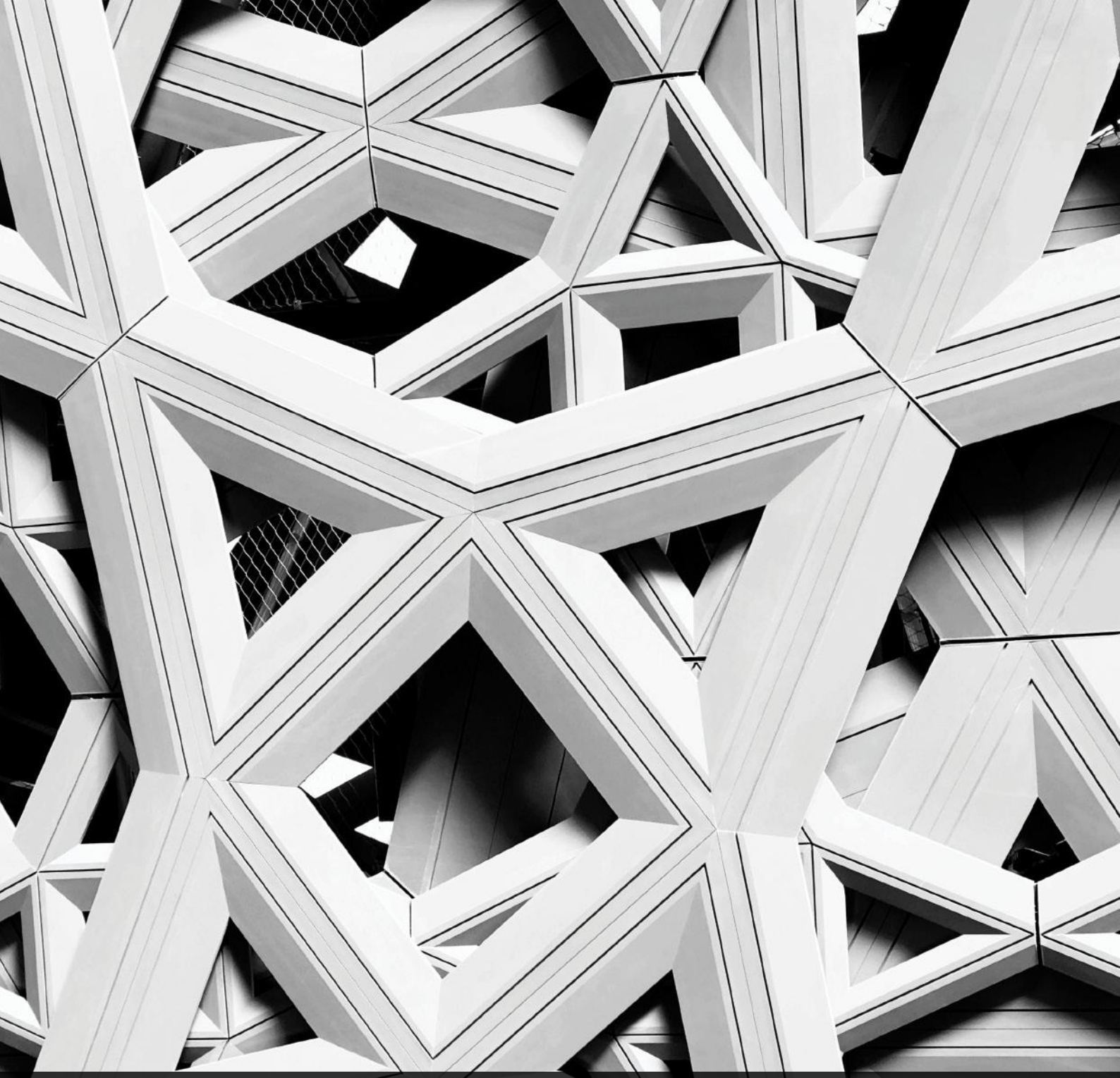

BCA Assessment Report

849-859 Pacific Highway & 2-8 Wilson Street, Chatswood
Proposed Mixed Use Development

Prepared for:

BB Wilson Property Pty Ltd

Revision 3.3

12 November 2024

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Executive Summary

The following comprises a summary of the key compliance issues identified under the clause-by-clause assessment in Section 3.0 of this report that will be required to be addressed prior to the relevant Construction Certificate for the project.

A. Matters requiring redesign or additional information at CC Stage:

+	+ BCA (DtS) Clause	+ Description
1.	B1D2 & AS 1170.4-2007	Seismic Restraint of parts and components is required in accordance with Section 8 of AS 1170.4-2007 (refer to section 8.1.4 for specific parts and components that are subject to these provisions). Architect, Electrical, Hydraulic, Mechanical and Fire Services Consultant to note and provide certification that their respective design documentation complies accordingly.
2.	C2D10 & C2D14	The provided documentation demonstrates compliance. Further documentary evidence confirming compliance will be required at CC stage.
3.	C2D11	Provide a schedule of fire hazard properties for each of the proposed materials subject to the requirements of this clause, including but not limited to wall, floor & ceiling linings, as well as mechanical duct composition & associated insulation.
4.	C3D3, C3D6, C3D8, C3D11 – C3D14, C4D4, C4D10, D2D4, D2D16 & D3D12	Provide fire rating/compartmentation plans for review. Specific attention is drawn to the requirement to split the childcare facility into no less than two fire compartments.
5.	Spec. 5	The following fire rating issues are to be addressed ether through development of a DtS compliant design, or rationalised via a Fire Engineered Performance Solution: + Smoke seals to the slab edge, where a fire rated floor abuts the external wall. + Smoke seals to the edge of all fire walls where they terminate into the external wall. + Localised reduction of floor slab FRLs at wet area set-downs. + Reduction of the 3 hour FRLs required to the live/work spaces. + Fire separation of adjacent scissor stair shafts.
6.	C4D15	Fire stopping details are to be provided. It is queried as to whether a Fire Engineered Performance Solution is proposed to be prepared to address the fire sealing of cast-in services from one end only.
7.	D2D8 & D2D9	Widths of egress paths throughout the development are to achieve compliance with the requirements of this clause. Specific attention is drawn to the Live/Work units. Precise occupant numbers are to be confirmed with respect to the required, aggregate egress widths from the Showroom 01 Level 1, the childcare centre & the pool/open area.

+ BCA (DtS) Clause		+ Description
		A number of corridors have been designed at exactly 1m wide, thus there is no allowance for construction tolerances.
8.	D2D10	Further design development is required prior to the issue of the relevant CC addressing the convergence of the egress paths into the fire isolated passageways from the fire stairs.
9.	D2D12	Detail to be included in the design with respect to protection of openings & fire rating of walls to which occupants are exposed to, following discharge from the fire stairs.
10.	D3D3	Details to be provided demonstrating that the fire isolated egress stairs are proposed to be constructed of materials permitted by this clause.
11.	D3D4	Details to be provided demonstrating that the non-fire isolated egress stairs are proposed to be constructed of materials permitted by this clause.
12.	D3D18	The balustrade & handrail must be separate components in each non-fire isolated stairs, due to the balustrade & handrail height requirements conflicting one another.
13.	D3D22	Handrail details to be provided, demonstrating compliance with the requirements of this clause.
14.	D3D24	Confirm the roller shutter door to the 'Residential Waste B' room on Level B1 achieves compliance with the requirements of this clause.
15.	D3D25	Confirm the final exit doors that swing against the direction of egress are to be provided with devices for holding them in the open position.
16.	D3D26	Door hardware to Live/Work units to be finalised.
17.	E1D2	Fire hydrant system design to be finalised. Consideration may be given to the design principles outlined in AS 2419.1 Appendix D, due to the height of the building.
18.	E1D3	Fire hose reel system design to be finalised. Confirmation to be provided regarding the potential omission of FHRs from Live/Work units via a Fire Engineered Performance Solution.
19.	E1D4	Fire sprinkler system design to be finalised.
20.	E1D14	Fire Extinguisher layout to be finalised.
21.	Spec. 19	Further details & certification are to be provided demonstrating the compliance of the fire control centre.
22.	E2D6	Confirmation is required as to whether the Zone Smoke control system is proposed to be rationalised via a Fire Engineered Performance Solution.
23.	E2D12	Mechanical Engineer to confirm the design/configuration of the proposed jet fans in the car park achieve compliance with AS 1668.1 & 2.
24.	F4D2 & F4D4	Further design development is required with respect to the sanitary facilities.
25.	F7D6	Provide verification from the Acoustic Consultant that the Live/Work units are designed to comply with the requirements of this clause, having regard to the various use cases.
26.	Sect. J	Provide verification from the Energy Efficiency Consultant that the Live/Work units are designed to comply with the requirements of this Section (incl. BASIX) having regard to the various use cases.

+ BCA (DtS) Clause		+ Description
27.	J9D4	Electrical Engineer to confirm the provision for EV charging is incorporated into the design.

B. Matters requiring fire safety engineered performance solutions:

+ BCA (DtS) Clause		+ Description
1.	Part A6	It is understood the FER is proposed to discuss the use of live/work spaces as a mix of Class 2 and Class 5, or a mix of Class 2 and Class 6, in order to facilitate futureproofing. Similarly, the FER is proposed to discuss the use of such units as entirely Class 2, entirely Class 5 and entirely Class 6, in order to facilitate future proofing.
2.	C2D2 & Spec. 5	It is queried as to whether the reduction of FRLs associated with the Class 6 parts is proposed to be justified via a Fire Engineered Performance Solution.
3.	C3D3	The storage on Level B6 triggers the requirement for fire compartment limitations. It is understood the excessive fire compartment size is proposed to be justified via a Fire Engineered Performance Solution.
4.	C3D15	Excessive corridor length on Ground Floor (up to 115m), Level 3 (up to 48m) and Level 4 (up to 48m).
5.	C4D4	It is understood that the fire protection of adjacent Live/Work unit compartments externally exposed to one another may be rationalised.
6.	Spec. 5 & C4D12	Rationalisation of fire separating bounding construction between the Class 2 and the Class 5/6 parts of the Live/Work units. Rationalisation of bounding construction separating the Live/Work units on Ground Floor from the public corridors to which they open into. Justification for provision of louvres in lieu of fire rated walls to the external common areas opening into the public corridors on levels 1, 3 & 4.
7.	Spec. 5	Application of Class 7a FRLs throughout the basement car park, in lieu of Class 7b FRLs, required as a result of the floor area dedicated to storage on Basement 06.
8.	D2D3	Justification of 1x exit provided to each part of the Basement 07.
9.	D2D5	Justification of extended travel distances to an exit, and to a point of choice between two exits.
10.	D2D6	Justification of extended travel distances between alternative exits, and justification of exits located too close together.
11.	D2D10	The convergence of the scissor stairs & basement stairs results in a non-compliance with this clause, in that 2m of required egress width is reduced to 1m for the southern stair, and 3m of egress width reduce into 1m of width for the northern stair (as well as being an egress path from the fire control centre).
12.	D2D12	Justification of the convergence of the scissor stairs & the basement stairs, noting the DtS requirements specify that each fire stair that does not discharge directly to open space must be provided with its own fire isolated passage. Justification of discharge of 3x fire stairs internally/to a covered area not in conformance with the requirements of this clause.

