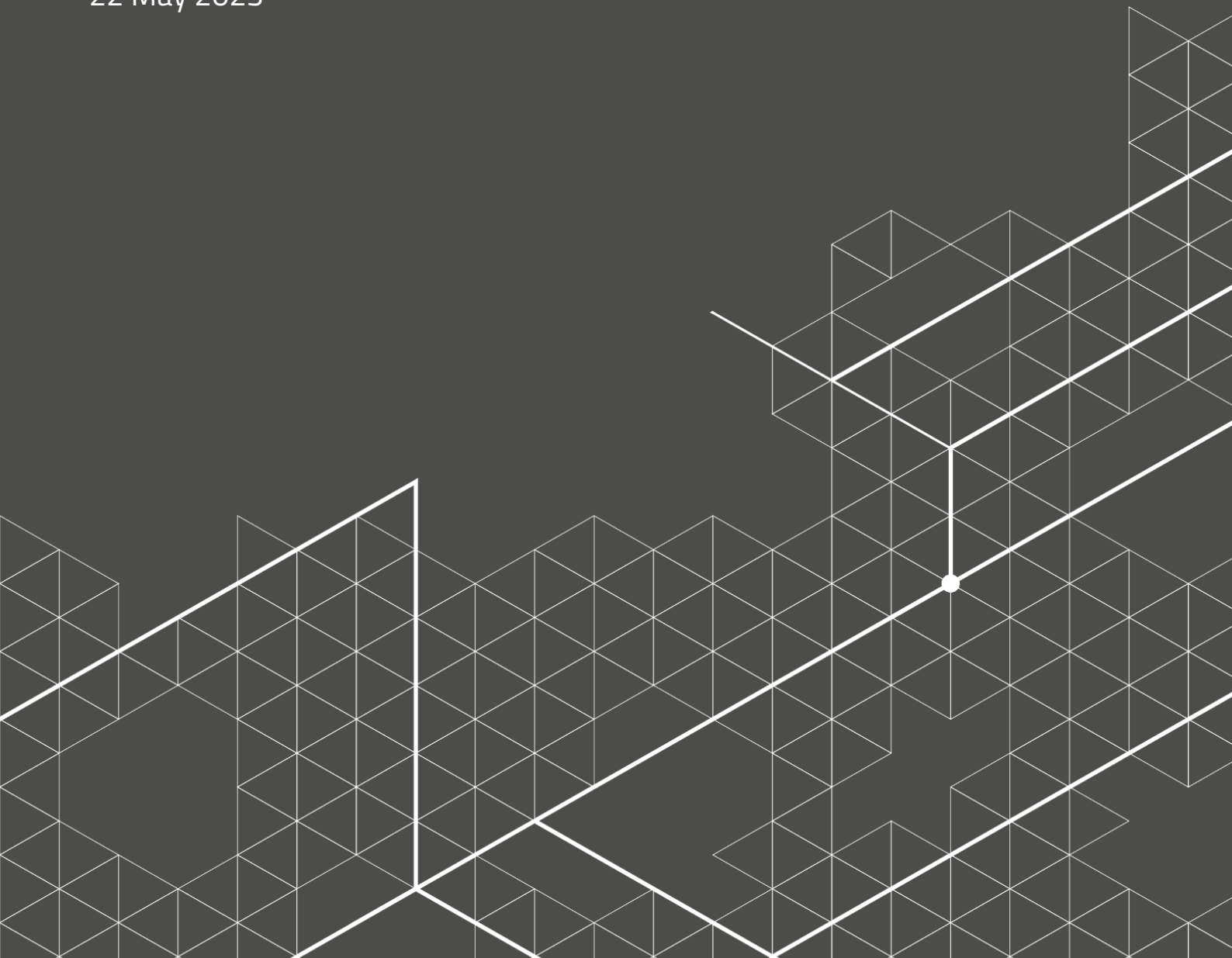
Code Consultancy Group

Building Code Capability Statement

Mixed Use Development
469-483 Balmain Road, Lilyfield NSW

Prepared for Roche Group Pty Ltd

22 May 2023



DOCUMENT OVERVIEW

DOCUMENT STATUS

Table 1: Document Control Register

Reference No.	Issue No.	Status	Date
BCAS 2210-01	1	Draft Statement issued for review by the team	25-Nov-2022
	2	Draft statement updated and issued for review by the team	17-Apr-2023
	3	BCA Capability Statement issued for final review by the team	11-May-2023
	4	Final BCA Capability Statement issued to accompany the DA	22-May-2023

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AAC ASSOCIATION OF AUSTRALIAN CERTIFIERS

AIBS ACCREDITED BODY CORPORATE Australian Institute of Building Surveying

FPA AUSTRALIA

ENGINEERS AUSTRALIA Society of Fire Safety

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1.0 INTRODUCTION

This statement has been prepared to verify that Code Consultancy Group Pty Ltd have undertaken a review of the architectural documentation that will accompany the Development Application for the proposed mixed-use residential development located at 469-483 Balmain Rd, Lilyfield against the Deemed-to-Satisfy provisions of the National Construction Code (Volume 1) Building Code of Australia 2022

1.1 REFERENCED DOCUMENTATION

The following documents has been reviewed and/or relied upon in the preparation of this statement:

1.1.1 Technical Documents

- Guide to the National Construction Code 2019, Amendment 1 – Building Code of Australia, Volume 1 ('the Guide to the NCC') Note 1
- The National Construction Code (Volume 1) Building Code of Australia 2022 ('NCC 2022')

1.1.2 Legislation

- Environmental Planning and Assessment Act 1979
- Environmental Planning and Assessment Regulation 2021
- Environmental Planning and Assessment (Development Certification & Fire Safety) Regulation 2021
- Building and Development Certifiers Regulation 2020

1.1.3 Design Documentation

- Architectural drawings prepared by CHROFI dated 31 March 2023 as listed in Appendix A.

Notes to Section 1.1

Note 1 The 2019 Amendment 1 edition of The Guide to the NCC has been referenced as at the time of issue of this statement, the Australian Building Codes Board have not released the 2022 edition of The Guide to the NCC.

1.2 LIMITATIONS & EXCLUSIONS

The limitations and exclusions of this statement are contained in Appendix B.

1.3 TERMINOLOGY, ABBREVIATIONS & SYMBOLS

This statement has been prepared using terminology consistent with that contained in NSW legislation, the National Construction Code and the Australian Standards / technical documents referenced within. To ensure the document is concise, the use of repetitious/cumbersome phrases have been limited through the use of Abbreviations & Symbols. To assist with interpretation and understanding, a Glossary of Terminology, Abbreviations and Symbols used in the report is contained in Appendix C.

1.4 STATEMENT OBJECTIVES

The objectives of this statement are to:

- Confirm that the referenced architectural drawings:
  - Have been assessed against the Deemed-to-Satisfy provisions of NCC 2022 by an appropriately qualified Building Surveyor and Registered Certifier.
  - Can readily achieve compliance with NCC 2022 pursuant to Section 1(1)(c) of the Environmental Planning and Assessment (Development Certification & Fire Safety) Regulation 2021 EP&A DCFS Regulation")
- Enable the Consent Authority to be satisfied that the referenced architectural drawings are capable of complying with the Deemed to Satisfy DtS") provisions applicable under NCC 2022, with full compliance being achievable as the design is developed without requiring design changes which would require a DA Modification application under Section 4.55 of the Environmental Planning and Assessment Act 1979 ('the EP&A Act').
- It is not the intent of this statement to identify all NCC provisions that apply to the subject development. The development will be subject further assessment following receipt of more detailed documentation at Construction Certificate stage.

1.5 SITE LOCATION

The site is located at 469-483 Balmain Rd, Lilyfield NSW and is legally described as Lot 2 DP 101583.

The site occupies a whole street block (6,824 sqm) and is bound by Balmain Road to the northwest, Cecily Street to the northeast, Alberto Street to the southwest and Fred Street to the southeast.

Figure 1: Site Location

1.6 PROPOSED DEVELOPMENT

The proposed development is a mixed-use residential development which will comprise:

- Retention of two (2) x character buildings located along Balmain Road;
- Provision of modern multi-functional light industrial space and creative employment / artists' space Note 1
- Eighty nine (89) x residential apartments (mix of 1,2 & 3 bedrooms) split across five (5) x buildings)
- Two (2) x levels of basement parking

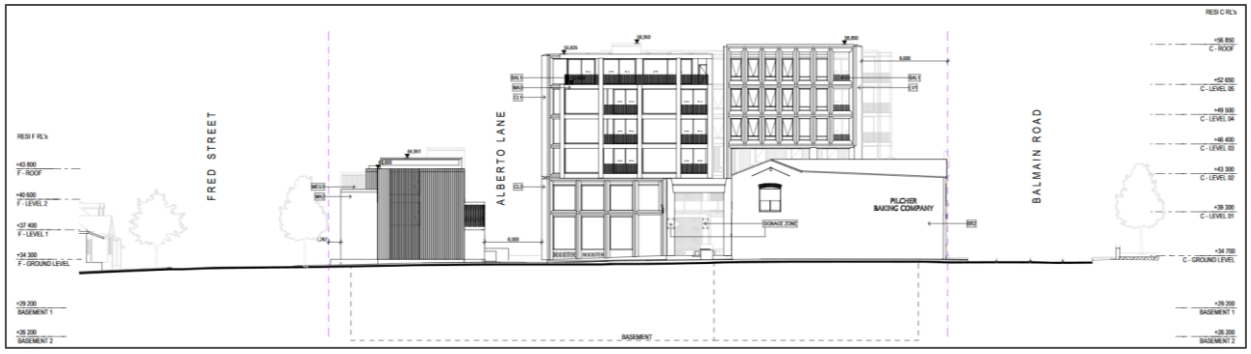


Figure 2: East Elevation

Figure 3: West Elevation

Figure 4: South Elevation

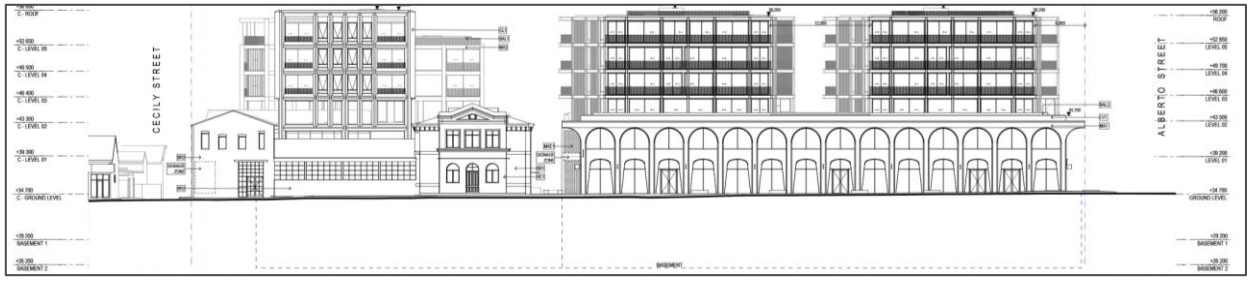


Figure 5: North Elevation

Notes to Section 1.6

Note 1 It is understood that the uses nominated in the drawings are indicative and for assessment purposes only. These uses are permissible within the site's IN2 Light Industrial Zone and under Clause 6.25 in Inner West Local Environmental Plan 2022, including at least 1,200m2 of which being set aside for creative purposes. Consent under this application is only sought for 'cold-shell' approval of each tenancy, with separate applications being pursued

2.0 BCA COMPLIANCE OVERVIEW

2.1 SUMMARY OF BUILDING CHARACTERISTICS

The building characteristics of the proposed development (as relevant to compliance with NCC 2022) have been summarised in Table 2 below. These characteristics form the foundation from which the applicable NCC DtS provisions (design compliance parameters) have been established and the development has been assessed against.

Table 2: Building Characteristics of the proposed development

Item	NCC DtS Reference	Assessment Description	
1.	**Part A6** Building Class	Class 7a: Class 2: Class 5 / 6 / 7b:	Car parking & ancillary use spaces Residential Apartments Office / Retail / Light Industrial Tenancies [Note 1]
2.	**B1D3** Importance Level	Two (2) [Note 2]	
3.	**C2D2** Construction Type	Type A Construction	
4.	**C2D3** Storeys Contained	Six (6)	
5.	**C2D3** Rise in Storeys ('RIS')	Seven (7)	
6.	**C2D2** Effective Height ('EH')	Greater than 12m but less than 25m (EH is calculated by subtracting the RL of the lowest storey counted in the RIS, which is Basement 1 with an RL of 29.20 from the RL of the floor of the top storey counted in the RIS, which in this case is Level 5 with an RL of 53.00, so: EH = L5 RL – B1 RL EH = 53.00 – 29.20 EH = 23.80m	
7.	**C3D3** Max Area & Volume	Class 2: Class 7a: Class 5 / 6 / 7b:	N/A for the Class 2 parts. These parts are not subject to floor area and volume limitations, as fire compartmentation for these parts are already regulated under Specification. C1.1 (Table 3) and Clause C3.11 of the BCA N/A for the carparking parts which form a single fire compartment and are exempt being a sprinkler protected carpark Total floor area and volume for the Retail / Light Industrial Tenancies TBC

Notes to Section 2.1

Note 1 It is understood that the uses nominated in the drawings are indicative and for assessment purposes only. These uses are permissible within the site's E4 General Industrial zone and under Clause 6.25 in Inner West Local Environmental Plan 2022, including at least 1,200m2 of which being set aside for creative purposes. Consent under this application is only sought for 'cold-shell' approval of each tenancy, with separate applications being pursued

Note 2 The Importance Level listed is based on advice provided by Rabee Kafina, Principal Structural Engineer for Xavier Knight (refer to Appendix F).

Note 3 The characteristics listed in Table 2 are based on CCG's assessment and interpretation of the referenced drawings and is subject to clarification and/or change as the design develops and new information and/or clarification of existing information becomes available.

