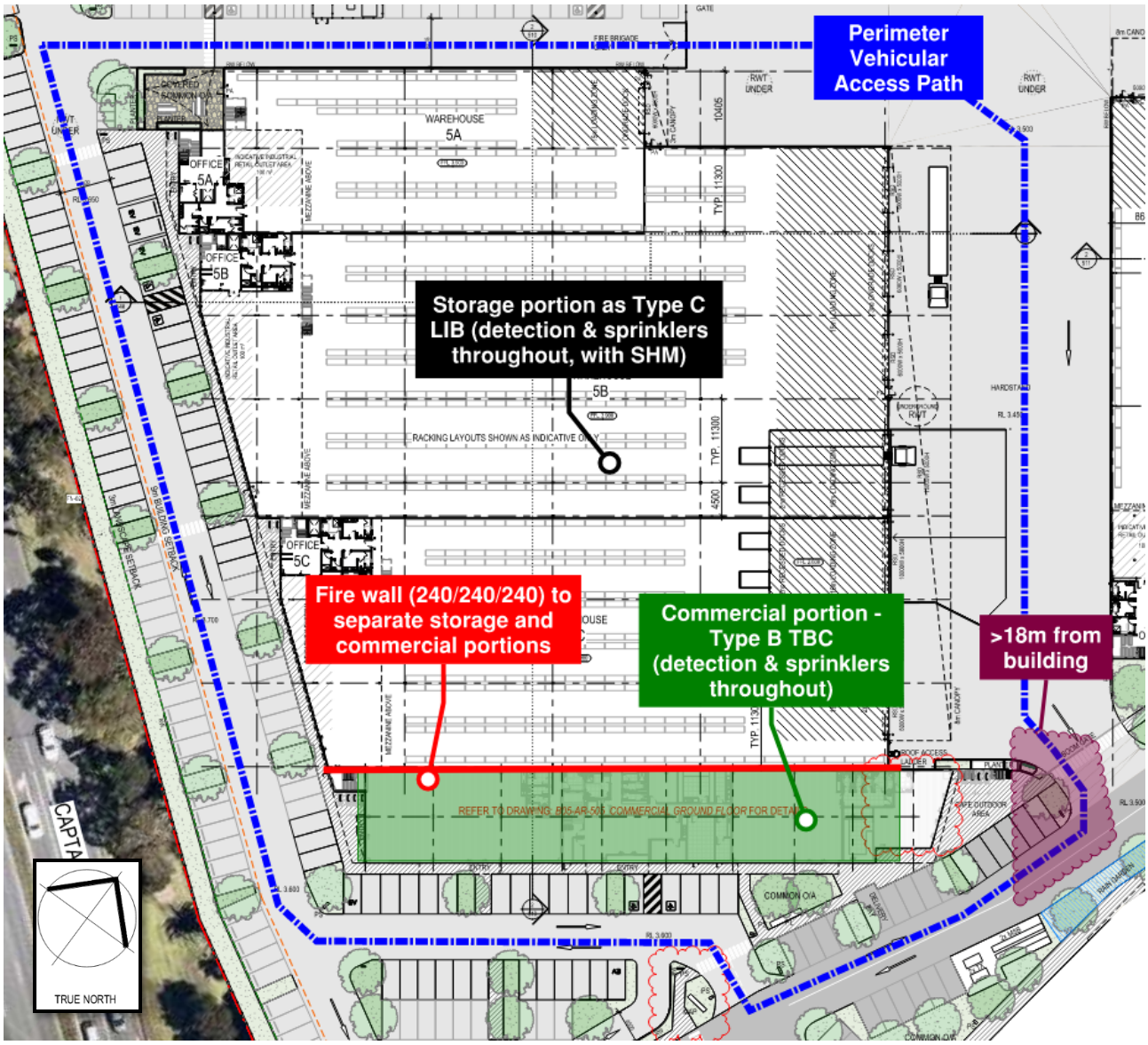

Figure 2-3: Building 5 (Block 1) – design characteristics & strategy

The floor areas for the building is shown in Figure 2-4. The ridge heights of the various buildings differs, and is summarised in the building-specific summaries provided in Section 2.4.