+ BCA (DtS) Clause		+ Description
13.	D2D15	The point of discharge from alternative exits will not be 'as far part as practicable', as the scissor stairs serving as alternate exits discharge into the same fire passages.
14.	D2D17	Justification of the childcare lobby stair passing through five storeys.
15.	E1D3	Omission of fire hose reels to particular areas (extent of omission TBC).
16.	E1D6 & E2D5	Omission of smoke detection & sprinkler system above the swimming pool.
17.	E1D9	Omission of sprinklers to electrical rooms on car parking levels.
18.	E1D17 & E2D21	Commentary is required to be provided in the FER addressing the risk associated with EV car charging facilities.
19.	E2D6	Omission of the smoke exhaust system.
20.	E2D4	Fire Engineering assessment to address the inability to achieve the pressure differential across the door at the exit of each of the pressurised stairs.
21.	E2P2	The use of jet fans in the car park is to be considered in the Fire Engineering Report, having regard to the effect of the fans on the fire scenarios in the basement.

C. Other matters requiring performance solutions:

+ BCA (DtS) Clause		+ Description
1.	F2D2	A waterproofing Performance Solution will be necessary where external glazing forms part of the area required to be waterproofed (i.e. nearby windows shower areas). It is understood there is no DtS pathway for such configurations.
2.	F3D5	A Performance Solution will be required to address F3P1, as the building is proposed to be constructed of materials other than those listed under clause F3D5.
3.	F6D10	Justification for the non-provision of an airlock to sanitary facilities opening into certain Live/Work units.
4.	G1P1	The BCA does not contain a corresponding DtS provision that can be utilised to demonstrate compliance therefore a Performance Solution prepared by a Hydraulic Engineer, BCA Consultant (or similarly suitably qualified person) is required to be submitted with the application for Construction Certificate to demonstrate compliance.

Contents

Report Status

Date	12.11.2024
Revision	3.3
Status	Updated issue for SSDA Submission – Minor Update
Author	Jackson Boyd
Reviewed	Dean Goldsmith

Prepared by:

Jackson Boyd
Senior Building Surveyor
BM+G
Building Surveyor-Unrestricted (NSW)
BDC No.: 05225

Reviewed by:

Dean Goldsmith
Director
BM+G
Building Surveyor-Unrestricted (NSW)
BDC No.: 0141

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Status	Preliminary Issue		
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Status	Issue for DA Submission		
Revision	3	**Date**	25.10.2024
Status	Updated issue for SSDA Submission		
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Status	Updated issue for SSDA Submission – Minor Update		
Revision	3.2	**Date**	04.11.2024
Status	Updated issue for SSDA Submission – Minor Update		
Revision	3.3	**Date**	12.11.2024
Status	Updated issue for SSDA Submission – Minor Update		

1.0 Description of Project

1.1 Proposal

BM+G Pty Ltd have been commissioned by BB Wilson Property to undertake an assessment of the proposed mixed use development at 849-859 Pacific Highway & 2-8 Wilson Street, Chatswood against the relevant provisions of the Building Code of Australia 2022 (BCA). This report has been prepared to accompany the State Significant Development Application (SSD-74319707) to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the above-mentioned project.

An assessment of BCA compliance with respect to the new works is included within Section 3.0.

The proposed development is suitable and capable of complying with the BCA subject to implementation of the identified Performance Solutions and satisfies SEARs Item 4 – Built Form and Urban Design.

1.2 The Site

The site is identified as 849-859 Pacific Highway & 2-8 Wilson Street, Chatswood, which is made up of the following land holdings:

TABLE 1. SITE IDENTIFICATION

Site Address	Legal Description
849-859 Pacific Highway & 2-8 Wilson Street	Lot 1 DP 1189541
2 Wilson Street	SP 52947
849 Pacific Highway	SP 1496
853 Pacific Highway	SP 60178
859 Pacific Highway	SP 10110
Land fronting Pacific Highway	SP2

1.3 Aim

The objectives of this statement are to:

- Confirm that the DA architectural documentation has been reviewed by an appropriately qualified Building Surveyor and Accredited Certifier.
- Confirm that the proposed new building works can readily achieve compliance with the BCA pursuant to section 19 of the *Environmental Planning & Assessment (Development Certification & Fire Safety) Regulation 2021*.
- Accompany the Development Application submission to enable the Consent Authority to be satisfied that subsequent compliance with the fire & life safety and health & amenity requirements of the BCA, will not necessarily give rise to design changes to the building which may necessitate the submission of an application under Section 4.55 of the *Environmental Planning and Assessment Act 1979*.

It should be noted that it is not the intent of this statement to identify all BCA provisions that apply to the subject development. The development will be subject further assessment following receipt of more detailed documentation at Construction Certificate stage.

1.4 Project Team

The following bm+g team members have contributed to this Report:

- **Dean Goldsmith** – Peer Review (Director) | Building Surveyor-Unrestricted
- **Jackson Boyd** – Report Preparation | Building Surveyor
- **John Kassiou** – Report Preparation | Cadet Building Surveyor

1.5 Referenced Documentation

The following documentation has been reviewed, referenced and/or relied upon in the preparation of this report:

- Building Code of Australia 2022 (BCA)
- The Guide to the Building Code of Australia 2022
- Building Code of Australia 2025 (BCA) Public Comment Draft
- The following Architectural Plans prepared by PBD Architects:

+ Drawing No.	+ Revision	+ Date
DA000	01	01.11.2024
DA001	01	01.11.2024
DA002	01	01.11.2024
DA003	01	01.11.2024
DA004	01	01.11.2024
DA005	01	01.11.2024
DA100	01	01.11.2024
DA101	01	01.11.2024
DA102	01	01.11.2024
DA103	01	01.11.2024
DA104	01	01.11.2024
DA105	01	01.11.2024
DA106	01	01.11.2024
DA107	01	01.11.2024
DA108	01	01.11.2024

+ Drawing No.	+ Revision	+ Date
DA109	01	01.11.2024
DA110	01	01.11.2024
DA111	01	01.11.2024
DA112	01	01.11.2024
DA113	01	01.11.2024
DA114	01	01.11.2024
DA115	01	01.11.2024
DA116	01	01.11.2024
DA117	01	01.11.2024
DA118	01	01.11.2024
DA119	01	01.11.2024
DA200	01	01.11.2024
DA201	01	01.11.2024
DA202	01	01.11.2024

1.6 Regulatory Framework

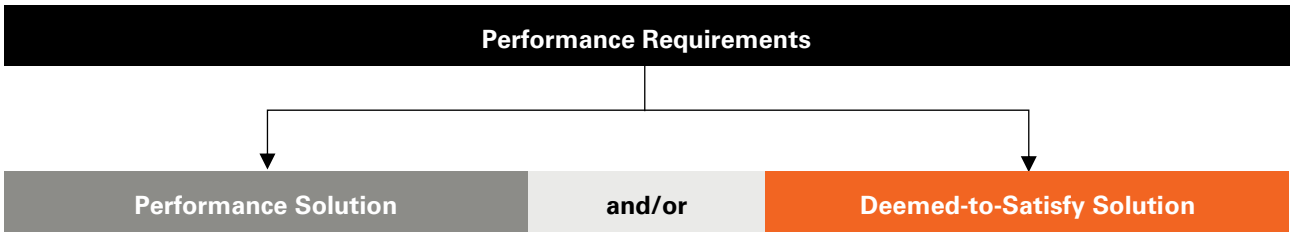
Pursuant to Section 19(1) of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 all new building work must comply with the current BCA however the existing features of an existing building need not comply with the BCA unless upgrade is required by other clauses of the legislation.

1.7 Relevant Version of the Building Code of Australia

Pursuant to Section 19 of the Environmental Planning and Assessment (Development Certification and Fire Safety) Regulation 2021 the proposed building is subject to compliance with the relevant requirements of the BCA as in force at the day on which the application for the Construction Certificate is made. The current version of the BCA is BCA 2022, with the next revision of the BCA coming into effect 1 May 2025. As the Construction Certificate application may be lodged after 1 May 2025, this report assesses the design against compliance with the requirements of BCA 2022, whilst having regard to the draft provisions of BCA 2025 available at the time of writing.

Where the building is a multi-storey building and multiple Construction Certificates will be issued under the same development consent, the relevant version of the BCA may be 'locked in' based on the day in which the application is made for the Construction Certificate which involves the *entrance floor*.

1.8 Compliance with the National Construction Code



Compliance with the NCC is achieved by complying with:

- the Governing Requirements of the NCC; and
- the Performance Requirements.

Performance Requirements are satisfied by one of the following, as shown in the Figure below:

- A Performance Solution.
- A Deemed-to-Satisfy Solution.
- A combination of the above two options.

Where a *Performance Requirement* is proposed to be satisfied by a *Performance Solution*, the following steps must be undertaken:

- Prepare a performance-based design brief in consultation with relevant stakeholders.
- Carry out analysis, using one or more of the Assessment Methods listed in A2G2(2), as proposed by the performance-based design brief.
- Evaluation the results against the acceptance criteria in the performance-based design brief.

- Prepare a final report that includes:
  - All Performance Requirements and/or Deemed-to-Satisfy provisions identified through A2G2(3) or A2G4(3) as applicable; and
  - Identification of all Assessment Methods used; and
  - Details of steps (a) to (c); and
  - Confirmation that the Performance Requirement has been met; and
  - Details of conditions or limitations, if any exist, regarding the Performance Solution.