2.2 NCC EDITION APPLICABLE

In accordance with provisions of the EP&A Regulation, the proposed development is subject to compliance with the relevant requirements of the NCC as follows:

Single Construction Certificate	- The NCC which applies to the project is the NCC in force at the time the application for the Construction Certificate
Staged Construction Certificates	- The edition of the NCC which applies to the work proposed is the edition in force at the time the application for Construction Certificates (CC) up until the CC which includes the 'entry level'. - Following the issue of a CC which includes the entry level, all subsequent CCs are subject to the provisions of the NCC edition in force at the time of that CC application

Having regard to the stage of design development and the fact that NCC 2022 comes in to force on 1 May 2023, it is anticipated that the development will be subject to the provisions of NCC 2022.

2.3 COMPLIANCE WITH THE NCC

The NCC is a performance-based code which contains the 'Performance Requirements' for the construction of buildings. Being a performance-based document, the NCC provides options and flexibility, allowing practitioners to satisfy the Performance Requirements for building by:

- Developing a Performance Solution; or
- Complying with the Deemed-to-Satisfy provisions (known as a DTS Solution); or
- A combination of the above two options.

This is illustrated below in Figure 5:

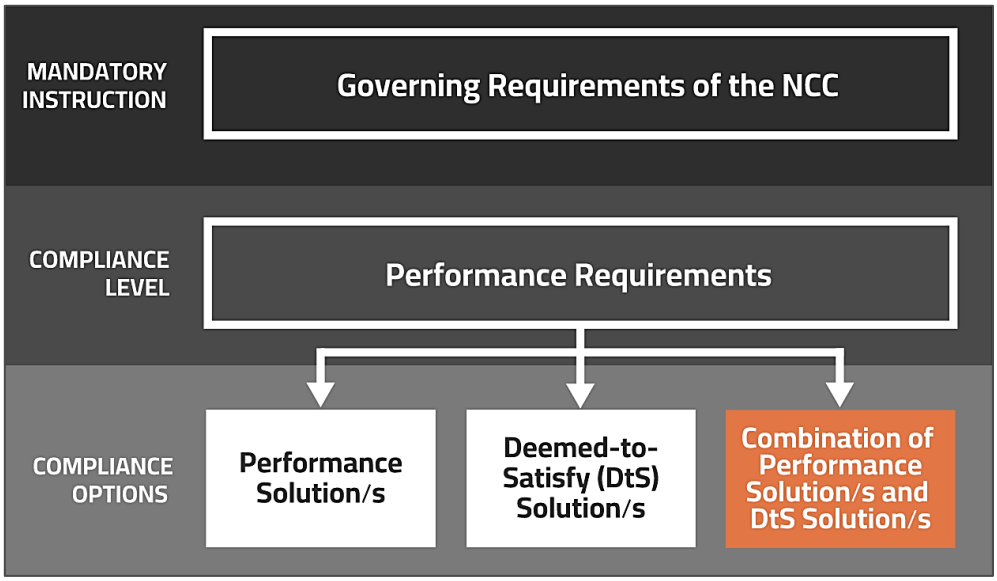


Figure 5: NCC Compliance Pathways

Based on the assessment contained within this report, it is expected that compliance with the NCC will be achieved via a combination of Performances Solutions and Deemed-to-Satisfy Solutions. Section 3.0 of this statement summarises the Performance Solutions which are either required or recommended for the development.

3.0 PERFORMANCE SOLUTIONS

Based on assessment of the referenced architectural drawings, the following Performance Solutions are either recommended or required to be documented to demonstrate compliance with the identified Performance Requirements of NCC 2022:

3.1 FIRE ENGINEERED PERFORMANCE SOLUTIONS

Table 3: Fire Engineered Performance Solutions (PS)

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.
1.	**C2D2, C3D9, C3D10, C4D6 & Spec. 5** Rationalisation of FRLs to retail / commercial / light industrial tenancies	To permit retail / light industrial tenancies to achieve a 120/120/120 FRL in lieu of: - A 120/120/120 FRL in lieu of a 240/240/240 FRL for walls/floors and other required fire rated elements to Class 7b light industrial parts of tenancies - A 120/120/120 FRL in lieu of a 240/240/240 FRL for walls/floors and other required fire rated elements to Class 6 retail parts light industrial Note: The intention of the above is achieve a consistent set of required FRLs across each classification (based on the Fire Engineer demonstrating these FRLs are suitable) which in turn will mitigate the need for fire separation between classifications which are located within and between tenancies.	C1P1 & C1P2

2.	**C2D2(1), C3D9, C3D10 & S5C11(1)(a)**
	Rationalisation of FRLs to existing 2-storey building –
		To rationalise FRLs and construction of the existing two storey building which is proposed to be retained and repurposed as part of the development. This will include (but is not limited to:
		- Retention of the non-fire rated timber floor in the existing building which serves Creative Tenancies CB11 & CB21 (likely to include Class 5 uses) which are located above Key Activator/Retail Tenancies CB001, CB002 & CB003 (likely to include Class 5 uses) in lieu of constructing a floor which achieves a 180/180/180 FRL as required by Table S5C11g of NCC 2022.
		- Retention of loadbearing external walls, which due to being existing it is not possible to verify they comply with Table S5C11a of NCC 2022, which requires loadbearing external walls to achieve:
		  - A –/–/120 FRL for Class 5 parts; and
		  - A 180/120/90 FRL for Class 6 parts:
		- Retention of loadbearing external columns, which due to being existing it is not possible to verify they comply with Table S5C11a of NCC 2022, which requires loadbearing external walls to achieve:
		  - A 120/60/30 FRL for Class 5 parts; and
		  - A 180/120/90 FRL for Class 6 parts:
			C1P1 & C1P2

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.
3.	**C2D2, C3D10 & Spec. 5** Reduced FRLs to Concrete Slabs at Wet Area Set Downs in SOUs	To permit reduction of FRLs from 90/90/90 to 60/60/60 in wet areas within residential units for set downs.	C1P1 & C1P2
4.	**C2D2 & Spec. 1 & 5** Cavity fire separation between the slab edge at each storey and the external walls	Fire separation at the opening between the slab edge and inside face of the external wall between storeys will be achieved using a cavity barrier system complying with the applicable provisions of NCC Spec. 9 rather than a cavity barrier system which achieves an FRL in accordance with S1C2 of NCC Spec. 1 as required by A5G5, noting that due to testing limitations under AS 1530.4-2014, it is not possible to assign an FRL to a system which is fitted between a fire rated element (the slab) and a non-fire rated element (the external walls)	C1P1 & C1P2
5.	**C2D2 & Spec. 1 & 5** Cavity fire separation between fire walls / fire rated walls where they intersect with external walls	Fire separation at the opening between internal fire rated bounding walls and the inside face of external walls will be achieved using a cavity barrier system complying with the applicable provisions of NCC Spec. 9 rather than a cavity barrier system which achieves an FRL in accordance with S1C2 of NCC Spec. 1 as required by A5G5, noting that due to testing limitations under AS 1530.4-2014, it is not possible to assign an FRL to a system which is fitted between a fire rated element (fire rated walls) and a non-fire rated element (the external walls)	C1P2 & C1P8
6.	**C2D2 & Spec. 1 & 5** Fire protection of connections between fire rated Steel Columns and unprotected Steel Roof Beams	To protect external loadbearing steel columns at the top storey using a passive fire protection system complying with S1C2 of NCC Spec. 1, except for connection details to the non-fire-rated roof structure, noting that the test provisions under AS 1530.4 and calculation/assessment requirements under AS 4100-2020 do not consider nor address this arrangement.	C1P1 & C1P2
7.	**C4D11(1)(a)** Lift landing doors tested to BS476-22	Fire rated lift landing doors used throughout the development are not expected to comply with AS 1735.11-1986, noting that the common brands of lift landing doors used in commercial / residential buildings in Australia have been tested to BS476-22 (European fire test) rather than AS1530.4 (Australian standard fire test) as required by Clause 2.2.1 of AS 1735.11-1986.	C1P2 & C1P8
8.	**C2D14** Green Wall forming an attachment to external walls	A Green Wall (referred to as 'GR1' in the Material Palette in Drawing No. DA601) is proposed as part of the development, and will need to be addressed in the FER, noting that: - These systems typically comprise lightweight interlocking panels (forming the structure of the Green Wall that attaches to the external wall(s) of the building) and are either constructed from plastic or contain plastic components e.g. planting beds/trays; and - In addition to the combustible elements forming the green wall structure, further combustible materials including organic material (soil, plants etc.) along with geotextile fabrics for filtration and flexible pipework for irrigation are also expected to be used	C1P2

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.

9.	**D2D5**
	Extended distances to exits
		Distances to exits and points of choice between alternative exits are proposed as follows:
		<u>Basement 2</u>
		- Up to 50m to an exit from the south-eastern parts of the carpark including:
		  - The vehicle aisle adjoining carspaces 43-51; and
		  - The vehicle aisle adjoining carspaces 82-87
		- Up to 50m to an exit from the Storage Room at Gridline A1-H1 (north-west side of carpark)
		<u>Basement 1</u>
		- Up to 21m to a point of choice between alternative exits adjacent to carspaces 47-54
		- Up to 50m to an exit from the south-eastern parts of the carpark including:
		  - The vehicle aisle adjoining carspaces 43-51;
		  - The vehicle aisle adjoining carspaces 82-87; and
		  - The Mech Plant Room in the eastern corner of the carpark
		- Up to 50m to an exit from the Plant Room at Gridline A1-H1 (north-west side of carpark)
		<u>Level 1</u>
		- Up to 25m to a point of choice between alternative exits from Creative Tenancy CB21, Creative Tenancy SM101 and Tenancy SS106
		- Up to 30m to a point of choice between alternative exits from Tenancies SS101-105
			D1P4 & E2P2

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.

10.	**D2D6**
	Extended distances between exits
		Distances between alternative exits of the development are proposed as follows:
		<u>Basement 2</u>
		- Up to 95m between exits when measured around the south-eastern parts of the carpark as follows:
		  - Between the fire stairs located at Gridline C4 and G4 (around the vehicular ramp leading to Basement 1)
		  - Between the fire stairs located at Gridline G4 and the adjoining the CW Pump Room).
		- Up to 98m between exits when measured through the Storage Area / Corridor at Gridline A1-H1.
		<u>Basement 1</u>
		- Up to 88m between the fire stairs located at Gridline C4 and G4 when measured around the south-eastern parts of the carpark (behind Tenancy SSB1 and the vehicular ramp)
		- Up to 97m between exits when measured through the Plant Service / Corridor at Gridline A1-H1.
		- Up to 83m between the fire stairs located Gridline G4 and the northern end of the loading bay (adjoining the Cold-Water Pump Room, lift and hydrant pump room) when measured through the Loading Bay.
		<u>Level 2</u>
		- Up to 55m between alternative exits (fire stairs) serving the residential levels when measured through the Communal Open Space located between the buildings.
		<u>Note</u>
		- Carpark travel distances referenced in PS No. 9 & 10 have been measured based on travel through car spaces in parts (as permitted in the guide to the NCC).
		- Egress mark-ups (measuring travel distances in Basement 1 & 2) are provided under Appendix G and Appendix H for transparency and ease of reference.
			D1P4 & E2P2

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.
11.	**D2D12 & D2D15(4)** Location of discharge from Fire Isolated Exits and the path of travel from these exits to the roadway	Fire stairs located opposite to Residential Lobbies A & B, the fire stair bounded by Tenancy SS003 and the fire stair opening in to Residential Lobby C : - Discharge at ground floor level in to enclosed lobby areas which do not comply with the provisions of D2D12(b) or (c) - Provide a path of travel from the respective discharge points to the roadway which will require occupants to pass within 6m of these external walls (and the openings contained within them) when measured horizontally at right angles to the path of travel Note: all openings are to be protected within the lobby / building entry parts up to where occupants are provided with a point of choice i.e. until occupants are able to move in two opposite directions all openings are to be protected with internal wall wetting sprinklers (drenchers) in accordance with the C4D5(1)(b)(i) .	D1P5 & E2P2
12.	**D3D13** Openings in the podium level slab which constitutes a Roof as Open Space under the NCC	Hydraulic (and other) services (rainwater outlets, downpipes etc.) are understood to penetrate through podium level slab are expected to be positioned in locations which are: - Open to the sky and therefore deemed to be passing through roof as open space; and - Within 3m of the 1m wide path of travel required by occupants to reach the roadway from the point of discharge from fire stairs. - path of travel from the egress discharge locations based on the services being protected using fire stopping systems which have been tested/assessed to achieve a -/120/120 FRL in accordance with C4D15(a)	C1P2, C1P8, D1P5 & E2P2
13.	**D3D25** Inward Swinging Exit Doors	Doors serving as both entry and exit points to/from the Commercial / Retail Tenancies located at the Ground Floor Level, which are greater than 200m^2 are proposed to swing inward (against the direction of egress) in lieu of outward (in the direction of egress). Note: Doors serving ground floor tenancies and Residential Lobbies which have a single exit and a floor area no greater than 200m^2 are permitted to swing inward, provided they are fitted with a latching device that holds the door in the open position.	D1P4
14.	**D3D26** Roller Shutter to Loading Bay located in a path of travel to an exit	The roller shutter door separating the Loading Bay at Basement 1 from the remainder of the carpark is located in a required path of travel to an exit and will be fitted with: - A fail-safe device which automatically opens the door upon the activation of the detection or sprinkler system to ensure that the door hardware/functionality does not impede egress - A battery back-up to ensure that the operation of the door is still possible in the event of loss of power to the building.	D1P4

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.