BUILDING 5 BLOCK 1

WAREHOUSE	5A	1,071 m²
WAREHOUSE	5B	3,048 m²
WAREHOUSE	5C	2,164 m²
OFFICE	5A	333 m²
OFFICE	5B	431 m²
OFFICE	5C	403 m²
TOTAL AREA		7,450 m²

BUILDING 5 COMMERCIAL

CAFE	112 m²
CHILDCARE	641 m²
CHILDCARE OUTDOOR	578 m²
COMMERCIAL	552 m²
TOTAL AREA	1,883 m²

Figure 2-4: Floor area schedule

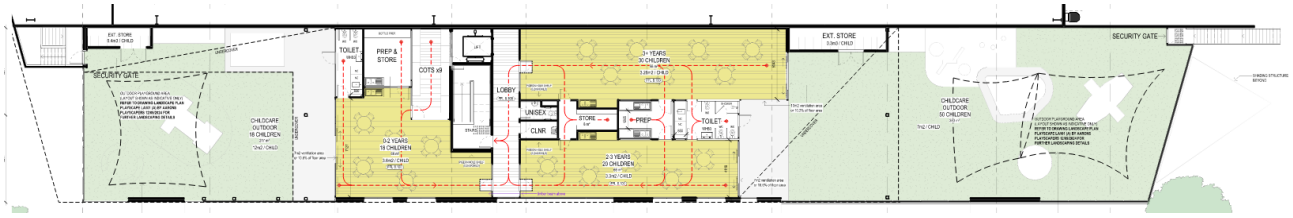

Figure 2-5: Childcare floor plan (Level 1)

2.4 BUILDING BCA CHARACTERISTICS

The following BCA characteristics are assumed for the relevant buildings.

Table 2-1: Building BCA Characteristics – Building 5 Block 1 (A, B &C)

CHARACTERISTIC	BUILDING 5 BLOCK 1 (COMMERCIAL / CHILDCARE PORTION)
Classification	Class 5 (office), Class 6 (café), Class 9b (early childcare)
Rise in Storeys	Two (2) – commercial/childcare portion
Type of Construction	Type B – commercial/childcare portion
Effective height	4.2 m
Total building floor area	1,883 m² commercial/childcare portion

3. PROPOSED PERFORMANCE SOLUTIONS

3.1 SUMMARY

No Performance Solutions specific to the childcare are proposed at this stage, as DtS compliance appears readily achievable. Proposed Performance Solutions specific to the warehouse portion of the building are presented in Estate Fire Safety Strategy by CORE Engineering Group dated 10 December 2024.

4. PROPOSED FIRE ENGINEERING TRIAL DESIGN REQUIREMENTS

The below summarises the proposed fire engineering requirements to satisfy the Performance Requirements of the BCA.

4.1 STRUCTURE AND COMPARTMENTATION

4.1.1 Type of Construction and Compartmentation

This building is comprised of two uses, being storage and commercial/childcare. A 240/240/240 fire wall shall be provided to separate these two uses.

- The building shall be considered a large-isolated building, with Type C construction for the storage portion and Type B construction for the commercial portion.
- Within the commercial portion, whilst the floor is not required to achieve an FRL for Type B construction, the early childcare centre must be fire-separated from the remainder of the office space below under Provision C3D6.
- 120/120/120 FRL fire wall between the childcare and commercial on ground floor.
- 120/120/120 FRL fire stair cores (centre and west) as per Provision D2D4.
    - It should be noted that the eastern stair is proposed to be non-fire-isolated as it provides direct access to open space, which may be deemed DtS-compliant under Provision D2D4 subject to the certifier's interpretation. However if a Performance Solution is required it would be reliant on providing drencher protection to the openings on ground level (at a minimum).

4.1.2 Combustibility of External Wall

As the building is of Type B construction, components of the external wall are to be non-combustible or as otherwise acceptable under DtS Provisions C2D10 and C2D14.