1.9 Limitations and Exclusions

The limitations and exclusions of this report are as follows:

- No assessment has been undertaken with respect to the Disability Discrimination Act 1992 (DDA). The building owner needs be satisfied that their obligations under the DDA have been addressed.
- Please note that whilst the BCA specifies a minimum standard of compliance with AS1428 (Parts 1-3) and Part D4 of the BCA for access and facilities for people with disabilities, compliance with such requirements may not necessarily preclude the possibility of a future complaint made under the DDA 1992. The DDA is a complaint based legislation and is presently not identified by the State Building Codes and Regulations. In this regard the building owner should be satisfied that their obligations under the DDA have been addressed.
- No assessment has been undertaken with respect to SEPP (Housing) 2021. It is understood that suitably qualified consultants will be engaged to determine the relevance of any Council planning requirements or SEPP requirements and provided detailed assessment reports where applicable.
- No assessment has been undertaken with respect to the following areas of the NCC:
  - Structural
  - Weatherproofing
  - Waterproofing
  - Acoustic
  - Passive Fire Protection
  - DDA / Accessibility
  - Section J / ESD
  - Fire Safety Engineering
- Where relevant to this development, it is assumed that these assessments will be undertaken by others.
- This report does not consider BCA Part G5 (Volume 1) which makes provision for construction of buildings in bushfire-prone areas, therefore no assessment has been undertaken in consideration of RFS, Planning for Bushfire Protection and AS 3959. Where Part G is applicable to the site, then it is required that assessment / due diligence is undertaken by a specialist consultant to verify compliance.
- This report does not constitute a detailed assessment of the architectural documentation against the requirements of Section J. It is understood that a suitably qualified consultant will be engaged to determine compliance in this regard.
- BM+G has not undertaken an assessment of any Performance Solution Reports at the time of the preparation of this report.
- The Report does not address matters in relation to the following Local Government Act and Regulations:
  - Work Health and Safety Act and Regulations.
  - Work Cover Authority requirements.
  - Water, drainage, gas, telecommunications and electricity supply authority requirements.
  - Disability Discrimination Act 1992.
- BM+G Pty Ltd cannot guarantee acceptance of this report by Local Council, Fire & Rescue NSW or other approval authorities.
- This report may not be relied upon under the provisions of the Design and Building Practitioners Act & Regulation for the purposes of issuing a Design Compliance Declaration.
- No part of this document may be reproduced in any form or by any means without written permission from BM+G Pty Ltd. This report is based solely on client instructions, and therefore should not be

used by any third party without prior knowledge of such instructions.

1.10 Report Terminology

Building Code of Australia – Document published on behalf of the Australian Building Codes Board. The BCA is a uniform set of technical provisions for the design and construction of buildings and other structures throughout Australia and is adopted in NSW under the provisions of the Environmental Planning & Assessment Act & Regulation.

Climatic Zone – Means an area defined in Figure 2 and in Table 2 (of BCA Schedule 3) for specific locations, having energy efficiency provisions based on a range of similar climatic characteristics.

Construction Certificate – Building Approval issued by the Certifying Authority pursuant to Part 6 of the EP&A Act 1979.

Construction Type – The construction type is a measure of a buildings ability to resist a fire. The minimum type of fire-resisting construction of a building must be that specified in Table C2D2 and Specification 5, except as allowed for:

- certain Class 2, 3 or 9c buildings in C2D6; and
- a Class 4 part of a building located on the top storey in C2D4(2); and
- open spectator stands and indoor sports stadiums in C2D8.

Note: *Type A construction is the most fire-resistant and Type C the least fire-resistant of the types of construction.*

Deemed-to-Satisfy (DtS) Provisions of the BCA – Means the prescriptive provisions of the BCA which are deemed to satisfy the performance requirements.

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).

Exit – Any, or any combination of the following if they provide egress to a road or open space:

- An internal or external stairway.
- A ramp.
- A fire-isolated passageway.
- A doorway opening to a road or open space.

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 Resistance Level (FRL) – The grading periods in minutes for the following criteria:

- structural adequacy; and
- integrity; and
- insulation.

and expressed in that order.

Fire Source Feature (FSF) – 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.

Horizontal Exit – A required doorway between 2 parts of a building separated from each other by a fire wall.

National Construction Code Series (NCC) – The NCC was introduced 1 May 2011 by the Council of Australian Governments (COAG). The BCA Volume One (Class 2 to 9 Buildings) is now referenced as the National Construction Code Series Volume One — BCA.

Occupiable Outdoor Area – means a space on a roof, balcony or similar part of a building:

- that is open to the sky; and
- to which access is provided, other than access only for maintenance; and
- that is not open space or directly connected with open space.

Occupation Certificate (OC) – Building Occupation Approval issued by the Principal Certifying Authority pursuant to Part 6 of the EPA Act 1979.

Open Space – Means a space on the allotment, or a roof or other part of the building suitably protected from

fire, open to the sky and connected directly with a public road.

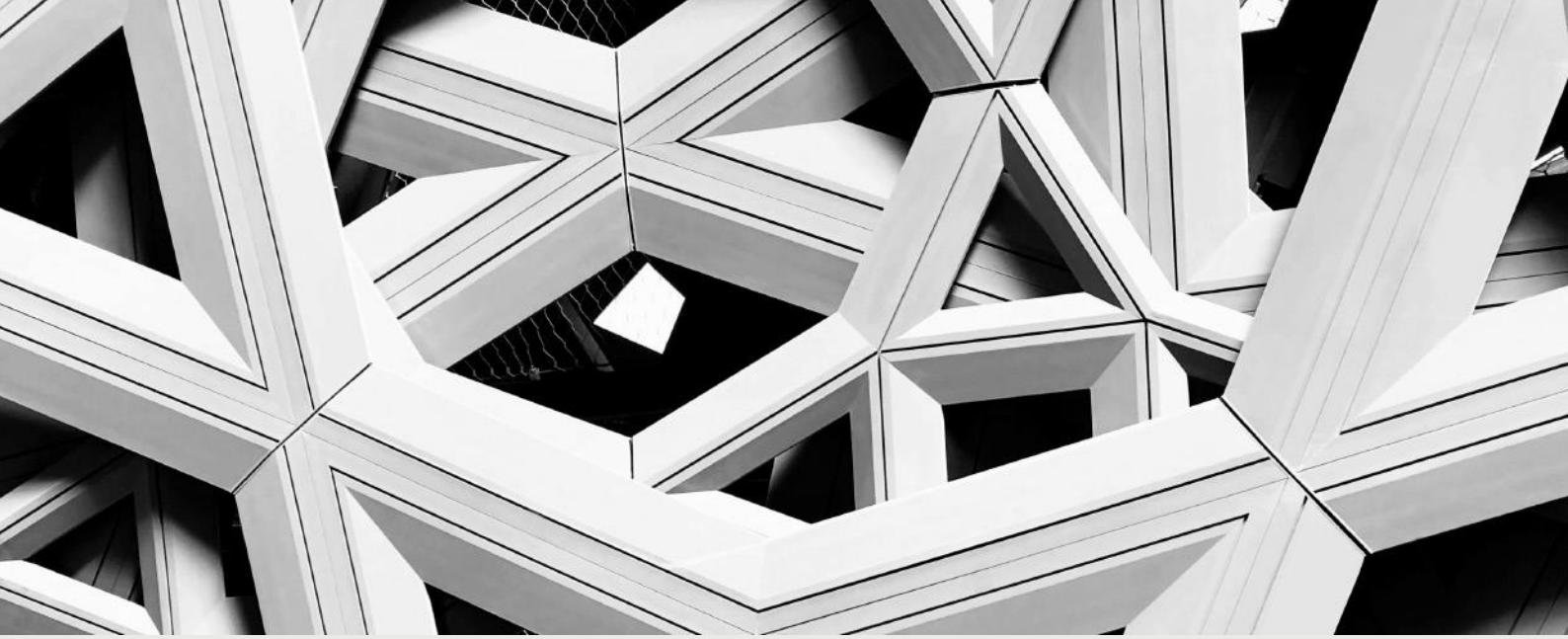
Performance-Based Design Brief – Means the process and the associated report that defines the scope of work for the performance-based analysis, the technical basis for analysis, and the criteria for acceptance of any relevant Performance Solution as agreed by stakeholders.

Performance Requirements of the BCA – A Building Solution will comply with the BCA if it satisfies the Performance Requirements. A Performance requirement states the level of performance that a Building 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.

Performance Solution – Means a method of complying with the performance requirements other than by a Deemed-to-Satisfy Solution.



2.0 Building Characteristics

2.1 Proposed Development

The proposal broadly seeks SSD approval for the construction and operation of a 36-storey mixed-use development with residential and commercial uses, on site car parking, landscaping and public domain works. Specifically, the SSDA seeks development consent for:

- Site preparation works including the demolition of existing structures and tree removal
- Bulk excavation to accommodate the proposed 6 level basement structure
- Construction of a 36-storey mixed use development comprising –
  - Retail and commercial uses
  - Childcare centre
  - Two residential towers with 332 apartments including 308 residential apartments and 24 x live-work units
- 6 levels of basement with access from O'Brien Street
- Public domain works, including landscaping, street trees, and publicly accessible open spaces
- Reticulation of site services and infrastructure

The building is classified as follows:

BCA Classifications:	Class 2 (Residential) Class 6 (Retail) * - *See Note 1* Class 7a (Carpark) Class 7b (Storage) * - *See Note 2* Class 9b (Childcare & Assembly Areas) Class 10b (Swimming Pool) * - *See Note 3*
Rise in Storeys:	Thirty-seven (37)
Storeys Contained:	Forty-five (45)
Type of Construction:	Type A Construction
Importance Level (Structural)	Three (3) – *Per advice from Structural Engineer*
Sprinkler Protected Throughout	Yes (Required throughout)
Effective Height	120.28m (RL221.00 - RL100.72)

+ Total Fire Compartment Floor Area	Approx. 75,000m^2 (includes car parking & external areas)
+ Largest Fire Compartment	Approx. 21,000 m^2 (basement car park)
+ Climate Zone	Zone 5 (Willoughby)

Note 1: The Live/Work units comprise a Class 6 (Retail) use and a Class 2 (Residential) use, however it is noted that some users may, in future, wish to proceed with a separate change of use approval to Class 5 (office), or to adopt a Class 2, 5 or 6 use throughout. The potential for this occurring is to be considered in the preparation of the Fire Engineering Report.