15.	**E1D4, E1D5, E1D6, E1D11 & S17**
	Omission of sprinkler protection to the Main Switch Board (MSB)Room
		Omission of sprinklers from the MSB Room, noting that under the DtS provisions of the NCC:
		- The MSB is understood to have a voltage of ≤1500 V d.c., and as such will be classified as Low Voltage under Clause 1.4.128 of AS 3000-2018 Amdt 1; and
		- Therefore, the concession to omit sprinkler protection under Clause 3.1.3(a) of AS 2118.1-2017 Amdt 2 would not apply to the MSB Room.
		- Despite wet type sprinkler protection being a DtS requirement for this room, it is not considered appropriate or safe near electrical boards having regard to the below risks:
		  - Risk for electricians as well as responding firefighters in or near electrical rooms where sprinklers could discharge over live equipment; and
		  - Risk that the sprinkler system could cause damage the switchboard, which in turn, could compromise fire services (reliant on the switchboard) to function in fire.
			E1P4

16.	**E2D3, E2D4, E2D5, S20C4** Smoke Hazard Management (Jet Fans)	To have the mechanical ventilation system serving the basement carpark comprise of a system of jet fans, in lieu of ducted carpark ventilation system that complies with AS 1668.2-2012 Note: Confirmation of the design arrangement for mechanical ventilation (supply and exhaust) inclusive of any Jet Fans is to be provided by the Mechanical Engineer	E2P2

17.	**Part G3 & Spec. 31**
	Atrium Construction
		To vary the requirements of the atrium as noted below based on the atrium being smoke separated from the remainder of the building and not being relied upon for egress from the adjoining commercial /retail / light industrial tenancies
		- To smoke separate the atrium well from the remainder of the building with construction complying with NCC Specifications 11 and 12 in lieu of providing:
		  - Wall wetting sprinkler protection to the glazing as required by S31C5; and
		  - A smoke control system required under S31C7- S31C14
		- To omit standby power systems required by S31C20, noting that a standby power system is technically required, as the floor around the atrium well will be used for circulation and therefore paths of travel to an exit from within the atrium exists.
		- To rationalise atrium floor and roof sprinkler protection required by S31C3 and S31C4
		- To permit the use of a detection and alarm system complying with S20C5 (combination of a smoke alarms within the SOUs and smoke detectors within the residential common areas) within the residential towers in lieu of detection complying with AS1670.1-2018 (Amdt 1) as required by S31C15 due to the inclusion of an atrium within the building
		- To omit stair pressurisation to the fire isolated exits, noting that these exits will be smoke separated from the atrium and access to/from the atrium in a fire will be minimised based on the documented egress strategy keeping occupants out of the atrium during egress.
			E1P4 & E2P2

3.2 OTHER PERFORMANCE SOLUTIONS

Table 4: Other Performance Solutions (Access / Health & Amenity, Energy Efficiency)

Item	NCC DtS Reference	Proposed Performance Solution	NCC Performance Req.
1.	**F3D5** Weatherproofing	Unless the external wall systems comprise of one or a combination of the below materials, a Performance Solution will be required to demonstrate that the external wall design will prevent the penetration of water that could cause unhealthy or dangerous conditions, or loss of amenity for occupants. NCC 2022 DtS external wall materials - Unreinforced/reinforced Masonry and Masonry Veneer complying with AS 3700-2018; - Autoclaved Aerated Concrete e.g. Hebel/Walsc etc. complying with AS 5146.3-2018; and - Metal wall cladding complying with AS1562.1-2018 Noting that the external walls largely consist of face brick, and metal cladding with prefinished coatings, compliance with the newly introduced DtS provisions for weatherproofing may be possible. In order to determine the applicable compliance pathway, the following information will be required post DA: - Verification that the Dark Grey Cladding ('CL4' in Drawing No DA601) is a metal wall cladding; - Evidence that the proposed metal wall cladding systems comply with the requirements of AS1562.1-2018	F3P1
2.	**J1V3** Energy efficiency verification using a reference building	It is understood that JV3 modelling will be used to demonstrate that the annual greenhouse gas emissions of the proposed development will be equal to or less than the annual greenhouse gas emissions of a reference building which complies with the Deemed to Satisfy design parameters specified under Parts J1-J9 of NCC 2022.	J1P1

4.0 PRELIMINARY FIRE SAFETY SCHEDULE

Based on assessment of the referenced architectural drawings, the following essential fire safety measures will be required for the development. Each of the fire safety measures is to satisfy the standard of performance listed in the schedule in accordance with the requirements of the Environmental Planning & Assessment (Development Certification and Fire Safety) Regulation 2021. However, these measures and the respective standard of performance may vary subject to the version of NCC in force at the time of application for Construction Certificate and advice/recommendations from the project design team, the Fire Safety Engineer and Fire & Rescue NSW

Table 5: Fire Safety Schedule (Preliminary)

Item	Statutory Fire Safety Measure	Standard of Performance
1.	**Access Panels, Doors & Hoppers to fire resisting shafts** ¬ Protecting openings in fire walls and fire rated walls	¬ NCC 2022: C4D14; ¬ AS1530.4–2014
2.	**Alarm Signalling Equipment** ¬ Detection and sprinkler systems are to be connected to and activate the Alarm Signalling Equipment ('ASE') ¬ ASE is be connected to a Fire Dispatch Centre	¬ NCC 2022: S20C8; ¬ AS1670.3–2018 (Amdt 1); AS4428.6–2018
3.	**Automatic Fail-Safe Devices** ¬ Electronically secured doors located in exits or paths of travel to exits to automatically unlock upon activation of the detection system or sprinkler system	¬ NCC 2022: D3D26
4.	**Automatic Fire Detection & Alarm System** ¬ The Fire Brigade Panel ('FBP') is to be located within the ground floor level Entry Lobby/. ¬ An External strobe light is to be provided at the Designated Building Entry Point to alert FRNSW to the location of the FBP; ¬ The detection system to is to be linked to the FBP, activate the Emergency Warning & Intercom System ('EWIS') and shut down air Handling systems; ¬ A fail-safe device is to be fitted to the Roller Shutter serving the Loading Bay in Basement 1 and is to trigger the roller shutter to open automatically upon activation of the detection system – refer to the Fire Engineering Report (once issued) ¬ A break-glass fire alarm point is to be provided at each door to fire-isolated exits; ¬ Smoke detection within the atrium is to comply with the provisions of NCC S31C16 except where varied by the Fire Engineering Report (once issued); ¬ Smoke detection to spaces bounding the atrium is to comply with NCC S31C17 except where varied by the Fire Engineering Report (once issued), which requires either a sampling type system complying with NCC S31C16 or point type photoelectric smoke detection to all return and relief air openings associated with building air-handling systems; ¬ 240V smoke alarms complying with NCC S20C3 and AS3786-2014 are to be provided in each SOU. Smoke alarms are to be powered by the consumer mains with a battery back-up. Where more than 1 smoke alarm is installed in an SOU, they are to be interconnected.	¬ NCC 2022: E2D3, E2D4, E2D5, S20C4, S31C18; ¬ AS1670.1–2018 (Amdt 1); ¬ The requirements of the Fire Engineering Report (once issued)

Item	Statutory Fire Safety Measure	Standard of Performance
5.	**Automatic Fire Suppression Systems** ¬ Block plans at the FBP, Booster Assembly, Pump & Valve Room; ¬ Signage complying with located at Booster Assembly, Sprinkler Valve and Pump Room; ¬ FRNSW compatible Storz Hose Connections at Booster Assembly; ¬ Fire Engineered Performance Solutions are proposed for; ¬ Sprinkler alarm valve location – Sprinkler alarm valves will be located in the Hydrant & Sprinkler Pump Room located at Basement Level 1 and accessed via a fire stair / airlock in lieu being located in a secure room or enclosure which has direct egress to a road or open space; ¬ Omission of sprinklers to MSB Room – To omit sprinkler coverage from the Main Switchboard Room at Basement 1 ¬ Variation to atrium sprinkler protection – To vary the extent of protection to the walls, floor, and roof of the atrium. Dependant on the requirements of the Fire Engineering Report (once issued) the following may apply: - Where sprinkler heads are provided to protect the roof of the atrium, they are to be provided with a stop valve; - Stop valve to wall wetting and roof sprinklers may be of the gate type. ¬ All sprinkler and wall wetting stop valves must be provided with independent stop valves, which easily accessed and identified and monitored to detect unauthorised closure; ¬ The sprinkler system is to be connected to and activate the EWIS in accordance with S17C8; and ¬ A fail-safe device is to be fitted to the Roller Shutter serving the Loading Bay in Basement 1 and is to trigger the roller shutter to open automatically upon activation of the sprinkler system – refer to the Fire Engineering Report (once issued) ¬ Sprinklers in the lift shafts are to be: ¬ Fitted with guards to protect them from accidental damage ¬ Capable of being isolated and drained, either separately or collectively, without isolating any other sprinklers within the building. ¬ Fitted with anti-tamper connected monitoring devices	¬ NCC 2022: E1D4, E1D5, E1D6, E1D9, E1D12, Specification 17; ¬ AS2118.1–2017; ¬ The requirements of the Fire Engineering Report (once issued)
6.	**Emergency Lighting** ¬ Emergency Lighting located in: ¬ Fire-isolated stairways and associated fire-isolated passageway/s as well as non-fire isolated stairs ¬ Within the atrium ¬ Each storey / part of the storey in the building as follows: - in every passageway, corridor, hallway, or the like, which is part of the path of travel to an exit; and - in any room having a floor area more than 100m^2 that does not open to a corridor or space that has emergency lighting or to a road or open space; and - in any room having a floor area more than 300 m^2	¬ NCC 2022: E4D2–E4D4; ¬ AS/NZS2293.1–2018;

Item	Statutory Fire Safety Measure	Standard of Performance
7.	**Emergency Evacuation Plans** ¬ Emergency Evacuation Plans located where occupants and visitors can view them and positioned between 1.2m – 1.6m above the FFL the floor. ¬ The orientation of the plan is to be correct in relation to the 'You are Here' location and the direction of egress (Section 3.5.5, AS 3745:2010) ¬ Diagrams must contain: ¬ A pictorial representation of the floor or area, which is at least 200mm x 300mm (if on an A3 map); ¬ A legend to reflect symbols used; ¬ A validity date; ¬ The title 'EVACUATION DIAGRAM'; ¬ The 'YOU ARE HERE' location; ¬ Location of Assembly Area(s); ¬ Designated exits shown in green; ¬ Hose reels, hydrants, fire blankets and fire extinguishers ¬ Fire Brigade Panel; ¬ Communications equipment: ¬ Main control panel for occupant warning equipment;	¬ Section 43 of the Work Health and Safety Regulation 2017; ¬ AS3745–2010; ¬ The requirements of the Fire Engineering Report (once issued)
8.	**Emergency Warning & Intercom System ('EWIS')** ¬ EWIS Installed throughout the building ¬ EWIS to be activated by the detection and/or sprinkler system ¬ The EWIS is to incorporate visual warning devices that: ¬ Operate upon the evacuation signal; and ¬ Display the word "EVACUATE" in red with letters conforming with the DtS requirements for exit signs under NCC Part E4	¬ NCC 2022: S31C19 ¬ AS1670.1–2018 (Amdt 1) ¬ The requirements of the Fire Engineering Report (once issued)
9.	**Exit Signs & Directional Exit Signs** ¬ Exit signs located on, above and/or adjacent to each door: ¬ Providing direct egress from a storey to enclosed stairways, passageways and ramps serving as required exits; and ¬ From enclosed stairways, passageways, and ramp at the level where they discharge to a road or open space; and ¬ Forming an exit from the storey e.g. final exit discharge doors at ground level ¬ Exit signs positioned so that signage is clearly visible to occupants approaching the exit ¬ Directional exit signs installed in corridors, hallways, lobbies, and the like, indicating the direction to a required exit where an exit is not readily apparent to occupants ¬ Exit signs installed so that they are located above doorways or where not located above doorways positioned so that the underside of the sign is a between 2-2.7m above the FFL.	¬ NCC 2022: E4D5, E4D8, NSW E4D6; ¬ AS/NZS2293.1–2018; ¬ The requirements of the Fire Engineering Report (once issued)
10.	**Fire Dampers** ¬ Protecting mechanical ductwork which passes through external fire rated substrates i.e. internal to external (other than the kitchen exhausts, and supply and exhaust air to the fire hydrant and sprinkler pump/valve room)	¬ NCC 2022: C4D15; ¬ AS/NZS1668.1–2015, AS1682.2–2015;

Item	Statutory Fire Safety Measure	Standard of Performance
11.	**Fire & Smoke (combined) Dampers** - Protecting mechanical ductwork which passes through internal fire rated substrates (other than the kitchen exhausts, smoke control systems and supply and exhaust air to the fire hydrant/sprinkler pump & valve room) which:	- NCC 2022: E2DS3(1)(b); - AS/NZS1668.1–2015, AS1682.2–2015;

12.	**Fire Doors**
	- Protecting openings in fire walls and fire rated walls including:
	  - Doors opening to Residential Sole Occupancy Units and other rooms bounding corridors
	  - Doors opening to / discharging from fire isolated stairways,
	  - Doors to the Main Switchboard Room
	  - Doors located in fire walls separating building classifications
		- NCC 2022: C3D14, C4D6, CD49; S12C2;
		- AS1905.1–2015;
		- The requirements of the Fire Engineering Report (once issued)

13.	**Fire Hose Reels** - Serving the retail/light industrial tenancies and carpark only - Located within 4m of exits as required to achieve coverage. - Located so that coverage is achieved without the hose of the hose reel system passing through fire doors. - Hose Reel coverage not required in the tenancies used solely as offices nor within the residential parts	- NCC 2022: E1D3; - AS2441–2005
14.	**Fire Hydrant System** - Block plans located at the FIP, Booster Assembly, Pump and Fire Indicator Panel - Signage located at Booster Assembly, Sprinkler Valve and Pump Room - FRNSW Compatible Storz Hose Connections at the Booster Assembly and Landing Valves - Hydrant Landing Valves to be located within Fire Stairs	- NCC 2022: E1D2; - AS2419.1–2021; - The requirements of the Fire Engineering Report (once issued)