4.2 EGRESS

4.2.1 Travel Distance – Childcare

Travel distances within office areas are generally seen to be provided in accordance with the DtS limits of 20 m to a point of choice, 40 m to the nearest exit and 60 m between alternative exits.

4.3 FIRE FIGHTING EQUIPMENT

4.3.1 Fire Hydrants

The existing hydrant system is to be upgraded to serve the proposed site, in accordance with BCA Provision E1D2 and AS2419.1:2021.

- As far as possible, the hydrant system should consist of external hydrant points.
- The system must incorporate a ring main around the estate, and each large-isolated building with isolation valves that are external to the buildings and numbered with the corresponding numbers indicated on the block plan at the booster assembly.
- All hose connections in the system are to be fitted in accordance with FRNSW Technical information sheet – FRNSW compatible hose connections (available at firesafety.fire.nsw.gov.au). These couplings should be tested as part of the system when the commissioning tests are undertaken.
- The existing hydrant booster assembly is proposed to be retained at the entrance along Endeavour Road, being within sight of the main site entry.

Note: external hydrants are not required to be provided with radiant heat shields, per the concessions provided within AS2419.1:2021 for sprinklered buildings.

4.3.2 Fire Hose Reels

Fire hose reels shall be provided throughout the building in accordance with Provision E1D3 of the BCA and AS2441:2005.

4.3.3 Fire Sprinkler System

The existing fire sprinkler system shall be extended to serve Building 5, in accordance with the relevant regulatory requirements, being Provision E1D4 of the BCA and AS2118.1:2017. The childcare centre shall be provided with fast-response sprinklers, in accordance with NCC Specification 17.

4.3.4 Portable Fire Extinguishers

Portable fire extinguishers are to be provided throughout the building in accordance with Provision E1D14 of the NCC and selected, located, and distributed in accordance with AS2444:2001.

4.3.5 Control and Indicating Equipment

The building shall be provided with a FIP in accordance with NCC Specification 20 and AS1670.1:2018.

4.4 SMOKE HAZARD MANAGEMENT

4.4.1 Smoke Detection System

A smoke detection and alarm system shall be provided throughout Building 5 Block 1 in accordance with NCC Specification 20, due to the presence of the early childcare centre within the commercial portion.

4.4.2 Building Occupant Warning System

A building occupant warning system should be provided throughout all parts of each building. The system should be in accordance with the prescriptive requirements of Specification 17 and Clause 7 of Specification 20 of the NCC 2022 and AS1670.1:2018.

4.4.3 System Monitoring

Automatic signalling equipment should be provided that sends notification to fire brigade on alarm.

4.5 VISIBILITY IN AN EMERGENCY, EXIT SIGNS AND WARNING SYSTEMS

Emergency lighting is to be provided throughout the building in accordance with DtS Provisions E4D2 and E4D4 of the NCC 2022 and AS2293.1:2018.

Exit signage is to be provided throughout the building in accordance with the DtS Provisions E4D5, E4D6, E4D8 of the NCC 2022 and AS2293.1:2018.

4.6 BUILDING AND CONSTRUCTION MANAGEMENT PROCEDURES

The ongoing management of the building is as important in maintaining a high level of life safety as the provisions recommended during the design phase of the building.

4.6.1 Maintenance of Fire Safety Equipment

The fire safety systems should be tested and maintained in accordance with Australian Standard AS1851 or other relevant testing regulatory.

4.6.2 Emergency Plan

An emergency management plan should be developed for the site during the construction phase, in accordance with AS3745:2010. Where required, CORE Engineering Group can assist with the development of this document in conjunction with the Emergency Planning Committee, which should involve the childcare operator.

5. CONCLUSION

The fire safety strategy presented herein is considered capable of meeting the Performance Requirements of the BCA, subject to validation and verification of any assumptions made through detailed fire engineering analysis.

Through ongoing design development, the strategy proposed herein shall be amended and adapted based on consultation with the design team to develop the scope for the Fire Engineering Brief, and ultimately for the Fire Engineering Report for Construction.

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