Note 2: Under BCA cl. A6G1 Exemption 1, where a part of a building is proposed to be used for a different purpose and is less than 10% of the floor area of the storey it is situated on, the classification of the other part of the storey may apply to the whole storey.

In this respect, it is noted that the storage cages on the basement car parking levels attract a Class 7b classification. On levels B1-B5 they do not exceed 10% of the floor area, thus these areas are absorbed into the majority classification of the storey, being Class 7a car park. However, the floor area of Level B6 is >10% storage, resulting in Class 7b applying to these areas.

Note 3: As the pool is available for use by occupants other than those associated with the residential units, the pool attracts a Class 10b classification.

2.2 Fire Compartment Floor Area Limitations

Maximum size of fire compartment/atria is:

+ Classification		+ Type A	+ Type B	+ Type C
6 & 7	Max. floor area	5,000m^2	3,500m^2	2,000m^2
	Max. volume	30,000m^3	21,000m^3	12,000m^3
5 & 9b	Max. floor area	8,000m^2	5,500m^2	3,000m^2
	Max. volume	48,000m^3	33,000m^3	18,000m^3

2.3 Distance to Fire Source Features

Based upon a review of the plans, it is noted that each elevation of the building is located within the following distances from fire source features on the site.

+ Elevation	+ Fire Source Feature	+ Distance
North	Far side of the road (Wilson St)	>6m
East	Side or rear boundary (Rail Corridor)	>6m
South	Side or rear boundary (Rail Corridor)	>6m
	Far side of the road (O'Brien St)	>6m
West	Far side of the road (Pacific Hwy)	>6m

Fire Source Feature (FSF) – 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.

3.0 BCA Assessment

+ Legend	
Complies	The referenced plans show compliance with this clause
Compliance Readily Achievable	The referenced plans do not show sufficient information to establish compliance with this clause. Design certification, should be submitted with the application for the Construction Certificate.
Further Information Required	The referenced plans do not show sufficient information to establish compliance with this clause. Further details, should be submitted with the application for the Construction Certificate.
Performance Solution	The referenced plans do not comply with this clause and a Performance Solution is required/proposed to demonstrate compliance with the Performance Requirements
Does Not Comply	The proposal does not comply with this clause and redesign is required.
Note	Provisions contained within this BCA clause are provided for guidance, or are to be read in conjunction with other BCA clauses.

+ Clause	+ Reference	+ Comment
Section B	**Structure**	
Part B1	**Structural Provisions**	
B1D3 (Previously B1.2) Determination of Individual Actions	Structural engineering details prepared by an appropriately qualified structural engineer to be provided to demonstrate compliance with Part B1 in relation to the new structural elements of the building. Design Statement from a Professional Engineer to be provided confirming that the design achieves compliance with the following is required at the time of Construction Certificate Application, inclusive of reference to the following Australian Standards (where relevant): + AS 1170.0 – 2002 General Principles + AS 1170.1 – 2002, including certification for balustrading (dead and live loads) + AS 1170.2 – 2021, Wind loads + AS 1170.4 – 2007, Earthquake loads + AS 3700 – 2018, Masonry code + AS 3600 – 2018, Concrete code + AS 4100 – 2021, Steel Structures + AS 4600 – 2018, Cold formed steel. + AS 2047 – 2014, Windows in buildings	**Compliance Readily Achievable:** A compliance certificate from a Structural Engineer registered on the NER is required for all structural works at the completion of building works and prior to the issuance of a Occupation Certificate. Provision must be made in the design by all consultants (i.e. non-structural

+ Clause	+ Reference	+ Comment
	+ AS 1288 – 2021, Glass in buildings	
B1D4 **(Previously B1.4)** Determination of Structural Resistance of Materials	The structural resistance of materials and forms of construction must be determined in accordance with the requirements of this clause.	**Compliance Readily Achievable:** Detail and design certification to be provided at the Construction Certificate stage. *Note: Being in excess of 50m tall, the building required to be subject to a dynamic analysis under AS 1170.4 Section 7.*
B1D6 **(Previously B1.6)** Construction of Buildings Flood Hazard Areas	A Class 2 or 3 building in a flood hazard area must comply with the ABCB Standard for Construction of Buildings in Flood Hazard Areas.	**Note:** The development lies wholly outside of the flood hazard areas. No further assessment is required in this regard.
Section C	**Fire Resistance**	
Part C2	**Fire Resistance and Stability**	
C2D2 **(Previously C1.1)** Type of Construction Required	The minimum type of fire-resisting construction of a building must be that specified in Table C2D2 and Specification C2D2 except as allowed for in this clause. Table C2D2 does not apply to Class 2 parts of buildings classified in Part C2D6.	**Note:** Type A Construction applies to the building. Refer to Spec. 5 of the BCA (included in APPENDIX 1 of this Report) for the FRLs applicable to this project. Reference shall also be made to the project Fire Engineering Report.
C2D9 **(Previously C1.8)** Lightweight Construction	Lightweight construction must comply with Specification 6 if used in a wall system that is required to have an FRL.	**Compliance Readily Achievable:** Detail to be included in the design to ensure compliance with this clause.
C2D10 **(Previously C1.9)** Non-Combustible Building Elements	In a building of Type A Construction, the following building elements and their components must be non-combustible. + External walls and common walls, including all components incorporated in them, including the façade covering, framing and insulation. + The flooring and floor framing of lift pits. + Non-loadbearing internal walls where they are required to be fire-resisting. This clause contains provisions for combustible materials that may be used wherever a non-combustible material is required under the BCA, including: + Combustible elements permitted within the external wall under C2D10(4).	**Further Information Required:** The provided external finishes schedule demonstrates compliance with the requirements of this clause. Documentary evidence confirming compliance is to be provided with the CC application.

+ Clause	+ Reference	+ Comment
	+ Materials, where comprised entirely of itself, which are deemed non-combustible under C2D10(5). + Materials which are permitted for use where non-combustible materials are required under C2D10(6). Sarking type materials that do not exceed 1mm in thickness and have a Flammability Index not greater than 5 are permitted to be installed with an external wall.	
C2D11 **(Previously C1.10)** Early Fire Hazard Properties	The fire hazard properties of the outlined linings, materials and assemblies in a Class 2 to 9 building must comply with Spec. 7. Refer below to extracts from Tables S7C3 and S7C4 of Spec. 7 as relevant to wall, floor, an ceiling linings. For additional detailed requirements relating to additional building elements, refer to the relevant clause of Spec 7. as outlined below: + Floor linings and coverings – S7C3 + Wall linings and ceiling linings – S7C4 + Air-handling ductwork – S7C5. + Lift Cars – S7C6. + Fire control rooms and fire-isolated exits – S7C7 + Fixed seating and proscenium curtains in Class 9b theatres, public halls and the like – S7C7 + Escalators, moving walkways, and non-required non-fire-isolated stairways and ramps – S7C7. + Sarking-type materials – S7C7. + Attachments to internal floors, walls, and ceilings – S7C7. + Other materials – S7C7	**Further Information Required:** A schedule of all wall, floor, and ceiling linings along with associated test reports are to be provided for review to ensure compliance with the fire hazard property requirements of the BCA. Noting: + Minimum Group Numbers apply to wall and ceiling linings. AS 5637 test reports must be provided to determine compliance. + Minimum Critical Radiant Flux values apply to floor linings. AS ISO 9239.1 test reports must be provided to determine compliance. Test Reports from Accredited Testing Laboratories are required to be provided. Pursuant to Clause A5G6, reports from a professional engineer as to the 'likely performance' will not be accepted. All specified materials and products must be tested to the required standards.

+ Clause	+ Reference	+ Comment

+ Table S7C3 of Specification 7– Critical Radiant Flux of Floor Linings and Floor Coverings

+ Class of building	+ Building not fitted with a sprinkler system	+ Building fitted with a sprinkler system (other than a FPAA101D or FPAA101H system)	+ Fire-isolated exits and fire control rooms
Class 2, 5, 6, 7 & 9b	2.2 kW/m^2	1.2 kW/m^2	2.2 kW/m^2

+ Table S7C4 of Specification 7 – Wall and Ceiling Lining Materials (Materials Groups Permitted)

+ Class of building	+ Fire-isolated exits and fire control rooms	+ Public corridors	+ Specific areas	+ Other areas
Class 2 or 3 (Sprinklered)	Walls: 1 Ceilings: 1	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3
Class 5, 6 & 7 (Sprinklered)	Walls: 1 Ceilings: 1	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1 ,2, 3
Class 9b (Sprinklered)	Walls: 1 Ceilings: 1	Walls: 1, 2 Ceilings: 1, 2	Walls: 1, 2, 3 Ceilings: 1, 2, 3	Walls: 1, 2, 3 Ceilings: 1, 2, 3

Specific areas:

+ Class 2: A sole-occupancy unit, and
+ Class 5: Open plan offices with a minimum floor dimension/floor to ceiling height ratio > 5, and
+ Class 6: Shops or other building with a minimum floor dimension/floor to ceiling height ratio > 5.

C2D14

(Previously C1.14)

Ancillary Elements

An ancillary element must not be fixed, installed or attached to the internal parts or external face of an external wall that is required to be non-combustible unless it is one of the following:

+ An ancillary element that is non-combustible.
+ A gutter, downpipe or other plumbing fixture or fitting.
+ A flashing.
+ A grate, grille or similar cover not more than 2m^2 in area associated with a building service.
+ An electrical switch, socket-outlet, cover plate or the like.
+ A light fitting
+ A required sign.
+ A sign other than one provided under (a) or (g) that—
+ achieves a group number of 1 or 2; and
  - does not extend beyond one storey; and
  - does not extend beyond one fire compartment; and
  - is separated vertically from other signs permitted under (h) by at least 2 storeys.

Further Information Required:

Documentation is required to be provided as relevant to:

+ External signage
+ Window Shades
+ Decorative battens or the like
+ Any other element forming an ancillary element to the external wall.

An External Wall Disclosure statement is to be provided which captures all elements attached to the external face, or internal parts of, the external wall make-up along with supporting evidence of suitability. BM+G to provide a pro forma for use.