15.	**Fire Resisting Elements & Structures**
	- Fire rated services and lift shafts; Fire Isolated Stairs; Fire Rated Columns & External walls,
	- Slab edge and external wall cavity fire sealing is to be completed in accordance with the requirements of the Fire Engineering Report (once issued)
	- Fire rated floor slabs are accordance with the DtS provisions with the exception of:
	  - Slab setdowns in residential wet areas for which a Performance Solution is proposed to permit a 60/60/60 FRL for the parts - refer to the Fire Engineering Report (once issued)
	  - Slabs separating retail (Class 6) and light industrial (Class 7b) parts for which a Performance Solution is proposed to permit an FRL of 120/120/120 FRL - refer to the Fire Engineering Report (once issued)
		- NCC 2022: C2D2, Spec. 5;
		- The requirements of the Fire Engineering Report (once issued)

Item	Statutory Fire Safety Measure	Standard of Performance
16.	**Fire Seals** ¬ Protecting openings in fire-rated elements of the building ¬ Protecting service penetrations through fire-rated elements of the building ¬ Protecting conduits cast in to the floor slabs in Wet Areas in accordance with the FER	¬ NCC 2022: C4D15, C4D16; ¬ AS1530.4–2014, AS4072.1–2005; ¬ The requirements of the Fire Engineering Report (once issued)
17.	**Lightweight Construction** ¬ Fire Walls, Fire Rated Walls, Stair & Lift Shafts, Services Shafts, Fire Rated Columns, Fire Rated Bulkheads, & other ¬ Fire walls and fire rated walls are to be accordance with the DtS provisions with the exception of: ¬ Fire Walls separating the retail (Class 6) and light industrial (Class 7b) where a Performance Solution is proposed to permit an FRL of 120/120/120 - refer to the Fire Engineering Report (once issued)	¬ NCC 2022: C2D2, Spec. 5 & 6; ¬ AS1530.4–2014; ¬ The requirements of the Fire Engineering Report (once issued)
18.	**Mechanical Air Handling Systems** ¬ Air Handling Systems to automatically shut down in fire mode, with the exception of: ¬ Supply and exhaust air to the hydrant/sprinkler pump and valve room at Basement Level 1 ¬ Any kitchen exhaust system which is operating ¬ The carpark exhaust system, which is required to continue operating in fire and be provided with manual override functions at the FIP for use by FRNSW ¬ The smoke control system to the atrium is proposed to be rationalised under a Fire Engineered Performance Solution ¬ Fire-isolated exits are be protected from smoke ingress in accordance with NCC E2D3 as required by NCC S31C21	¬ NCC 2022: E2D3, E2D4, E2D5, S20C4; ¬ AS/NZS1668.1–2015, AS1668.2–2012, AS1670.1–2018 (Amdt 1); ¬ The requirements of the Fire Engineering Report (once issued)
19.	**Paths of Travel** ¬ Exits and paths of travel to all exits required to be kept clear at all times ¬ Distances to exits to comply with DtS provisions except where varied in the Fire Engineering Report (once issued) ¬ Dimensions of exits and paths of travel to exits to be a minimum 1m wide and 2m high ¬ Nominated exit doors to swing in the direction of egress	¬ NCC 2022: D2D3, D2D5–D2D12, D2D15, D3D25 D3D26 D3D27; ¬ Section 109 of the EP&A (Development Certification and Fire Safety) Regulation 2021; ¬ The requirements of the Fire Engineering Report (once issued)
20.	**Portable Fire Extinguishers** ¬ Portable Fire Extinguishers are to be located within the development as follows: ¬ Residential parts - Min. 2.5kg ABE extinguisher located on every storey where Sole Occupancy Units (SOUs) are located, distributed so that are no more than 10m from any SOU door ¬ Main Switch Board (MSB) Room - Min. 5kg Carbon Dioxide CO2 extinguisher located outside the switch room in a position which is visible from the door to the room and located 2-20m from the board. ¬ Remainder of development - To be confirmed by the fire services designer based on their assessment and identification of the hazards	¬ NCC 2022: E1D14; ¬ AS2444–2001

Item	Statutory Fire Safety Measure	Standard of Performance
21.	**Smoke Doors** ¬ Protecting all door openings between the atrium and the remainder of the building in accordance with the requirements of the Fire Engineering Report (once issued); ¬ Smoke door leaves are to be: ¬ At least 35mm thick, or are capable of resisting smoke at 200°C for 30 minutes ¬ Fitted with smoke seals and constructed so that smoke will not pass from one side of the doorway to the other; ¬ Designed to be self-closing or automatic closing in fire mode and power failure ¬ Any glazing incorporated in to the smoke doors is to comply with AS1288-2021 and the requirements of the Fire Engineering Report (once issued); ¬ Doors to swing in the direction of egress or in both directions (where egress is required in both directions)	¬ NCC 2022: S11C4, S12C3, S12C4; ¬ The requirements of the Fire Engineering Report (once issued)
22.	**Wall Wetting Sprinklers** ¬ Internal wall wetting sprinklers protecting openings located within 6m of the path of travel from the discharge point from fire stairs to the roadway ¬ Wall wetting sprinkler protection to the atrium walls is proposed to be omitted under as Performance Solution - refer to the Fire Engineering Report (once issued)	¬ NCC 2022: C4D5 / D2D12(3)(a)(ii); ¬ AS 2118.2–2010; ¬ The requirements of the Fire Engineering Report (once issued)
23.	**Warning & Operational Signs** ¬ Fire Safety Notices and signage including fire isolated exit door signage, offences relating to fire stairs notices, braille exit signs, lift warning signs ¬ Metal fire door identification tags (fitted to the fire door frame and door leaf)	¬ NCC 2022: D3D28, D4D7, E3D4; ¬ AS1905.1–2015; ¬ Section 108 of the EP&A (Development Certification and Fire Safety) Regulation 2021 ¬ The requirements of the Fire Engineering Report (once issued)
24.	**Fire Engineered Performance Solutions (once issued):** ¬ A preliminary summary of the anticipated Performance Solutions to be addressed by the Fire Engineer have been detailed in Section 3.0 of this document	¬ NCC 2022: Performance Requirements C1P1, C1P2, C1P8, D1P4, D1P5, E1P4, E2P2; and ¬ The requirements of the Fire Engineering Report (once issued)

5.0 MATTERS REQUIRING FURTHER INFORMATION / CLARIFICATION AT THE POST DA DESIGN STAGE

The following table provides a summary of matters which will need to be addressed as part of the detailed design and Construction Certificate stages to ensure the development complies with the NCC.

Table 6: Summary of matters requiring further information at the post DA stage

Item	NCC DtS Reference	Summary
1.	**C2D2 & Spec. 5** Fire resisting construction	¬ Walls located within in 3m of the allotment boundary are to be fire rated in accordance with the requirements of NCC Specification 5 for Type A Construction C1.1. ¬ The enclosing walls of the lift shafts and stair shafts are to be documented to achieve a 120/120/120 FRL at the basement level and a 90/90/90 FRL at the above ground levels. The tops of the shafts are to be enclosed with fire rated construction which also achieves a 90/90/90 FRL.
2.	**D2D12 / D2D15** Path of egress to roadway from the Fire Stair discharge points	¬ The external walls on the eastern elevation of Apartment Ag.02 is to be documented during the post DA detailed design drawings to achieve a min. 60/60/60 or -/60/60 FRL and the High Level Window is to be assessed as a Performance Solution by the Fire Engineer. ¬ The external walls of Apartments BG.02 and BG.03 which adjoin the Ground Level Breezeway and are located within 6m of the path of travel out to bay street are to achieve4 a min. 60/60/60 or -/60/60 FRL and the apartment entry doors are to be documented as -/60/30 FRL self-closing Fire Doors complying with AS 1905.1-2015
3.	**C2D2, C3D3 / C3D8** Fire walls separating building classifications & other parts	¬ The walls separating the following areas are to be designed as 120/120/120 Fire Walls with any doors being self-closing or auto closing -/120/30 FRL fire doors: ¬ Commercial / Retail Tenancy walls where they bound the residential lobbies at the Ground Floor Level ¬ Main Switch Board (MSB) Room from the Carpark ¬ The Hydrant & Sprinkler Pump / Valve Room

Item	NCC DtS Reference	Summary
4.	**C2D10 / C2D14** Non-combustible building elements	¬ Test Reports are to be provided as noted below for the proposed external wall materials: ¬ CL1, CL2, CL3, MEP1, LV1, MEG1, BAL1 & BAL2 – Copies of AS 1530.3-1999 Test Reports demonstrating that the coating / finish to the metal substrate has a 1mm thickness which is and has a Spread of Flame Index of 0. ¬ GR1 – Combustible materials forming part of Green Wall are proposed to be addressed in the Fire Engineering Report (refer to Section 3.0). ¬ RE1 – An AS 1530.1-1994 Test Report will be required for the proposed render to verify it is non-combustible. Note: There are both cement based and acrylic based renders which are deemed non-combustible when tested to AS 1530.1-1994 and as such the specific render type can be verified post DA. ¬ CL2 – The Gold Cladding is assumed to be solid aluminium product such as Mondoclad or Vitradual. However this needs to be confirmed. Where this is the case, a copy an AS1530.3-1999 demonstrating the coating to the aluminium substrate has a thickness ≤1mm and a Spread of Flame Index of 0 as permitted by C2D10(6)(e). However, where this is not the case, further information regarding the cladding product will be required to verify its compliance status. ¬ CL3 – Further information regarding the Dark Grey Cladding is required. Where this is FC sheeting, verification of this by the manufacturer along with accompanying data sheets will suffice. Where the cladding is a material such as XCEM AlphaPanel or the like an AS 1530.1-1994 Test Report is required to verify the cladding is non-combustible in accordance with C2D10(1)(a). ¬ Other materials which will need to be verified post DA include: ¬ Sarking – A copy of the AS1530.2-1992 Test Report will be required post DA to verify the sarking has a thickness ≤1mm and a Flammability Index ≤5. ¬ Insulation – AS 1530.1-1994 Test Reports will be required for each insulation type proposed to be used in external walls and in lightweight fire-rated walls is non-combustible. ¬ For all other remaining building elements (including internal linings, framing, packers, insulation, and external linings) as well building elements attached to either the internal or external face of the external walls are to be non-combustible or comply with a concession under NCC C2D10 or C2D14.
5.	**C2D11** Internal linings - Fire hazard properties	¬ A schedule of internal linings (floors, walls and ceiling) along with Test Reports are required for review to ensure that the materials comply for their proposed uses. Particular attention should be paid to any synthetic plastic/rubber-based materials and any timber or composite materials linings used internally to ensure that these materials achieve the required fire hazard properties.

Item	NCC DtS Reference	Summary
6.	**C3D13** Separation of equipment	¬ Confirmation is required whether the Basement Plant Rooms contain any of the following equipment which would require the room to be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by Spec C1.1, whichever is greater) and doorways being self-closing -/120/30 FRL fire doors ¬ Lift motors and lift control panels; ¬ Emergency generators used to sustain emergency equipment operating in the emergency mode; ¬ Central smoke control plant; ¬ Boilers; ¬ A battery or batteries installed in the building that have a voltage > 12 volts and a capacity exceeding 200kWh.
7.	**C4D15** Fire Compartmentation	¬ It is recommended that Fire Compartmentation is commenced as early as possible in the post DA Design Development process to ensure that all Passive Fire requirements can be captured and integrated in to the design. Post DA, it is recommended that preliminary Fire Compartment Plans (FCPs) are prepared based on the mark-ups issued by CCG, dated 21/02/23, which outline the overarching fire resistance levels for the development.
8.	**D2D12 / D2D15** Path of egress to roadway from the Fire Stair discharge points	¬ The below listed walls are required to achieve a ¬ The walls bounding Residential Lobby C (which the Fire Stair serving Tower C discharges in to) ¬ The walls of Tenancies SS001, SS003, SS004 and SS005 are to be documented to be fire and or smoke resisting as follows: ¬ Where bounding the Residential Lobby A or B: 120/120/120 (if loadbearing) or -/120/120 FRL (if non-loadbearing) ¬ Where bounding the external portion of the lobby / breezeway (outside of the atrium): 60/60/60 or -/60/60 FRL ¬ The walls of Tenancies SS001-SS005 are to be designed to comply as smoke walls where they bound the atrium. For glazing, this will require safety glass as a minimum (additional requirements will likely be imposed as part of the FER). Where lightweight wall construction is proposed, this is to compromise of a minimum 13mm standard grade plasterboard, with all gaps, openings, penetrations sealed using non-combustible material.
9.	**D2D22** Lift Pit heights required to be confirmed	¬ Confirmation is required from the Vertical Transport Consultant that the lift pit will not exceed 3m in depth. Where the lift pit is deeper than 3m, the requirements of D2D21 of NCC 2022 will need to be incorporated into the design.
10.	**D3D16 / Part D4** Slip resistance ratings for floor/ground surfaces	¬ The slip ratings of the proposed accessible/adaptable apartment and common area buildings parts both internally and externally are to be documented in a schedule and submitted for review with supporting AS 4586-2013 Test Report to ensure that the floor finishes proposed achieve the minimum required slip ratings.
11.	**D3D16** RLs and landings at door thresholds	¬ RLs are to be detailed between rooms and adjoining internal surfaces to ensure that there are no steps at the door threshold. Where there is a change in level, prior to any step or ramp, a landing is required which has a min. length of no less than the width of the active door leaf for the full width of the door opening

Item	NCC DtS Reference	Summary
12.	**D3D17- D3D20** Balustrades design	¬ Details of balustrades are requested for review to ensure that horizontal or near horizontal members do not occur within the zone of 150mm to 760mm above the FFL at all levels where the fall below is 4m or more. Note climbable elements include those within the balustrade along with any other fixed object within 900mm of the inside face of the balustrade
13.	**D2D5** Additional Doorways required	¬ Additional doorways are required to ensure that egress complies with the DtS provisions as well as the proposed Fire Engineering Strategy which proposed to restrict access to the atrium in the event of a fire by directing occupants around the atrium in order to limit the spread of fire & smoke to other building parts. Locations of the required doorways are as follows: <u>Basement 2</u> Providing access between: ¬ The north-eastern wall of the Mech Plant Room (located in the western corner of the carpark) and the Storage Room (located at Gridline B1) ¬ The north-eastern wall of the Mech Plant Room (located in the western corner of the carpark) and the carpark vehicle aisle (located at approx. Gridline B2) ¬ The Cold-Water Pump & Meter Room (adjacent to the Residential C Lift Lobby) and the carpark ¬ The north-western wall of the Mech Plant Room in the eastern corner of the carpark (adjacent to carspace 11) and the Light Industrial carpark vehicle aisle <u>Basement 1</u> Providing access between: ¬ The north-eastern wall of the Mech HW Plant Room (located in the western corner of the carpark) and the Plant/Services Room (located between Gridline A1& B1) ¬ The south-western wall of the Mech HW Plant Room (located in the western corner of the carpark) and the carpark (located at between carspaces 1 & 29) ¬ The north-eastern wall of Tenancy SSB1 (below the fire stair between Gridline B4 and B5) and the carpark ¬ The south-western wall of Tenancy SSB1 (below the fire stair between Gridline G4 and G5) and the carpark ¬ The north-western wall of the Loading Bay (approx. Gridline O4) and the adjacent corridor ¬ The north-western wall of the Loading Bay and the carpark (located approx. between the dashed lines identifying the Mech Plant Room and the OSD above) <u>Ground Floor</u> ¬ Providing access between: ¬ The south-eastern external wall of Tenancy SS004 (between the ramp and Gridline C5-C6) and the adjacent pathway ¬ The south-eastern external wall of Tenancy SS004 (next to the wall separating Tenancies SS004 and SS005) and the adjacent pathway ¬ The south-eastern external wall of Tenancy SS005 (at approx. Gridline E5-E6) and the adjacent pathway

Item	NCC DtS Reference	Summary
14.	**E1D2** Fire Hydrants	¬ Hydrant landing valves need to be documented within the respective fire stairs at the Storey they are proposed to serve or a maximum of 1 flight below the storey served (as permitted by AS 2419.1-2021) ¬ A minimum 1m unobstructed egress width around pump controllers and the plinths for the pumps is achieved. Coordination is required to ensure this minimum width not reduced by the inclusion of the sprinkler valve assemblies in this room.
15.	**E1D3** Fire Hose Reels	¬ The commercial/retail/light industrial tenancies are required to be provided with Fire Hose Reel coverage. (based on 36m hose and 4m spray). Hose Reels serving these tenancies are to be located within 4m of exits.
16.	**E1D4-E1D6, E1D11 & Spec. 17** Sprinklers	¬ The sprinkler pump and sprinkler alarm valves need to be detailed in the Fire Pump / Valve Room. ¬ The inclusion of the sprinkler alarm valves in this location will need to be addressed in the Fire Engineering Report as noted in Section 3.0 and Section 4.0. ¬ The design team is to ensure that the minimum 1m unobstructed egress width is achieved in front of the sprinkler alarm valves and pump controllers as well as around all 4 sides of the plinths for the pumps is achieved
17.	**E1D14** Portable fire extinguishers	¬ Portable fire extinguishers are required to be located with the development as follows: ¬ 2.5kg ABE extinguishers located within 10m of all SOU doors ¬ Main Switch Board (MSB) Room - Min. 5.0kg CO2 Portable Fire Extinguisher located outside the switch room in a position which is visible from the door to the room and located 2-20m from the board. ¬ Remainder of development - To be confirmed by the fire services designer based on their assessment and identification of the hazards
18.	**E1D17** Provision for special hazards	¬ The risk and potential hazard posed by the inclusion of dedicated EV charging spaces will need to be considered and suitably addressed as part of the Fire Engineering process.
19.	**F4D5 & F4D6** Accessible & Ambulant Sanitary (Toilet) Facilities	¬ At each bank of toilets, the following is required to be detailed: ¬ 1 x Unisex Accessible Sanitary Compartment complying with Clause 15 of AS1428.1-2009 ¬ 1 x Male Ambulant Sanitary Compartment complying with Clause 16 of AS1428.1-2009 ¬ 1 x Female Ambulant Sanitary Compartment complying with Clause 16 of AS1428.1-2009
20.	**F6D6** Ventilation of all occupiable rooms	¬ Confirmation is to be provided from the mechanical designer that ventilation (either natural or mechanical) has been provided to all rooms within the development, noting that whilst this clause refers to habitable rooms, offices etc. This clause specifically states that ventilation is required to any room which is occupied by a person for any purpose. Accordingly, ventilation is to be provided to all rooms, which can be accessed.

6.0 CONCLUSION

This statement has been prepared to verify that Code Consultancy Group have undertaken a review of the architectural documentation that will accompany the Development Application for the proposed mixed-use residential development located at 469-483 Balmain Rd, Lilyfield against the Deemed-to-Satisfy provisions of the National Construction Code (Volume 1) Building Code of Australia 2022.

In view of the above assessment, we can confirm that subject to the above measures being addressed by the project design team, the proposed development can readily achieve compliance with NCC2022 pursuant to Section 1(1)(c) of the Environmental Planning and Assessment (Development Certification & Fire Safety) Regulation 2021.

If you have any questions or require further information, please do not hesitate to contact Code Consultancy Group on 02 9651 2864 or via email: team@codecg.com.au.

7.0 APPENDICES

APPENDIX A – REFERENCED ARCHITECTURAL DRAWINGS

The following architectural documentation prepared by CHROFI has been reviewed in the preparation of this statement:

Drawing Number	Drawing Name	Revision
DA001	COVER PAGE	01
DA002	SITE PLAN	01
DA003	SITE ANALYSIS	01
DA010	GROUND FLOOR DEMOLITION PLAN	01
DA011	LEVEL 1 DEMOLITION PLAN	01
DA101	BASEMENT 2 FLOOR PLAN	01
DA102	BASEMENT 1 FLOOR PLAN	01
DA103	GROUND FLOOR PLAN	01
DA104	LEVEL 1 PODIUM	01
DA105	LEVEL 2	01
DA106	LEVEL 3	01
DA107	LEVEL 4	01
DA108	LEVEL 5	01
DA109	ROOF PLAN	01
DA201	NORTH & SOUTH ELEVATION	01
DA202	EAST & WEST ELEVATION	01
DA301	SECTIONS A & B	01
DA302	SECTIONS C & D	01
DA303	SECTIONS E & F	01
DA304	SECTIONS G & H	01
DA305	SECTIONS I & J	01
DA306	SECTION K	01
DA601	MATERIAL PALETTE	01
DA602	AREA SCHEDULE	01

APPENDIX B – STATEMENT LIMITATIONS & EXCLUSIONS

The limitations and exclusions of this report are as follows:

- This report is based on a review of the referenced documentation in the report above and has been prepared to accompany the Development Application to Council. Accordingly, this document does not constitute a detailed Clause-by-Clause Report, instead it is a summary report which details contained in the report summarise NCC issues which are considered to be significant as relevant to this stage of design resolution.
- Assessment of the below listed matters, noting that separate consultants have or will be engaged to assess these elements at the appropriate stage of the development:
  - Waterproofing to bathrooms and other wet areas, walls, roof/s, podiums, planter boxes or basements.
  - Structural or civil design
  - The design basis and/or operating capabilities of any proposed services including electrical, mechanical, or hydraulic, lift and fire services (sprinklers, hydrants, detections etc.).
  - Thermal and energy efficiency requirements of Section J of the BCA or BASIX
  - The National Construction Code – Plumbing Code of Australia Volume 3
  - The Work Health and Safety Act 2011.
  - The requirements of other Regulatory Authorities or Service Providers
- This Report does not address issues in relation to the design, maintenance, or operation electrical, mechanical, hydraulic or fire protection services, Utility Services Provider Requirements (Water, Gas, Telecommunications and Electricity supply authorities), Local Government Act and Regulations, Occupational Health and Safety Act and Regulations or the like.
- Assessment of the development under Part D3 and Clause F2.4 of the NCC is excluded from our services, and this is to be undertaken by the project Access Consultant;
- Assessment of the Energy Efficiency requirements under Part J of the NCC is excluded from our services, and this is to be undertaken by an Energy Efficiency Consultant; or addressed via design certification from the Architect.
- This assessment does not incorporate the detailed requirements of the NCC referenced Australian Standards. It is the responsibility of design and installation contractors to demonstrate and achieve compliance for all new works.
- The commentary within this report does not relieve the Design Practitioners, Principal Building Practitioners, Accredited Practitioners (Fire Safety) and/or any associated Building Suppliers and Sub Contractors from their statutory obligations under the Work Health Safety Act, Safety in Design Principles, or EP&A Regs/Act.
- The NCC does not directly specify slip-resistance classification(s) for accessible paths of travel; however, we highlight the need under AS 1428.1-2009 for all accessible paths of travel to have a slip-resistant surface. Accordingly we recommend advice is sought from an independent specialist slip safety consultant at the during the post DA Design Development stage
- Code Consultancy Group Pty Ltd ('CCG') cannot guarantee acceptance of this report by the Local Council, NSW Fire & Rescue or other approval authorities.

APPENDIX C – REPORT TERMINOLOGY, ABBREVIATIONS & SYMBOLS

Due to the technical nature of the National Construction Code and the Australian Standards referenced by it, CCG's report contains a large number terms which are often abbreviated or include numerical/mathematical symbols. To ensure that these terms, abbreviations and symbols are understood by all readers of this report, the below tables have been provided to assist.

Table 7: Report Terminology Glossary

Term		Definition
Accessible	–	Having features to enable use by people with a disability.
Accessway	–	A continuous accessible path of travel (as defined in AS1428.1) to, into or within a building.
Affected Part	–	The principal pedestrian entrance of an existing building that contains a new part and any part of an existing building, that contains a new part, that is necessary to provide a continuous accessible path of travel from the entrance to the new part.
Alternative Solution	–	The previous term for a Performance Solution prior to terminology changes in NCC 2016. Refer to Performance Solution
Average specific extinction area	–	The average specific extinction area for smoke as determined by AS 5637.1:2015.
Automatic	–	Designed to operate when activated by a heat, smoke, or fire sensing device.
Automatic Fire (Sprinkler) Suppression System	–	A system designed to automatically control the growth and spread of fire that may include sprinklers, valves, pipework, pumps, boosters and water supplies.
Boiler	–	A vessel or an arrangement of vessels and interconnecting parts, wherein steam or other vapour is generated, or water or other liquid is heated at a pressure above that of the atmosphere, by the application of fire, the products of combustion, electrical power, or similar high temperature means, and— ¬ includes superheaters, reheaters, economisers, boiler piping, supports, mountings, valves, gauges, fittings, controls, the boiler settings and directly associated equipment; but ¬ excludes a fully flooded or pressurised system where water or other liquid is heated to a temperature lower than the normal atmospheric boiling temperature of the liquid.
Building Code of Australia	–	Refer to the National Construction Code
Category 1 Fire Safety Provision	–	the following Performance Requirements of the Building Code of Australia: ¬ EP1.3, EP1.4, EP1.6, EP2.1, EP2.2 and EP3.2 in Volume 1, ¬ P2.3.2 in Volume 2.
Certifier	–	An individual Registered by NSW Fair Trading under the Building and Development Certifiers Act 2018. A certifier has the following functions in relation to building work— ¬ issuing construction certificates for building work, ¬ carrying out inspections of building work (but only if the certifier is the principal certifier or the inspection is carried out with the approval of the principal certifier), ¬ issuing occupation certificates (but only if the certifier is the principal certifier), ¬ issuing compliance certificates (but only if the certifier is the principal certifier when the certificate is an authorised alternative to an occupation certificate).
Circulation Space	–	A clear unobstructed area to enable persons using mobility aids to manoeuvre.

Term		Definition
Climatic Zone	–	An area defined in Table 2 (of NCC 2019 A1 Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.
Combustible	–	When applied to a material, means combustible as determined by AS 1530.1-1994. When applied to construction or part of a building, means constructed wholly or in part of combustible materials.
Combined system	–	An integrated system of fire sprinklers and fire hydrants using combined piping reticulation and water supplies designed to simultaneously supply sufficient water to meet the flow and pressure requirements of both sprinkler and hydrant systems. This type of system is required to comply with NCC E1.5 and Spec. E1.5 and AS 2118.6-2012
Complying Development Certificate	–	A Building Approval issued by the Certifying Authority pursuant to Part 4A / Part 6 of the EP&A Act 1979.
Conditioned Space	–	For the purposes of Volume One, means a space within a building, including a ceiling or under-floor supply air plenum or return air plenum, where the environment is likely, by the intended use of the space, to have its temperature controlled by air-conditioning.
Construction Certificate	–	A certificate to the effect that building work completed in accordance with specified plans and specifications or standards will comply with the requirements of the regulations
Critical Fire Safety Measure	–	In relation to a building, means a fire safety measure that: ¬ requires periodic assessment and certification at intervals of less than 12 months, because of its nature, the environment, or the circumstances, and ¬ is identified as a critical fire safety measure in a fire safety schedule.
Critical radiant flux (CRF	–	The critical heat flux at extinguishment (CHF in kW/m2) as determined when a material is tested in accordance with AS ISO 9239.1:2003.
Deemed-to-Satisfy Provision	–	The prescriptive provisions of the NCC which are deemed to satisfy the performance requirements.
Deemed-to-Satisfy Solution	–	A method of satisfying the Deemed-to-Satisfy Provisions.
Effective Height –	–	The vertical distance between the floor of the lowest storey included in the calculation of rise in storeys and the floor of the topmost storey (excluding the topmost storey if it contains only heating, ventilating, lift or other equipment, water tanks or similar service units).
Entertainment Venue	–	A building used as a cinema, theatre or concert hall or an indoor sports stadium.
Envelope	–	For the purposes of Section J in Volume One, means the parts of a building's fabric that separate a conditioned space or habitable room from— ¬ the exterior of the building; or ¬ a non-conditioned space including— ¬ the floor of a rooftop plant room, lift-machine room, or the like; and - the floor above a carpark or warehouse; and - the common wall with a carpark, warehouse, or the like.
Exit	–	Any, or any combination of the below if they provide egress to road/open space. ¬ An internal or external stairway. ¬ A ramp. ¬ A fire-isolated passageway. ¬ A doorway opening to a road or open space A horizontal exit or a fire-isolated passageway leading to a horizontal exit.