It is specifically noted that the provided plans demonstrate the use of planter boxes along sections of the façade, however, none of the configurations show are an 'attachment to the external wall', thus compliance appears achievable with respect to the planters. "Green walls" however are considered attachments – if any such installations are proposed this must be brough to the attention of BM+G.

+ Clause	+ Reference	+ Comment
	+ An awning, sunshade, canopy, blind or shading hood other than one provided under (a) that— + Meets the relevant requirements of Table S7C7 as for an internal element; and + Serves a storey— - at ground level; or - immediately above a storey at ground level; and + Does not serve an exit, where it would render the exit unusable in a fire. + A part of a security, intercom or announcement system. + Wiring. + Waterproofing material installed in accordance with AS 4654.2 and applied to an adjacent floor surface, including vertical upturn, or a roof surface. + Collars, sleeves and insulation associated with service installations. + Screens applied to vents, weepholes and gaps complying with AS 3959. + Wiper and brush seals associated with doors, windows or other openings. + A gasket, caulking, sealant or adhesive directly associated with (a) to (o).	
Part C3	**Fire Compartmentation and Separation**	
C3D3 **(Previously C2.2)** General Floor Area Limitations	Limitations on the area and volume of fire compartments in Class 5, 6, 7 & 9 buildings as required by sub-clauses (a), (b) & (c) must be adhered to unless excepted by Clause C3D2 or C3D4. *Note: These requirements do not apply to a carpark protected by a sprinkler system (other than a FPAA101D or FPAA101H system), being fire separated from the remainder of the building.*	**Further Information Required:** It is understood that the compartmentation strategy is to fire separate each of the Class 6 units from one another, and to fire separate the childcare facility from the remainder of the storey. It is also noted that the floors, being fire rated, will limit the compartment sizes vertically also. Detailed fire rating/compartment plans are to be provided by the architect demonstrating compliance in this regard. **Performance Solution:** The fire compartment limitations do not apply to sprinkler protected carparks provided with an AS 2118.1 sprinkler system, if they are separated from all other classifications within the building. Basement 06 includes >10% of Class 7b storage space which is not separated from the Class 7a space,

+ Clause	+ Reference	+ Comment
		and thus the fire compartment limitations apply. As the basement is connected to multiple storeys via the ramps, a fire compartment exists in the order of 21,000m^2, i.e. in excess of the maximum 5,000m^2 permitted by Table C3D3. It is understood that a Fire Engineered Performance Solution is proposed with respect to the above, reliant on fire separation of the large storage space on Basement 06, as shown below in orange: 
C3D6 **(Previously C2.5)** Class 9 Buildings	In a building containing a Class 9b early childhood centre— + unless the Class 9b early childhood centre is the only use in the building, it must be separated from the remainder of the building by walls and/or floors with an FRL not less than that required for a fire wall; and + each storey must contain not less than 2 fire compartments. Exemption: The above requirements do not apply to a Class 9b early childhood centre- + Wholly within a storey that provides direct egress to a road or open space; or + With a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in the building.	**Further Information Required:** Details of the internal compartmentation strategy are to be provided by the architect, demonstrating no less than 2x fire compartments are provided. Refer to additional comments under Clause D2D16.
C3D7 **(Previously C2.6)** Vertical Separation of Openings in External Walls	In a non-sprinkler protected building of Type A construction, openings above other openings within 450mm of a vertical plane must be separated by: + A spandrel of not less than 900mm in height (extending minimum 600mm above floor level) of non-combustible construction achieving an FRL of 60/60/60; or + A horizontal projection extending from the external face of the wall no less than 1100mm, extending laterally 450mm beyond each side of the openings, and of	**Noted:** The spandrel provisions do not apply to the subject building, as it is proposed to be provided with a sprinkler system throughout. No action is required in this regard. This has been provided as compliance commentary only.

+ Clause	+ Reference	+ Comment
	non-combustible construction achieving an FRL of 60/60/60.	
C3D8 **(Previously C2.7)** Separation by Fire Walls	Construction- A fire wall must be in accordance with the following: + The fire wall has the relevant FRL prescribed by Spec 5. + Unless permitted by Part C4, must not reduce the FRL prescribed by 5. + Building elements (other than roof battens of 75x50 or sarking-type material) must not pass through a fire wall unless the FRL of the wall can be maintained. Separation of buildings- A part of a building may be considered separate from the remainder of the building if separated by a fire wall in accordance with the following: + The fire wall extends through all storeys and is carried through to the underside of the roof covering. - Where roofs of separate buildings are at different heights, the fire wall must extend to the underside of: - The higher roof, or >6m above the lower roof. - The lower roof if it has an FRL not less than that of the fire wall and no openings closer than 3m to any wall above the lower roof. - The lower roof if its covering is non-combustible and the lower part is sprinkler protected. Separation of fire compartments- A part of a building, separated from the remainder by a fire wall, may be treated as a separate fire compartment if the fire wall extends to the underside of: + A floor having an FRL required for a fire wall; or + The roof covering.	**Further Information Required:** Detail and design certification to be provided at the Construction Certificate stage.
C3D9 **(Previously C2.8)** Separation of Classifications in the Same Storey	Each building element in that storey must have the higher FRL prescribed in Spec. 5 or have those parts of the building separated by a fire wall.	**Noted:** Higher FRL of each classification to apply or be fire separated.
C3D10 **(Previously C2.9)** Separation of Classifications	Parts of different classification that are situated one above the other in adjoining storeys must be separated as follows: + Type A construction – The floor between the adjoining parts must have an FRL of	**Noted:** Higher FRL of each classification to apply or be fire separated.

+ Clause	+ Reference	+ Comment
in Different Storeys	not less than that prescribed in Specification 5 for the classification of the lower storey.	
C3D11 **(Previously C2.10)** Separation of Lift Shafts	This clause applies to all classes of buildings and specifies the protection requirements for openings for lift shafts and lift landing doors. The requirements are set out in sub-clauses (1), (2) (3) & (4) which relate to openings in Type A, B and C construction. Also note the Deemed to Satisfy Provisions of Part C4.	**Further Information Required:** Detail and design certification to be provided at the Construction Certificate stage, noting that each of the proposed lift shafts are required to be fire rated, as they serve in excess of three storeys.
C3D12 **(Previously C2.11)** Stairways and Lifts in One Shaft	A stairway and lift must not be in the same shaft if either the stairway or the lift is required to be in a fire-resisting shaft.	**Further Information Required:** Detail and design certification to be provided at the Construction Certificate stage, noting that each of the proposed lift & stair shafts are required to be fire rated.
C3D13 **(Previously C2.12)** Separation of Equipment	Equipment as listed below must be separated from the remainder of the building with construction that achieves an FRL of 120/120/120 (or that required by Spec. 5, whichever is greater) and doorways being self-closing -/120/30 fire doors: + Lift motors and lift control panels; or + Emergency generators used to sustain emergency equipment operating in the emergency mode; or + Central smoke control plant; or + Boilers; or + A battery or batteries installed in the building that have a voltage exceeding 12 volts and a capacity exceeding 200kWh. + Separation of on-site fire pumps must comply with the requirements of AS 2419.1.	**Further Information Required:** Detail and design certification to be provided at the Construction Certificate stage.
C3D14 **(Previously C2.13)** Electricity Supply System	An electrical substation located within a building or a main switchroom which sustains emergency equipment, must: + Be separated from the building by construction achieving an FRL of 120/120/120; and + Have any doorway protected with a self-closing fire door achieving an FRL of -/120/30. + Electrical conductors within a building must be protected in accordance with sub-clause (3).	**Further Information Required:** Detail and design certification to be provided at the Construction Certificate stage.
C3D15	A public corridor, if more than 40m in length, must be divided at intervals of not more than	**Performance Solution:**

+ Clause	+ Reference	+ Comment	
(Previously C2.14) Public Corridors in Class 2 Buildings	40m with smoke proof walks complying with SC11C2.	The Ground Floor incorporates a grid of covered walkways associated with the live/work spaces. The cumulative length of these corridors is measured at 115m (i.e. 75m in excess of that permitted by DtS). Based on the openness & the nature of the use of the space, it is understood that this design is proposed to be justified via a Fire Engineered Performance Solution. The public corridor lengths on the upper storeys are also excessive, as follows: + Level 3: up to 48m, + Level 4: up to 48m.	
Part C4	**Protection of Openings**		
C4D2 **(Previously C3.1)** Application of Part	Openings listed in C4D2(1) need not comply with the Deemed-to-Satisfy Provisions of Part C4.	**Noted:** As the project falls under NCC 2022, all fire rated products must be tested to AS 1530.4 – 2014. Test Reports to previous revisions of the standard will no longer be accepted.	
C4D3 **(Previously C3.2)** Protection of Openings in External Walls	Openings in an external wall required to have an FRL must be protected in accordance with C4D5 if the opening is less than: + 3m from a side or rear boundary; or + 6m from the far boundary of a road, river, lake or the like adjoining the allotment if not located at or near ground level; or + Less than 6m from another building on the allotment that is not Class 10. An opening required to be protected under this part must not occupy more than 1/3 of the area of the external wall of the storey in which it is located.	**Noted:** As the building is in excess of 6m from any fire source feature, there are no openings requiring protection, due to the requirements of this clause.	

+ Clause	+ Reference	+ Comment
C4D4 **(Previously C3.3)** Separation of External Walls and Associated Openings in Different Fire Compartments	The distance between parts of external walls and any openings within them in different fire compartments separated by a fire wall must be at least that set out in Table C4D4 unless- + Those parts of each wall have an FRL of at least 60/60/60; and + Any openings protected in accordance with C4D5. Method of measurement between adjoining fire comportments is set out below: - **+ Angle between walls** / **+ Min. Distance** 0^0 (walls opposite) — 6m More than 0^0 to 45^0 — 5m More than 45^0 to 90^0 — 4m More than 90^0 to 135^0 — 3m More than 135^0 to 180^0 — 2m 0^0 or more — Nil	**Performance Solution:** Each live/work space is proposed to be constructed as its own fire compartment. This results in a number of instances where external walls require fire ratings, as they are externally exposed to one another. An example from Ground Floor is shown below:  It is understood that rationalisation of the fire ratings to glazed components of these walls may be undertaken via a Fire Engineered Performance Solution. Details of this approach are to be finalised. **Further Information Required:** The configuration of the fire compartmentation in the early childhood centre is yet to be finalised, though it is noted that a review against the requirements of this clause is to be undertaken once the compartmentation plans are available.
C4D5 **(Previously C3.4)** Acceptable Methods of Protection	Where protection is required, doorways, windows and other openings must be protected as follows: Doorways – + Internal or external wall-wetting sprinklers as appropriate used with doors that are self-closing or automatic closing; or + -/60/30 fire doors that are self-closing or automatic closing. Windows – + Internal or external wall-wetting sprinklers as appropriate used with windows that are automatic closing or permanently fixed in the closed position; or + -/60/- automatic closing fire shutters. Other openings – + Excluding voids – internal or external wall-wetting sprinklers, as appropriate; or	**Compliance Readily Achievable:** Detail to be included in the design where applicable.