Term		Definition
External Combustible Cladding	–	In relation to a building, means the following cladding applied to an external wall or area of the building: ¬ a cladding or cladding system comprising metal composite panels, including aluminium, zinc, and copper, ¬ an insulated cladding system, including a system comprising polystyrene, polyurethane or polyisocyanurate.
Fabric	–	The basic building structural elements and components of a building including the roof, ceilings, walls, and floors.
Fire Brigade	–	The statutory authority constituted under an Act of Parliament having as one of its functions, the protection of life and property from fire and other emergencies. NSW, this is Fire & Rescue NSW
Fire & Rescue NSW	–	The State Government agency responsible for the provision of fire, rescue, and hazmat services in New South
Fire Compartment	–	The total space of the building; or when referred to in: The Performance Requirements – Any part of a building separated from the remainder by barriers to fire such as walls and/or floors having an appropriate resistance to the spread of fire with any openings adequately protected; or The Deemed-to-Satisfy Provisions – Any part of a building separated from the remainder by walls and/or floors each having an FRL not less than that required for a fire wall for that type of construction and where all openings in the separating construction are protected in accordance with the Deemed-to-Satisfy Provisions of the relevant part.
Fire Engineering Brief	–	A summary document of proposed assessment methods and goals for a Performance Solution relating to a fire safety matter.
Fire Engineering Report (FER)	–	A detailed report containing assessment methods, calculations and outcomes of Performance Solution(s) relating to a fire safety matter.
Fire Hazard	–	The danger in terms of potential harm and degree of exposure arising from the start and spread of fire and the smoke and gases that are thereby generated.
Fire hazard properties	–	The properties of a material or assembly that indicate how they behave under specific fire test conditions. ¬ Average specific extinction area, critical radiant flux, and Flammability Index, determined as defined in NCC 2022, Schedule 1. ¬ Smoke-Developed Index, smoke development rate and Spread-of-Flame Index, determined in accordance with NCC 2022, Specification 3. ¬ Group number and smoke growth rate index (SMOGRARC), determined in accordance with NCC 2022, Specification 3
Fire-isolated passageway	–	A corridor, hallway, or the like, of fire-resisting construction, which provides egress to or from a fire-isolated stairway or fire-isolated ramp or to a road or open space.
Fire-isolated stairway	–	A stairway within a fire-resisting shaft and includes the floor and roof or top enclosing structure.
Fire Main	–	The piping, valves, and fittings providing water supply from water sources to any sprinkler stop valve and any fire hydrant valve complying with AS 2419.2.

Term		Definition
Fire-protective covering	–	Any one of the following materials: ¬ 13 mm fire-protective grade plasterboard; or ¬ 12 mm cellulose cement flat sheeting complying with AS/NZS 2908.2 or ISO 8336; or ¬ 12 mm fibrous plaster reinforced with 13 mm x 13 mm x 0.7 mm galvanised steel wire mesh located not more than 6 mm from the exposed face; or ¬ other material not less fire-protective than 13 mm fire-protective grade plasterboard, fixed in accordance with the normal trade practice for a fire-protective covering.
Fire & Rescue NSW	–	The NSW State Government agency responsible for the provision of fire, rescue and hazmat services.
Fire-Resistance Level	–	The grading periods in minutes determined by either test or calculation using one of the methods prescribed in NCC 2022, Specification 1 & 2 Note: A dash means that there is no requirement for that criterion. For example, 90/–/– means there is no requirement for an FRL for integrity and insulation, and –/–/– means there is no requirement for an FRL.
Fire Safety Schedule	–	A schedule which specifies the current and proposed fire safety measures that must be implemented for a building, including statutory fire safety measures and other fire measures. A fire safety schedule must: ¬ Deal with the whole of the building and not only the part of the building to which the development consent, construction certificate or fire safety order relates. ¬ Specify and distinguish between the statutory fire safety measures that are currently implemented for the building and proposed or required to be implemented for the building, specify each critical fire safety measure, and specify the minimum standard of performance for each fire safety measure in the schedule.
Fire Source Feature	–	The far boundary of a road adjoining the allotment; or a side or rear boundary of the allotment; or an external wall of another building on the allotment which is not a Class 10 building.
Flammability Index	–	The index number as determined when a material is tested in accordance with AS 1530.2:1992.

Term		Definition
Floor Area	–	Has the same meaning as the National Construction Code 2016 Volume 1 Building Code of Australia Class 2 to 9 Buildings. For the purpose of Volume One, means: ¬ In relation to a building – the total area of all storeys; and ¬ In relation to a storey – the area of all floors of that storey measured over the enclosing walls, and includes: ¬ The area of a mezzanine within the storey, measured within the finished surfaces of any external walls; and ¬ The area occupied by any internal wall or partitions, any cupboard, or other built-in furniture, fixture, or fitting; and ¬ If there is no enclosing wall, an area which has a use that— - contributes to the fire load; or - impacts on the safety, health, or amenity of the occupants in relation to the provisions of the BCA; and ¬ In relation to a room – the area of the room measured within the finished surfaces of the walls, and includes the area occupied by any cupboard or other built-in furniture, fixture, or fitting; and ¬ In relation to a fire compartment – the total area of all floors within the fire compartment measured within the finished surfaces of the bounding construction, and if there is no bounding construction, includes an area which has a use which contributes to the fire load; and ¬ In relation to an atrium – the total area of all floors within the atrium measured within the finished surfaces of the bounding construction and if no bounding construction, within the external walls.
Horizontal Exit	–	A required doorway between 2 parts of a building separated from each other by a fire wall. Refer to NCC Clause D1.11
Hydraulic Fire Safety System	–	In NSW, means any of the following that is installed in accordance with a requirement of the EP&A Act or another Act or law, including an order, a condition of an approval or another authorisation— ¬ a fire hydrant system, ¬ a fire hose reel system, ¬ fire sprinkler system, including a wall-wetting sprinkler or drencher system, ¬ an automatic fire suppression system of a hydraulic nature.
Insulation	–	In relation to Fire Resistance Levels, means the ability to maintain a temperature on the surface not exposed to the furnace below the limits specified in AS 1530.4.
Integrity	–	In relation to Fire Resistance Levels, means the ability to resist the passage of flames and hot gases specified in AS 1530.4-2014
Loadbearing	–	Intended to resist vertical forces additional to those due to its own weight.

Term		Definition
National Construction Code	–	Sets out the requirements for the design and construction of a building in Australia, including plumbing and drainage. It sets the minimum required level for the safety, health, amenity, accessibility, and sustainability of certain buildings. The NCC is divided into 3 volumes based on the type of work or building: NCC Volume One contains the technical requirements for the design and construction of multi-residential, commercial, industrial, and public assembly buildings and some associated structures (given effect through the Environmental Planning and Assessment Act 1979) NCC Volume Two contains the technical requirements for the design and construction of smaller scale buildings including houses, small sheds, carports, and some associated structures. For a residential project, this is the volume you will most likely need (given effect through the Environmental Planning and Assessment Act 1979). NCC Volume Three contains the technical requirements for the design, construction and installation of plumbing and drainage systems. It also applies where to sites where services are installed independent of buildings (given effect through the Plumbing and Drainage Act 2011).
Non-combustible	–	Means: ¬ When applied to a material, not deemed combustible as determined by AS 1530.1-1994 ¬ When applied to construction or part of a building, constructed wholly of materials that are not deemed combustible.
Horizontal Exit	–	A required doorway between 2 parts of a building separated from each other by a fire wall.
Open space	–	A space on the allotment, or a roof or similar part of a building adequately protected from fire, open to the sky and connected directly with a public road.
Performance-Based Design Brief (PBDB)	–	The process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.
Performance Requirement	–	A requirement which states the level of performance which a Performance Solution or Deemed-to-Satisfy Solution must meet. Compliance with the Performance Requirements can only be achieved by- ¬ complying with the Deemed-to-Satisfy Provisions; or ¬ formulating a Performance Solution which- ¬ complies with the Performance Requirements; or ¬ is shown to be at least equivalent to the Deemed-to-Satisfy Provisions; or ¬ a combination of the above two options
Performance Solution	–	A method of complying with the Performance Requirements other than by a Deemed-to-Satisfy Solution.
Principal Certifier	–	A registered certifier engaged to oversees the development's construction phase and complete mandatory building inspections, known as critical stage inspections, to make sure that building standards are met.
Public corridor	–	An enclosed corridor, hallway or the like which: ¬ serves as a means of egress from 2 or more sole-occupancy units to a required exit from the storey concerned; or ¬ is required to be provided as a means of egress from any part of a storey to a required exit.

Term		Definition
Resistance to the Incipient Spread of Fire	–	In relation to a ceiling membrane, means the ability of the membrane to insulate the space between the ceiling and roof, or ceiling and floor above, so as to limit the temperature rise of materials in this space to a level which will not permit the rapid and general spread of fire throughout the space
Rise In Storeys	–	The greatest number of storeys calculated in accordance with NCC Clause
Riser	–	The height between consecutive treads and between each landing and continuous tread
Roof light	–	For the purpose of Section J and Part F4 in NCC 2022, Volume One a rooflight is a skylight, window or the like installed in a roof: ¬ to permit natural light to enter the room below; and ¬ at an angle between 0 and 70 degrees measured from the horizontal plane.
Sarking-type material	–	A material such as a reflective insulation or other flexible membrane of a type normally used for a purpose such as waterproofing, vapour management or thermal reflectance.
Self-closing	–	For the purpose of: ¬ Volume One, applied to a door, means equipped with a device which returns the door to the fully closed position immediately after each opening; or ¬ Volume Two, applied to a door or window, means equipped with a device which returns the door or window to the fully closed and latched position immediately after each manual opening.
Shaft	–	The walls and other parts of a building bounding: ¬ A well, other than an atrium well; or ¬ A vertical chute, duct, or similar passage, but not a chimney or flue.
Shower area	–	The area affected by water from a shower, including a shower over a bath and for a shower area that is— ¬ Enclosed – the area enclosed by walls or screens including hinged or sliding doors that contain the spread of water to within that space; or ¬ Unenclosed – the area where, under normal use, water from the shower rose is not contained within the shower area.
Shower screen	–	The panels, doors or windows enclosing or partially enclosing a shower area.
Slip Resistant	–	A property of a surface having a frictional force-opposing movement of an object across a surface. Slip resistance ratings required under Volume 1 of NCC 2022 are specified in Table D3D15 for stairs and ramps. Slip ratings in other parts of buildings are not specified in the NCC (as they are controlled by separate risk and safety legislation). However, guidance on minimum slip ratings is provided in Handbooks HB 197-2013 and HB 198-2014.
Smoke Developed Index	–	The index number for smoke as determined by AS/NZS 1530.3-1999
Smoke Development Rate	–	The development rate for smoke as determined by testing flooring materials in accordance with AS ISO 9239.1-2003
Smoke Growth Rate Index	–	The index number for smoke used in the regulation of fire hazard properties and applied to materials used as a finish, surface, lining or attachment to a wall or ceiling.
Smoke-and-heat vent	–	A vent or vents, located in or near the roof for smoke and hot gases to escape if there is a fire in the building.

Term		Definition
Sole-Occupancy Unit	–	A room or other part of a building for occupation by one or joint owner, lessee, tenant, or other occupier to the exclusion of any other owner, lessee, tenant, or other occupier
Spread-of-Flame Index	–	The index number for spread of flame as determined by AS/NZS 1530.3.
Sprinkler Control Assembly	–	A group of sprinkler installation water supply valves comprising isolating (main stop) valve, alarm (non-return) valve and associated drain and test valves, pressure gauges and pressure or flow switch.
Sprinkler Stop Valve	–	The main sprinkler installation water supply isolating (stop) valve forming part of a sprinkler control assembly.
Stair Going (Tread)	–	The horizontal dimension from the front to the back of a tread less any overhang from the next tread or landing above
Stair Riser	–	The height between consecutive treads and between each landing and continuous tread
Storey	–	A space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above, but not: ¬ a space that contains only: ¬ a lift shaft, stairway, or meter room; or ¬ a bathroom, shower room, laundry, water closet, or other sanitary compartment; or ¬ accommodation intended for not more than 3 vehicles; or ¬ a combination of the above; or ¬ a mezzanine
Structural adequacy	–	In relation to an FRL, means the ability to maintain stability and adequate loadbearing capacity as determined by AS 1530.4-2014
Type of Construction	–	A measure of a building's ability to resist a fire. There are three types of construction: ¬ Type A Construction ¬ Type B Construction ¬ Type C Construction Type A construction is the most fire-resistant and includes buildings that have a higher risk such as high rise, high occupant buildings or buildings with vulnerable occupants. Type C Construction includes buildings that have a lower risk and is therefore the least fire resistant. The minimum type of fire-resisting construction applicable to a building is that specified in NCC 2022 - Table C2D2 and Specification 5, except as varied by: ¬ C2D4(2) for Class 4 part on the top storey of a building ¬ C2D6 for certain Class 2, 3 or 9c buildings with a Rise In Storeys of 2 or less; and ¬ C2D8 for an open spectator stand and indoor sports stadium, if it contains not more than 1 tier of seating, is of non-combustible construction, and has only changing rooms, sanitary facilities, or the like below the tiered seating.
Wet Area	–	An area within a building supplied with water from a water supply system, which includes bathrooms, showers, laundries and sanitary compartments and excludes kitchens, bar areas, kitchenettes or domestic food and beverage preparation areas.

Table 8: Symbols used within the Report

Abbreviation		Term
ABCB	–	Australian Building Codes Board
AS	–	Australian Standard
ASE	–	Alarm Signalling Equipment
BAL	–	Bushfire Attack Level
BCA	–	Building Code of Australia
BOWS	–	Building Occupant Warning System
CCG	–	Code Consultancy Group (Report Author)
CDC	–	Complying Development Certificate
CHF	–	Critical Heat Flux
CRF	–	Critical Radiant Flux
CRI	–	Colour Rendering Index
DA	–	Development Application
DBEP	–	Designated Building Entry Point
DSEP	–	Designated Site Entry Point
EH	–	Effective Height
EPAA	–	Environmental Planning & Assessment Act
EPAR	–	Environmental Planning & Assessment Regulation
EWIS	–	Emergency Warning & Intercommunication System
FBP	–	Fire Brigade Panel
FD	–	Fire Damper
FDICE	–	Fire Detection Control and Indicating Equipment
FEB	–	Fire Engineering Brief
FEBQ	–	Fire Engineering Brief Questionnaire
FER	–	Fire Engineering Report
FFCP	–	Fire Fan Control Panel
FH	–	Fire Hydrant
FHR	–	Fire Hose Reel
FIP	–	Fire Indicator Panel (now referred to as a Fire Brigade Panel or FBP)
FRL	–	Fire Resistance Level
FRNSW	–	Fire & Rescue NSW
FSD	–	Fire & Smoke Damper
F&B	–	Food & Beverage
HV	–	High Voltage
LC	–	Luminance Contrast
LRV	–	Light Reflectance Value
LV	–	Low Voltage
MCP	–	Manual Call Point
MSB	–	Main Switch Board
MSSB	–	Mechanical Services Switch Board
NABERS	–	National Australian Built Environment Rating System

Table 8: Symbols used within the Report

Abbreviation		Term
NATA	–	National Association of Testing Authorities
NatHERS	–	Nationwide House Energy Rating Scheme
NCC	–	National Construction Code
PBDB	–	Performance-based design brief
PFE	–	Portable Fire Extinguisher
PVA	–	Perimeter Vehicular Access
PVC	–	Polyvinyl chloride
RIS	–	Rise In Storeys
SDI	–	Smoke Developed Index
SDR	–	Smoke Development Rate
SMOGRARC	–	The index number for smoke used in the regulation of fire hazard prope and applied to materials used as a finish, surface, lining or attachment t wall or ceiling.
SOU	–	Sole Occupancy Unit
VAD	–	Visual Alarm Device
VWD	–	Visual Warning Device
WIP	–	Warden Intercommunication Phone

APPENDIX D – REQUIRED FRLS OF BUILDING ELEMENTS WITHIN THE SUBJECT DEVELOPMENT

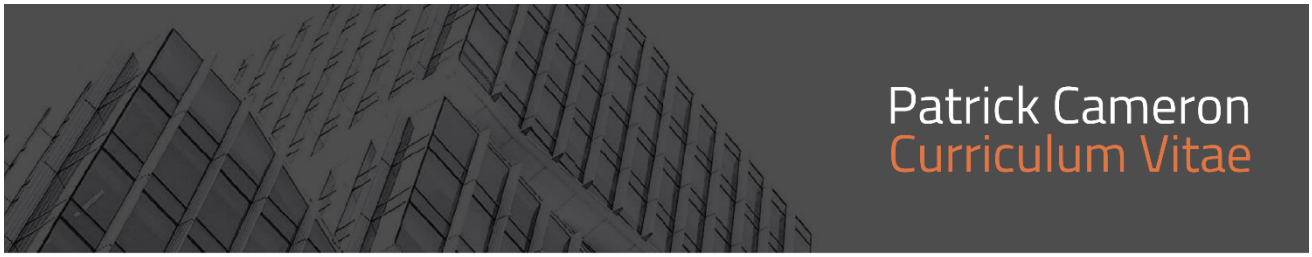
Table 9: Required FRLs of building elements within the subject development

Building Element	Residential Parts	Retail / Light Industrial Commercial [Note 1]
Loadbearing External Walls (including columns & other building elements incorporated therein)		
¬ Less than 1.5m to a fire source feature	90/90/90	120/120/120
¬ 1.5 – less than 3m from a fire source feature;	90/60/60	120/90/90
¬ 3m or more from a fire source feature	90/60/30	120/60/30
Non-loadbearing External Walls		
¬ Less than 1.5m	–/90/90	–/120/120
¬ 1.5m to less than 3m	–/60/60	–/90/90
¬ 3m or more	–/–/–	–/–/–
External Columns not incorporated in an external wall		
¬ Loadbearing External Columns	90/–/–	120/–/–
¬ Nonloadbearing External Columns	–/–/–	–/–/–
¬ Common Walls & Fire Walls	90/90/90	120/120/120
Internal Walls Fire resisting lift and stair shafts		
¬ Loadbearing	90/90/90	120/120/120
¬ Nonloadbearing	–/90/90	–/120/120
Internal Walls Bounding public corridors, public lobbies & the like		
¬ Loadbearing	90/90/90	120/–/–
¬ Nonloadbearing	–/60/60	–/–/–
Internal Walls between or bounding sole-occupancy units		
¬ Loadbearing	90/90/90	120/–/–
¬ Nonloadbearing	–/60/60	–/–/–
Vent, pipe & garbage shafts (not used for discharge of hot products of combustion)		
¬ Loadbearing	90/90/90	120/90/90
¬ Nonloadbearing	–/90/90	–/90/90
Other Internal Beams, Trusses, Columns & Walls		
¬ Loadbearing	90/–/–	120/–/–
¬ Nonloadbearing	–/–/–	–/–/–
Floors	90/90/90	120/120/120
Roofs	90/60/30	120/60/30

Notes to Table 7

1. The FRLs noted in the Retail / Light Industrial Commercial parts are based on a Performance Solution being documented to permit a reduction in FRLs from 180/180/180 for the retail parts and 240/240/240 for the light industrial parts.
2. All external wall systems including insulations, Render & Metal Cladding must be non-combustible construction and where required to be fire resisting, they must achieve an FRL in line with the Table above (refer to NCC 2022 – C2D10 & C2D14 for further information.
3. All fire resisting wall systems including insulations are also to be non-combustible and achieve an FRL in both directions. All external load bearing walls irrespective of distance and non-load bearing walls and columns within 3m of the fire source features in the Class 2 parts must achieve and FRL in accordance with the above table for the classifications concerned.
4. All load bearing internal walls including loadbearing shaft walls and fire walls are to be concrete or masonry construction and achieve FRLs of in accordance with the above table for the classifications concerned.
5. All internal fire resisting walls must extend to the underside of the floor next above or if on the top storey, they must extend to the underside of the non- combustible roof structure.
6. All floor structures must be non-combustible construction and achieve FRLs in accordance with the above table for the classifications concerned.
7. The walls to all fire rated shafts (lifts, stairs, and services other than ducted mechanical) must achieve the required FRL from both directions i.e. from inside and outside the shaft. These shafts are also required to be enclosed at the top and bottom with fire rated construction having an FRL which is the same as the shaft
8. Fire isolated shafts containing only mechanical ductwork are permitted to open into a single fire compartment (in this case Basement 1) without requiring a fire rated base (this concession only applies where the fire isolated shaft does not contain any other services such as cables or lagged pipes etc.). Additionally, any fire isolated shafts containing mechanical ductwork do not require a fire rated lid provided that the fire isolated shaft extends beyond the line of the roof before terminating.
9. Any proposed use of structural steel columns or beams is to be disclosed and noted on the architectural drawings and fire rating of the steel members is to be documented by the architect, structural engineer, and fire contractor (as applicable at the Construction Certificate stage).
10. Lintels within any walls required to be fire rated are to be designed to achieve the same fire rating as the walls within which they are located, except where the opening is less than 3m wide for non-load bearing masonry walls or less than 1.8m wide loadbearing masonry walls, as these openings are given a concession.
11. Where a finish, lining or ancillary element or service installation is attached to a building element, it must not reduce the fire resistance of that element below that required by the specification. The design indicates compliance is achievable in this respect. Full assessment of the materials against the requirements of BCA Clause C1.9 and C1.14 for external walls and ancillary attachments will be required at the Construction Certificate stage.
12. The BCA requires skylight/rooflights to units to be located a minimum 3m away from each other and the boundary.
13. All designers are to review BCA Specification C1.1 for further information regarding required Fire Resistance Levels. Where a departure from the DtS provisions of the BCA is proposed to be addressed as a Fire Engineered Performance Solution (and not already listed in the above Sections) the departure is to be raised with the project team are to be identified and consultation with the project Fire Safety Engineer undertaken to determine whether it can be addressed as a Performance Solution.
14. Architectural details (including colour coded FRL plans, and separation details, specifications and design certifications are to be prepared by a suitably qualified design practitioner (Registered Architect) in accordance with the requirements listed above and any additional requirements nominated in the Fire Engineering Report (once prepared).
15. The FRLs noted in the Retail / Light Industrial Commercial parts are based on a Performance Solution being documented to permit a reduction in FRLs from 180/180/180 for the retail parts and 240/240/240 for the light industrial parts.
16. All external wall systems including insulations, Render & Metal Cladding must be non-combustible construction and where required to be fire resisting, they must achieve an FRL in line with the Table above (refer to NCC 2022 – C2D10 & C2D14 for further information.

17. All fire resisting wall systems including insulations are also to be non-combustible and achieve an FRL in both directions. All external load bearing walls irrespective of distance and non-load bearing walls and columns within 3m of the fire source features in the Class 2 parts must achieve and FRL in accordance with the above table for the classifications concerned.
18. All load bearing internal walls including loadbearing shaft walls and fire walls are to be concrete or masonry construction and achieve FRLs of in accordance with the above table for the classifications concerned.
19. All internal fire resisting walls must extend to the underside of the floor next above or if on the top storey, they must extend to the underside of the non- combustible roof structure.
20. All floor structures must be non-combustible construction and achieve FRLs in accordance with the above table for the classifications concerned.
21. The walls to all fire rated shafts (lifts, stairs, and services other than ducted mechanical) must achieve the required FRL from both directions i.e. from inside and outside the shaft. These shafts are also required to be enclosed at the top and bottom with fire rated construction having an FRL which is the same as the shaft
22. Fire isolated shafts containing only mechanical ductwork are permitted to open into a single fire compartment (in this case Basement 1) without requiring a fire rated base (this concession only applies where the fire isolated shaft does not contain any other services such as cables or lagged pipes etc.). Additionally, any fire isolated shafts containing mechanical ductwork do not require a fire rated lid provided that the fire isolated shaft extends beyond the line of the roof before terminating.
23. Any proposed use of structural steel columns or beams is to be disclosed and noted on the architectural drawings and fire rating of the steel members is to be documented by the architect, structural engineer, and fire contractor (as applicable at the Construction Certificate stage).



PROFESSIONAL SUMMARY

Patrick is the founding Director of Code Consultancy Group (CCG) and the firm's principal consultant. Patrick has over a decade of experience providing built form consultancy services on some of the largest and most complex developments in NSW.

Patrick's extensive knowledge of the statutory requirements for development, coupled with his solution focused thinking and hands on technical approach to development ensures CCG's clients are provided with practical advice, which takes the complexity out of building code and fire safety compliance.

Patrick holds the top levels of accreditation as a Building Surveyor nationally with the Australian Institute of Building Surveyors, and a Registered Certifier (Unrestricted) with NSW Fair Trading. Additionally, Patrick's expertise in building code and passive fire compliance has been recognised by both the Fire Protection Association of Australia (FPAA) and the Association of Australian Certifiers (AAC), with Patrick sitting as a current member of the FPAA's Passive Fire Technical Advisory Committee and the AAC's Technical Committee for Class 2-9 (large scale commercial / residential) developments. This industry involvement ensures Patrick is at the forefront of Building Code and Passive Fire compliance, and this is reflected in his ability to direct teams through the seemingly endless regulatory hurdles for developments

CONTACT

- **Phone (Mobile)**
  0498 761 218
- **Phone (Office)**
  02 9651 2864
- **Email**
  patrick@codecg.com.au
- **LinkedIn**

ACCREDITATION

- **Building Surveyor (Unrestricted) – NSW FairTrading**
  Registration No. BDC04585
- **Building Surveyor Level 1 – Aust. Inst. of Building Surveyors**
  Accreditation No. 7645

MEMBERSHIPS

- **Fire Protection Association Australia**
  Member ID No. 59204
- **Society of Fire Safety, Engineers Australia**
  EA ID No. 5988062
- **Australian Institute of Building Surveyors**
  Accredited Body Corporate Member No. 6888
- **Association of Australian Certifiers**
  Member No. 2553
- **Association for Specialist Fire Protection**
  Member No. 489738

QUALIFICATIONS

- **Graduate Diploma of Fire Safety Engineering**
  2021 - Current
- **Graduate Diploma of Building Surveying**
  2015 - 2019
- **Diploma of Building Surveying**
  2012 – 2015
- **Associate Diploma of Management**
  2007 – 2009
- **Diploma of Business**
  2005 – 2006

EXPERIENCE

- **Director – Code Consultancy Group**
  2021 - Present
- **Senior Building Surveyor – Blackett Maguire + Goldsmith**
  2016 - 2021
- **Building Surveyor – Woollahra Municipal Council**
  2009 - 2016

Patrick Cameron

From: Rabee Kafina | XAVIER KNIGHT <Rabee@xavierknight.com.au>
Sent: Thursday, 11 May 2023 4:36 PM
To: Andreas Brohl
Subject: RE: 469-483 Balmain road, Lilyfield - DA Letter

Hi Andreas, this building is residential, importance level = 2,

Kind regards,

RABEE KAFINA | Principal - Structural Engineer
MSc (Structures) MIEAust CPEng NER CEng MIStructE

T 02 7801 3870
E rabee@xavierknight.com.au

THINK DIFFERENT.
CREATE DIFFERENT.
BE DIFFERENT.

xavierknight.com.au

From: Andreas Brohl <ABrohl@rochegroup.com.au>
Sent: Thursday, May 11, 2023 4:16 PM
To: Rabee Kafina | XAVIER KNIGHT <Rabee@xavierknight.com.au>
Subject: FW: 469-483 Balmain road, Lilyfield - DA Letter

Hi Rabee,

what is the importance level, please ? see extract from the BCA report:

2.0 BCA COMPLIANCE OVERVIEW

2.1 SUMMARY OF BUILDING CHARACTERISTICS

The building characteristics of the proposed development (as relevant to compliance with NCC 2022) have been summarised in Table 2 below. These characteristics form the foundation from which the applicable NCC DtS provisions (design compliance parameters) have been established and the development has been assessed against.