+ Clause	+ Reference	+ Comment	
	+ Construction having FRL not less than -/60/-.		
C4D6 **(Previously C3.5)** Doorways in Fire Walls	Openings in fire walls, that are not part of a horizontal exit, must be protected in accordance with one of the methods set out in this clause. Doorways in fire walls, that are not part of a horizontal exit, must: + In aggregate door width, not exceed ½ of the length of the fire wall. + Be protected by fire doors achieving the FRL required for the wall in accordance with Spec 5 for Type A Construction. + Be self-closing or automatically close on the activation of a smoke detector and applicable sprinkler system.	**Compliance Readily Achievable:** Details to be included into the design where applicable.	
C4D8 **(Previously C3.7)** Protection of Doorways in Horizontal Exits	A doorway that is part of a horizontal exit must be protected by: + A fire door with an FRL as required for the wall under Spec 5, except that the door must have an insulation level of at least 30; or; + Be self-closing, or automatic-closing activated by heat or smoke detector activation and the activation of an applicable sprinkler system.	**Compliance Readily Achievable:** Details to be included into the design where applicable.	
C4D9 **(Previously C3.8)** Openings in Fire Isolated Exits	Doorways that open to fire-isolated exits (excluding those that open to a road or open space), must be protected by -/60/30 self-closing, or automatic closing fire doors. A window in an external wall of a fire-isolated exit must be protected in accordance with C4D5 if it is exposed to and within 6m of another opening in wall of the same building. (excludes openings in the same fire-isolated exit)	**Compliance Readily Achievable:** Detail to be included in the design where applicable.	
C4D10 **(Previously C3.9)** Service Penetrations in Fire Isolated Exits	Fire isolated exits may only be penetrated by: + Electrical wiring permitted by D3D8 (6). + Ducting associated with a pressurisation system. - is constructed of material having an FRL of not less than –/120/60 where it passes through any other part of the building; and - does not open into any other part of the building; or + Water supply and test drain pipes for fire services.	**Further Information Required:** Plans demonstrating that the stair pressurisation ductwork achieves compliance with these requirements is required to be provided for review. It is specifically noted that each stair (noting that scissor stairs incorporate two separate stairs) requires its own stair pressurisation shaft. Where a shared shaft is proposed, a Fire Engineered Performance Solution will be required.	

+ Clause	+ Reference	+ Comment
C4D11 **(Previously C3.10)** Openings in Fire Isolated Lift Shafts	Doorways – Lift shafts required to be fire-isolated must be protected by -/60/- self-closing fire doors complying with AS1735.11. Lift Indicator Panels – If exceeding 35,000mm^2, lift indicator panels must be backed by no less than FRL -/60/60 construction.	**Compliance Readily Achievable:** Detail to be included in the design where applicable.

+ Clause	+ Reference	+ Comment
C4D12 **(Previously C3.11)** Bounding Construction: Class 2, 3 and 4 Parts	A doorway in a Class 2 building must be protected if it provides access from a SOU to: + A public corridor, lobby, or the like; or + A room not within a SOU; or + The landing of an internal non-fire-isolated required stairway; or + Another SOU. If it provides access from a room not within a SOU to, the following doorways must be protected: + A public corridor, lobby, or the like; or + The landing of an internal non-fire-isolated required stairway. *Protection* under this part refers to: + A self-closing, -/60/30 fire door, or + Where a path of travel does not offer a choice of travel in different directions to different exits and is located along an open balcony, landing, or the like and passes an external wall of another SOU or a room not within a SOU, Then that external wall must- - Be constructed of concrete or masonry, or lined internally with a fire-protective covering. - Have any door fitted with a self-closing solid core door >35mm thick. - Having any windows or other openings protected in accordance with C4D5 or located >1.5m above finished floor level.	**Performance Solution:** It is understood that it is proposed to rationalise the FRLs to the fire rated bounding construction between the residential & retail components of the Live/Work spaces, via a Fire Engineered Performance Solution, based on the proposed intent for flexibility of uses. Instead the Live/Work units will be separated from the common areas. Further design development is required in this regard, though it is noted that the separation is expected to be as pictured below in orange:  A Fire Engineered Performance Solution is proposed to be prepared to address the rationalisation of bounding construction separating the Live/Work units on Ground Floor from the public corridors to which they open into. Noting this applies only to the future use case in which the Ground Floor components of the units are Class 2 SOUs. It is also understood a Performance Solution is proposed to justify the provision of louvred openings to the Level 1 corridors opening into the Ground Floor double-height space, and to the external plant & areas on Levels 1, 3 & 4.

+ Clause	+ Reference	+ Comment	
C4D13 **(Previously C3.12)** Openings in Floors and Ceilings for Services	Where a service passes through: + A floor required to have an FRL (integrity and insulation), or; + A ceiling required to have a resistance to the incipient spread of fire, That service must be protected: + By a shaft complying with Spec. 5, and; + The performance of any required fire-protective floor covering must not be reduced by service penetrations.	**Compliance Readily Achievable:** Details to be included into the design.	
C4D14 **(Previously C3.13)** Openings in Shafts	In a building of Type A Construction, service shafts must be protected by: + A fire door, hopper or access panel achieving FRL -60/30. + If in a sanitary compartment - a non-combustible door and frame achieving an FRL of -/30/30. + If the shaft is a garbage shaft – a non-combustible door or hopper.	**Compliance Readily Achievable:** Details to be included into the design.	
C4D15 **(Previously C3.15)** Openings for Service Installations	When a service penetrates a building element that is required to have an FRL with respect to integrity or insulation or a resistance to the incipient spread of fire, that penetration must: + Be identical to a tested prototype assembly, tested in accordance with AS 4072.1 and AS 1530.4. + In the case of ventilating or air-conditioning ducts/equipment, the installation must comply with AS 1668.1.	**Further Information Required:** Detail and design certification to be provided at the Construction Certificate stage. It is recommended that a specialist fire stopping contractor be engaged to provide advice and inspect all fire stopping penetrations on the project. Specific attention is drawn to whether it is proposed to prepare a Fire Engineered Performance Solution to address the fire sealing of cast-in services from one end only (i.e. as opposed to both ends).	
C4D16 **(Previously C3.16)** Construction Joints	Construction joints, spaces and the like in and between building elements required to be fire-resisting with respect to integrity and insulation must be protected in a manner- + Identical with a prototype tested in accordance with AS 1530.4 and AS 4072.1 to achieve the required FRL, or + That differs from a prototype in accordance with Section 4 of AS 4072.1 and achieves the required FRL.	**Compliance Readily Achievable:** Detail and design certification to be provided at the Construction Certificate stage.	
C4D17 **(Previously C3.17)** Columns Protected with	A column protected by lightweight construction to achieve an FRL which passes through a building element that is required to have an FRL or a resistance to the incipient spread of fire, must be installed using a method and materials identical with a	**Compliance Readily Achievable:** Detail and design certification to be provided at the Construction Certificate stage, where relevant.	

+ Clause	+ Reference	+ Comment
Lightweight Construction to Achieve an FRL	prototype assembly of the construction which has achieved the required FRL or resistance to the incipient spread of fire. The determination of the required FRL must be confirmed in a report from an Accredited Testing Laboratory in accordance with Spec. 1 and 2. The requirements of (1) do not apply where joints, spaces and the like between fire-protected timber elements are provided with cavity barriers in accordance with Spec. 9.	
Part C Specifications		
Spec 5 **(Previously Spec C1.1)** Fire-Resisting Construction	The new building works are required to comply with the requirements detailed within Spec. 5 for Type A Construction.	**Further Information Required:** It is understood that further design development is required with respect to determining any potential non-compliances regarding Spec. 5, though specific attention is drawn to the below: + The provision of smoke seals to the slab edge, where a fire rated floor abuts the external wall, in lieu of the fire rated floor extending to the external wall. + Similarly, provision of a smoke seal to the edge of all fire walls where they terminate into the external wall, in lieu of the fire rated wall extending to the external wall. + Localised reduction of floor slab FRLs, where they incorporate set-downs to accommodate wet areas. + Reduction of the 3 hour FRLs required to the live/work spaces. + Reduction of the Ground Floor retail tenancy FRLs from 3 hours to 2 hours. + Fire separation of adjacent scissor stair shafts. + Fire rated construction bounding the garbage room, in lieu of a fire rated base to the garbage chutes. **Performance Solution:** The non-fire separation of Class 7a & 7b parts on Level B6 results in increased FRLs (4 hours) throughout the entirety of the

+ Clause	+ Reference	+ Comment	
		basement fire compartment. We understand this is proposed to be rationalised via a Fire Engineered Performance Solution.	
Spec. 12 **(Previously Spec C3.4)** Fire Doors and Smoke Doors	Fire doors must comply with AS 1905.1 and not fail the period specified for integrity in the required FRL due to glazed parts. Smoke doors must be constructed to prevent the free passage of smoke from one side of the doorway to the other. If they are glazed, there must be minimal danger of a person being injured by walking in to them. A smoke door must be constructed as follows- + The door must swing in direction of egress, or both directions. + The leaves are capable of resisting smoke at 200°C for 30 minutes. Solid core leaves of minimum 35mm thick satisfy. + The leaves are fitted with smoke seals. + The leaves are normally in the closed position, or the leaves are closed automatically through interface with smoke detectors present on each side of the doorway no more than 1.5m horizontal distance from the doorway. In the event of a power failure, the leaves must fail-safe to the closed position. + The leaves return to the fully closed position after each manual opening. + Any glazing part complies with AS1288. If a glazed panel may be mistake for an unobstructed exit, identification via opaque construction must be present. Fire Shutters & Windows window must be identical with a tested prototype that has met the required FRL as well as installed in the same manner. If a metallic fire shutter is not prohibited by C4D6, a required fire shutter must be a steel shutter complying with AS 1905.2.	**Compliance Readily Achievable:** Details to be included into the design.	
Section D	**Access and Egress**		
Part D2	**Provision for Escape**		
D2D3 **(Previously D1.2)**	In addition to horizontal exits, following buildings/areas are required to be provided with two exits-	**Performance Solution:** Only one exit is provided from each part of Basement 07, whereas two or more exits are required by this clause. It is understood this is	

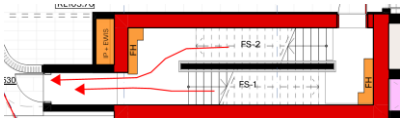
+ Clause	+ Reference	+ Comment
Number of Exits Required	+ Class 2, 5, 6 & 7 building: Each storey if the building has an effective height >25m. + Basements that require a vertical rise of >1.5m to egress, unless the basement comprises <50m^2 and the exit can be reached in <20m. + Class 9- - Each storey if the building has a rise in storeys of 6 or an effective height of 25m. - Each storey in a Class 9b used as an early childhood centre. - Any storey or mezzanine that accommodates more than 50 persons, calculated under D2D18. - In a Class 9 building, the above requirements do not apply to a part of a storey that- ▪ Is a plant room, machinery room, storeroom, lift-machine room or the like; and ▪ Is provided with direct egress to a road or open space or a fire-isolated exit complying with D2D12(2); and ▪ Satisfies D2D5 by the provision of 1 exit. Concessions are provided from certain buildings to allow for the provision of a single exit from specific areas where direct egress is provided to a road or open space, where otherwise two exits are required. Access to an exit must not require passing through another SOU.	proposed to be addressed via a Fire Engineered Performance Solution. **Complies:** The provided plans demonstrate compliance with the requirements of this clause. It is noted that each of the Live/Work units are provided with 2x entry doors facilitating access to an exit without requiring occupants to pass through another SOU. It is also noted that the provisions of this clause do not apply to the internal parts of Class 2 SOUs, thus the is no non-compliance associated with the provision of a single exit from each of the rooftop areas associated with the penthouse apartments.
D2D4 **(Previously D1.3)** When Fire Isolated Exits are Required	Class 2 Buildings – Every stairway or ramp serving as a required exit must be fire-separated unless it connects or passes by not more than: + 3 consecutive storeys in a Class 2; or + 2 consecutive storeys in a Class 3. One additional storey of any classification may be included if: + It is only for the accommodation of motor vehicles or for other ancillary purposes; or + The building is sprinkler protected; or + The required exit does not provided access to or egress from the additional storey, and is fire and smoke separated.	**Further Information Required:** All stairs within the development appear to be depicted as fire isolated stairs, with the exception of: + Stairs within live/work units, and within the showrooms. These stairs need not be fire isolated, based on the provisions of this clause, as they serve/pass by two storeys only. + Open stair serving the 'commercial lobby'. This stair is not a required egress stair, and thus is not subject to the provisions of this clause. Refer to further commentary under cl. D2D17.

+ Clause	+ Reference	+ Comment
	Class 5, 6, 7 & 9 Buildings – Every stairway or ramp serving as a required exit must be fire-isolated unless – + Except in a Class 9b early childhood centre – it connects, passes through or passes by not more than 2 consecutive storeys and one extra storey of any classification may be included if – - The building has a sprinkler system; or - The required exit does not provided access to or egress from the additional storey, and is fire and smoke separated.	+ Open stair serving the childcare centre. This stair is not a required egress stair, and thus is not subject to the provisions of this clause. Refer to further commentary under cl. D2D17. Fire compartmentation plans are to be provided to confirm that the required fire isolated stairs are provided with the required fire isolated shafts.
D2D5 **(Previously D1.4)** Exit Travel Distances	For Class 2 buildings: + Maximum 6m to an exit or to a point of choice between alternative exits from sole-occupancy units + 20m from a single exit to open space or road when the storey is on the same level of egress from sole-occupancy units + Maximum 20m to an exit or to a point of choice between alternative exits from any other part of the floor not in a sole-occupancy unit. For Class 5, 6, 7 or 9b buildings: + Maximum 20m to an exit or to a point of choice between alternative exits. + In a Class 5 or 6 building, the distance to a single exit serving a storey at the level of access to a road or open space may be increased to 30m. + Maximum distance to one of those exits is 40m.	**Performance Solution:** Basement 06: <u>Distance to a Point of Choice (20m):</u> + South-western corner of the carpark: Up to 35m <u>Distance to an Exit (max. 40m):</u> + South-eastern corner of the carpark: Up to 45m. Basement 05-02: <u>Distance to a Point of Choice (20m):</u> + South-western corner of the carpark: Up to 35m <u>Distance to an Exit (max. 40m):</u> + South-eastern & south-western corner of the carpark: Up to 50m. Basement 01: <u>Distance to a Point of Choice (20m):</u> + South-western corner of the carpark: Up to 30m <u>Distance to an Exit (max. 40m):</u> + South-western corner of the carpark: Up to 50m. Basement 01 Mezzanine: + Complies. Ground Floor: Complies. Level 1 (worst case on floor): <u>Distance to a Single Exit (max. 20m):</u> + Showroom 01 (accommodating fit out): Up to 28m.

+ Clause	+ Reference	+ Comment
		Class 2 – Distance to a Point of Choice (6m): + Live/Work 04 & 09: Up to 18m. Class 5/6 – Distance to a Point of Choice (20m): + Live/Work 09: Up to 31m. **Level 2 (worst case on floor):** Distance to a Point of Choice (20m): + Childhood outdoor area (south): Up to 23m. + Pool area: Up to 25m **Level 3 (worst case on floor):** Class 2 – Distance to a Point of Choice (6m): + Live/Work 16: Up to 16m. Class 5/6 – Distance to a Point of Choice (20m): + Live/Work 16: Up to 27m. **Level 4 (worst case on floor):** Class 2 – Distance to a Point of Choice (6m): + Live/Work 17: Up to 17m. Class 2 – Distance to a Point of Choice (20m): + Outdoor Communal Lounge: Up to 24m Class 5/6 – Distance to a Point of Choice (20m): + Live/Work 17: Up to 27m. **Levels 5-13 (worst case on floor):** Distance to a Point of Choice (6m): + Unit 05 & each unit above in the same location: Up to 11m. **Levels 14-25 (worst case on floor):** Distance to a Point of Choice (6m): + Unit 04 & each unit above in the same location: Up to 11m. **Level 26 (worst case on floor):** Distance to a Point of Choice (6m): + Unit 2603: Up to 11m. **Level 27:** + Complies. **Roof:** + Complies.
D2D6	Exits that are required as alternative means of egress must be-	**Performance Solution:**

+ Clause	+ Reference	+ Comment
(Previously D1.5) Distances Between Alternative Exits	+ Distributed as uniformly as practical within the storey served. + Located so that unobstructed access to 2 exits is available from all points. + Not less than 9m apart + Not more than - Class 2: 45m apart - In all other Classes – 60m. + Located so that alternative paths of travel do not converge <6m.	The following instances of alternative exits too far from one another (greater than 60m) are as follows: Basement 06-02: + Western side of the carpark: Up to 70m. Basement 01: + Eastern side of the carpark: Up to 70m. **Performance Solution:** The following instances of alternative exits too close together (less than 9m) are as follows: Basement 01 Mezzanine: + FS-6 & stair adjacent Comm. Lift 2: 7m. Level 1, 4 & 5-26: + Scissor stairs (north & south): 5m.
D2D7 **(Previously D1.6(a))** Height of exits, paths of travel to exits and doorways	In a required exit or path of travel to an exit the unobstructed height throughout must be not less than 2 m, except the unobstructed height of any doorway may be reduced to not less than 1980 mm.	**Compliance Readily Achievable:** Detail to be included in the design.
D2D8 **(Previously D1.6(b)-(e))** Width of exits, paths of travel to exits and doorways	The unobstructed width of each required exit or path of travel to an exit, except for ladders provided in accordance with D2D21, D3D23 or I3D5, and doorways, must be not less than 1m. If the storey, mezzanine or open spectator stand accommodates more than 100 persons but not more than 200 persons, the aggregate unobstructed width of each required exit or path of travel to an exit, except for doorways, must be not less than 1 m plus 250 mm for each 25 persons (or part) in excess of 100; or If the storey, mezzanine or open spectator stand accommodates more than 200 persons, the aggregate unobstructed width of each required exit or path of travel to an exit, except for doorways, must be not less than— + 2 m plus 500 mm for every 60 persons (or part) in excess of 200 persons if egress involves a change in floor level by a stairway or ramp with a gradient steeper than 1 in 12; or	**Further Information Required:** Widths of egress paths: Detail to be included in the design with respect to. Specific attention is drawn to the requirement to achieve compliance with this clause throughout the entirety of the Live/Work units. Additionally, it is noted that the egress stairs must also maintain a min. 1m width, clear of handrails, services & the like. Specific attention is drawn to a number of corridors that have been designed at exactly 1m wide, thus there is no allowance for construction tolerances. Consideration is to be given to this in the design development prior to issue of the Construction Certificate. Further, plant areas are to maintain a 1m clear width through egress paths (e.g. fire pump room).