Table 2: Building Characteristics of the proposed development

Item	NCC DtS Reference	Assessment Description
1.	**Part A6** Building Class	Class 7a: Car parking & ancillary use spaces Class 2: Residential Apartments Class 5 / 6 / 7b: Office / Retail / Light Industrial Tenancies Note 1
2.	**B1D3** Importance Level	To be confirmed by the Structural Engineer
3.	**C2D2** Construction Type	Type A Construction
4.	**C2D3** Storeys Contained	Six (6)
5.	**C2D3** Rise in Storeys ('RIS')	Seven (7)
6.	**C2D2** Effective Height ('EH')	Greater than 12m but less than 25m (EH is calculated by subtracting the RL of the lowest storey counted in the RIS,

Kind regards,

Andreas Brohl
Senior Development Manager

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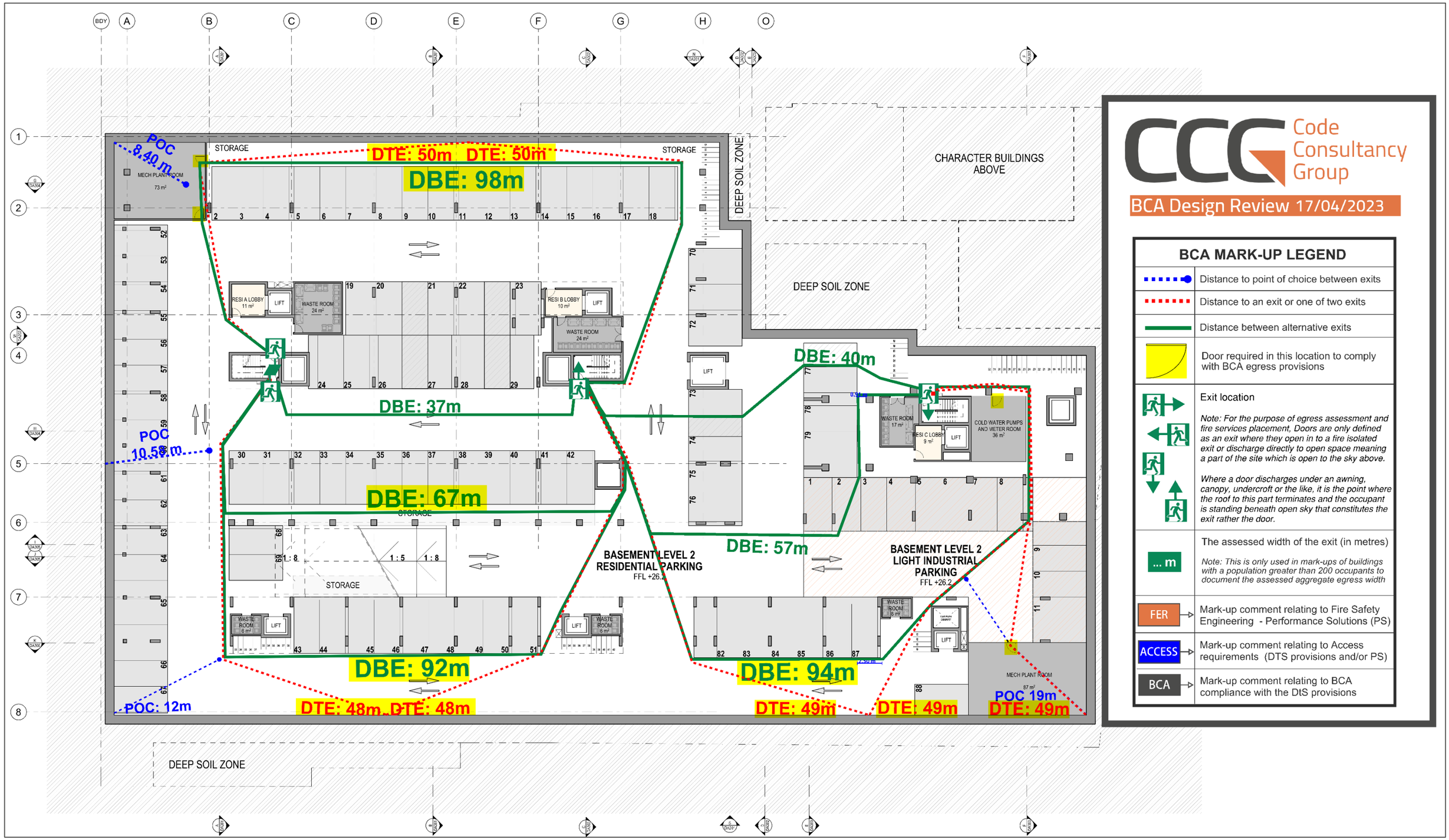
Post: P.O. Box 325, Double Bay NSW 1360
Mobile: 0438 823 190
Email: abrohl@rochegroup.com.au
Web: rochegroup.com.au

ROCHE GROUP



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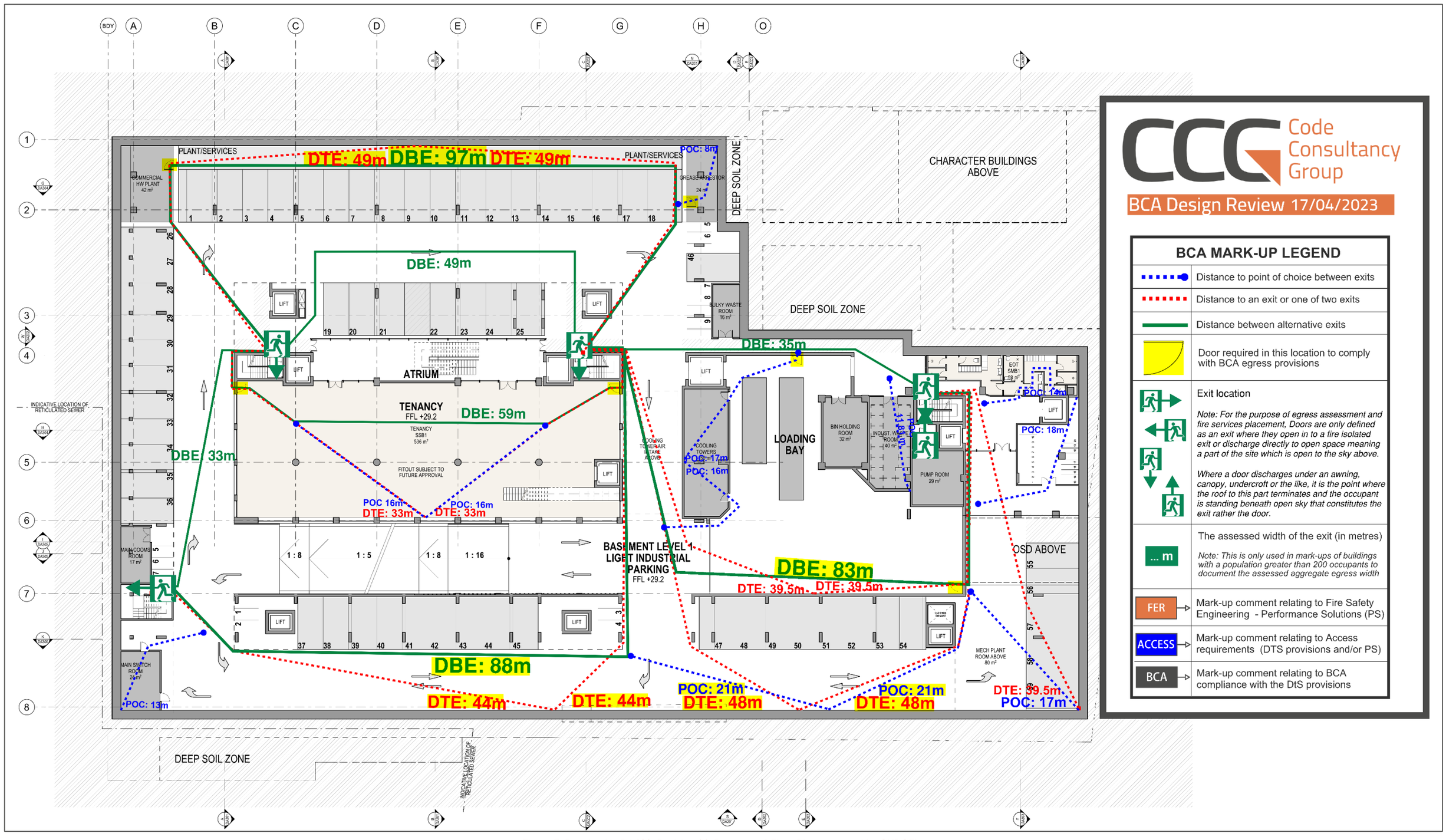
BCA Design Review 17/04/2023

BCA MARK-UP LEGEND

	Distance to point of choice between exits
	Distance to an exit or one of two exits
	Distance between alternative exits
	Door required in this location to comply with BCA egress provisions
	Exit location *Note: For the purpose of egress assessment and fire services placement, Doors are only defined as an exit where they open in to a fire isolated exit or discharge directly to open space meaning a part of the site which is open to the sky above.* *Where a door discharges under an awning, canopy, undercroft or the like, it is the point where the roof to this part terminates and the occupant is standing beneath open sky that constitutes the exit rather the door.*
... m	The assessed width of the exit (in metres) *Note: This is only used in mark-ups of buildings with a population greater than 200 occupants to document the assessed aggregate egress width*
FER	Mark-up comment relating to Fire Safety Engineering - Performance Solutions (PS)
ACCESS	Mark-up comment relating to Access requirements (DTS provisions and/or PS)
BCA	Mark-up comment relating to BCA compliance with the DtS provisions

Figure 6: Drawing No DA101, Revision 01, Basement 2 Floor Plan, prepared by CHROFI



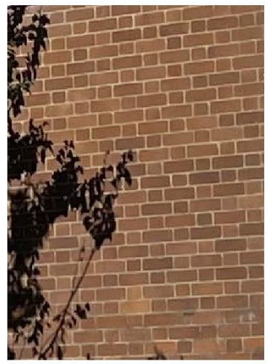
Code Consultancy Group

BCA Design Review 17/04/2023

BCA MARK-UP LEGEND

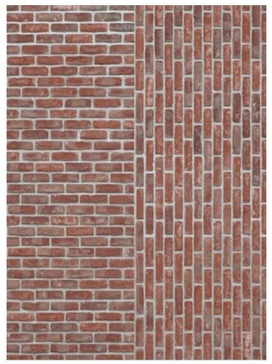
	Distance to point of choice between exits
	Distance to an exit or one of two exits
	Distance between alternative exits
	Door required in this location to comply with BCA egress provisions
	Exit location *Note: For the purpose of egress assessment and fire services placement, Doors are only defined as an exit where they open in to a fire isolated exit or discharge directly to open space meaning a part of the site which is open to the sky above.* *Where a door discharges under an awning, canopy, undercroft or the like, it is the point where the roof to this part terminates and the occupant is standing beneath open sky that constitutes the exit rather the door.*
... m	The assessed width of the exit (in metres) *Note: This is only used in mark-ups of buildings with a population greater than 200 occupants to document the assessed aggregate egress width*
FER	Mark-up comment relating to Fire Safety Engineering - Performance Solutions (PS)
ACCESS	Mark-up comment relating to Access requirements (DTS provisions and/or PS)
BCA	Mark-up comment relating to BCA compliance with the DtS provisions

Figure 7: Drawing No DA102, Revision 01, Basement 1 Floor Plan, prepared by CHROFI



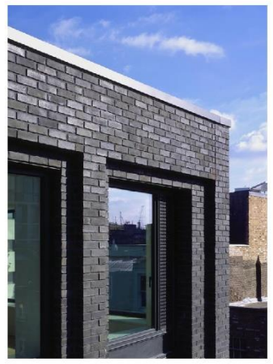
BRICK RESTORED FACADE
BR1

BRICK RESTORED FACADE
BR2



MASONRY LIGHT RED
MA1

MASONRY DARK RED
MA2



MASONRY BLACK
MA3

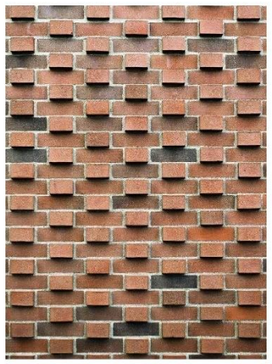
CLADDING LIGHT RED
CL1

CLADDING
CL2

CLADDING METAL
CL3

CLADDING DARK GREY
CL4

RENDER WHITE
RE1



MASONRY FACADE EXTRUDED
MAE1

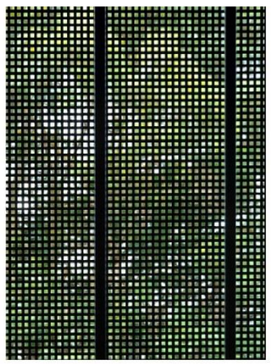
MASONRY SCREEN
MAS1

METAL SCREEN PERFORATED
MEP1

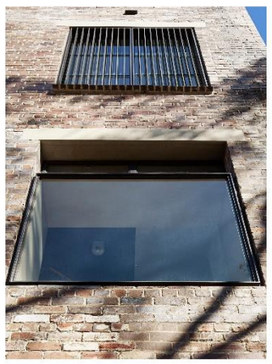
PRIVACY LOUVRES
LV1

METAL GRID
MEG1

BALUSTRADE
BAL1



BALUSTRADE
BAL2



CONTEMPORARY FRAMED
WINDOWS - WIN1

GREEN WALL
GR1

Figure 8: Drawing No DA601, Revision 01, Material Palette, prepared by CHROFI

Code Consultancy Group

Contact us

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