+ Clause	+ Reference	+ Comment
	+ In any other case, 2 m plus 500 mm for every 75 persons (or part) in excess of 200.	Consideration is to be given to this in the design development prior to issue of the Construction Certificate <u>Aggregate egress widths:</u> We require confirmation of the maximum proposed occupant load of the Level 1 part of Showroom 01, as well as the childcare & pool areas on Level 2. Notwithstanding, based on the occupant calculations in Table D2D18 the following is noted: Showroom 01: + Maximum occupants: 87 (1 person per 5m² x 432m² area). + 1m aggregate egress with available. Accommodates up to 100 persons, thus compliance is readily achievable. Level 2: + Maximum occupants (childcare): 205 (1 person per 4m² x 820m² area). Maximum occupants (pool): 68 (1 person per 1.5m². 102m² area). Maximum occupants (open area): 50, based on seating. Total sum: 323 persons + 3.5m aggregate egress with available. Accommodates up to 560 persons, thus compliance is achieved.
D2D9 **(Previously D1.6(f))** Width of doorway in exits or paths of travel to exits	In a required exit or path of travel to an exit, the unobstructed width of a doorway must be not less than— + The unobstructed width of each exit provided to comply with D2D8(1), (2), (3) or (4), minus 250 mm; or + In any other case except where it opens to a sanitary compartment or bathroom — 750 mm wide.	**Further Information Required:** Detail to be included in the design with respect to egress widths throughout the building. Specific attention is drawn to the requirement to achieve compliance with this clause throughout the entirety of the Live/Work units.
D2D10 **(Previously D1.6(g))** Exit width not to diminish in direction of travel	The unobstructed width of a required exit must not diminish in the direction of travel to a road or open space, except where the width is increased in accordance with D2D8(1)(b) or D2D9(a)(i).	**Performance Solution:** On Ground Floor, the convergence of the two sections of scissor stairs, the stairs from the basement, and the fire control room results in the following non-compliances:

+ Clause	+ Reference	+ Comment
		+ Southern Stair: 2m of egress width converging into 1m,  + Northern Stair: 4m of egress width converging into 1m (FER to consider that the Fire Control Centre also relies upon this passage for egress).  It is understood this is to be addressed via a combination of design amendment and a Fire Engineered Performance Solution.
D2D11 (Previously D1.6(h) and (i)) Determination and measurement of exits and paths of travel to exits	For the purposes of D2D7 to D2D10 the following apply: + The required width of a stairway or ramp in a required exit or path of travel to an exit must— - be measured clear of all obstructions such as handrails, projecting parts of barriers and the like; and - extend without interruption, except for ceiling cornices, to a height not less than 2 m vertically above a line along the nosings of the treads or the floor surface of the ramp or landing. + To determine the aggregate unobstructed width, the number of persons accommodated must be calculated according to D2D18.	**Compliance Readily Achievable:** Detail to be included in the design.
D2D12 **(Previously D1.7)** Travel via Fire Isolated Exits	A doorway from a room must not open directly into a stairway, passageway or ramp that is required to be fire-isolated unless it is from a public corridor/lobby, sole-occupancy unit occupying all of a storey or a sanitary compartment/airlock. Each fire isolated stairway or ramp must provide independent egress from each storey served and must discharge to – + A road or open space; or + To a point in a space within the building that is only used for pedestrian movement or car parking that is open a minimum of 2/3 of its perimeter and from	**Performance Solution:** The convergence of the scissor stairs and basement stair on Ground Floor into a single fire isolated passage results in a non-compliance with the requirements of this clause (i.e. each stair is not provided with its own fire isolated passage). It is understood that this is proposed to be addressed via a Fire Engineered Performance Solution. **Performance Solution:** FS-2 discharges into the adjacent lobby, which is not permitted by this clause.

+ Clause	+ Reference	+ Comment
	which a path of travel under 20m is available to a road or open space; or + A covered area that adjoins a road or open space, is open for a minimum of 1/3 of its perimeter, has an unobstructed height of at least 3m throughout and provides a path of travel the point of discharge to a road or open space within 6m. A fire-isolated ramp must be provided at any change in floor level less than 600mm in a fire isolated passageway, in a Class 9 building. Where a path of travel from the point of discharge of a fire isolated exit necessitates passing within 6m of any part of an external wall of the same building, that part of the wall must have – + An FRL of not less than 60/60/60; and + Any openings protected internally in accordance with BCA Clause C4D5, For a distance of 3m above or below, as appropriate, the level of the path of travel, or for the height of the wall, whichever is the lesser.	FS-3 discharges to a covered area, as does the stair adjacent Comm. Lift 2. This covered area is not 2/3 open, and the travel distance from the point of discharge exceeds 20m. It is understood these deviations are proposed to be addressed via a Fire Engineered Performance Solution. **Further Information Required:** Detail to be included in the design with respect to protection of openings & fire rating of walls to which occupants are exposed to, following discharge from the fire stairs.
D2D15 **(Previously D1.10)** Discharge From Exits	The path of travel to the road from a required exit leading to open space must have an unobstructed exit width of that of the required exit, or if larger, 1m. If the discharge point of the exit is at a different level from the road, a stairway or ramp achieving no more than 1:14 must be provided. The discharge point of alternative exits must be located as far apart as practical and be suitably protected from vehicles potentially blocking the exit.	**Performance Solution:** The convergence of the scissor stairs into a single fire passage results in a non-compliance with this clause, as the point of discharge will not be 'as far part as practicable'. It is understood this is proposed to be addressed via a Fire Engineered Performance Solution.
D2D16 **(Previously D1.11)** Horizontal Exits	Horizontal exits mustn't be used as required exits between SOUs, nor in Class 9b early childhood centres. In other cases, horizontal exits must not comprise more than half of the required exits from any part of a storey divided by a fire wall. Horizontal exits must have a clear area on the side of the fire wall to which occupants evacuate no less than 0.5m^2 per person. In a Class 9b Early Childhood Centre, the clear area required by this clause must accommodate all occupants. The clear area required by this clause must be connected to the horizontal exit by an unobstructed path that has at least the dimensions required for the horizontal exit	**Further Information Required:** Each fire compartment in the early-childhood centre is required to be able to accommodate all occupants of the tenancy. Table D2D28 provides an occupancy ratio of 1 person per 4m^2, which, based on the floor area of the tenancy being 875m^2, gives a max. occupancy of 219 persons. This clause states that no less than 0.5m^2 shall be provided for each person in each fire compartment, thus each fire compartment in the tenancy must be no less than 109.5m^2.

+ Clause	+ Reference	+ Comment
	and may include the area of the unobstructed path.	Fire compartmentation plans are to be provided demonstrating compliance with the above.
D2D17 **(Previously D1.12)** Non-Required Stairways, Ramps or Escalators	An escalator, moving walkway or non-required non fire-isolated stairway or ramp- + Class 5 or 6 sprinkler protected – May connect to any number of storeys, if constructed in accordance with Spec. 14. + Class 2, 5, 6 or 9 sprinkler protected – May connect three storeys, provided they are consecutive and one storey is situated at a level with direct egress to a road or open space.	**Performance Solution:** The 'Childcare Lobby' stair passes through five storeys, thus does not meet the requirements of this clause. It is understood this is to be addressed via a Fire Engineered Performance Solution Report, noting that it is proposed to be fire separated from B1 Mezzanine & B1. **Compliance Readily Achievable:** The 'Commercial Lobby' stair passes through four storeys, though is wholly fire separated from one, thus connects only three storeys, as is permitted. Each of the stairs between floors in the live-work units are also assessed as non-required, non-fire isolated stairs, though it is noted that the provisions of this clause only apply where the Live/Work unit is classified as Class 5 or 6, i.e. it does not apply to stairs within Class 2 SOUs.
D2D18 **(Previously D1.13)** Number of Persons Accommodated	Outlines the number of persons accommodated in a storey as per Table D2D18 of BCA 2022.	Noted:
D2D21 **(Previously D1.16)** Plant Rooms & Lift Motor Rooms Concession	A ladder may be used in lieu of a stairway to provide egress from a plant room with a floor area of not more than 100m^2 or all but one point of egress from a plant room or a lift machine room with a floor area not more than 200m^2. Sub-clause (2) sets out the parameters for the ladders permitted to be used in this circumstance.	Noted
D2D22 **(Previously D1.17)** Access to Lifts Pits	Access to lift pits with a depth of under 3m must be provided through the lowest landing doors. If a lift pit exceeds 3m in depth, access must be provided in accordance with sub-clause (b).	**Compliance Readily Achievable:** Details to be included into the design.
Part D3	**Construction of Exits**	

+ Clause	+ Reference	+ Comment
D3D2 **(Previously D2.1)** Application of Part	With the exception of specified clauses in this part the Deemed-to-Satisfy Provisions of this Part do not apply to the internal parts of sole-occupancy units Class 2 buildings.	**Noted**
D3D3 **(Previously D2.2)** Fire Isolated Stairways & Ramps	A stairway or ramp, including landings that are required to be within a fire-resisting shaft must be constructed of non-combustible materials to protect the structural integrity of the shaft.	**Further Information Required:** Details to be included into the design.
D3D4 **(Previously D2.3)** Non-Fire-Isolated Stairways and Ramps	In a building with a rise in storeys of more than 2, required, non-fire-isolated stairways and ramps must be either constructed in accordance with D3D3 or – + Reinforced or prestressed concrete; or + Steel at least 6mm thick at all points; or Timber that has a finished thickness of at least 44mm, has an average density of at least 800 kg/m^3 at a moisture content of 12% and has not been joined by means of glue unless it has been laminated and glued with resorcinol/phenol formaldehyde.	**Further Information Required:** Details to be included into the design, noting that the stairs serving Level 1 of the Showrooms are required to comply with the requirements of this clause.
D3D5 **(Previously D2.4)** Separation of rising and descending stair flights	In a required fire-isolated stairway there must be no direction connection between – + A flight rising from a storey below the level of access to open space; and + A flight descending from a storey above that level. Any construction that separates or is common to the rising and descending flights must be non-combustible and smoke proof.	**Performance Solution:** The convergence of the scissor stairs and the basement stairs into a single fire passage results in a non-compliance with this clause, as the rising and descending stairs are not sufficiently separated. This occurs at Ground Floor, in all three of the fire isolated shafts. It is understood this is to be addressed via a Fire Engineered Performance Solution.
D3D8 **(Previously D2.7)** Installations in Exits and Paths of Travel	If installed in a path of travel to an exit, electrical distribution boards, communication cupboards and the like containing motors, etc. are to be enclosed with non-combustible construction (or a fire protective covering), and doors are to be provided with smoke seals to the perimeter.	**Compliance Readily Achievable:** Details to be included into the design.
D3D9 **(Previously D2.8)** Enclosure of Space Under Stairs and Ramps	The space below a required fire-isolated stairway or ramp in a fire-isolated shaft must not be enclosed to form a cupboard or other enclosed space. If the required stairway or ramp is non-fire-isolated, (including an external stairway) any cupboard underneath must have an FRL of 60/60/60, with a self-closing -/60/30 door.	**Complies:** The provided plans do not demonstrate any enclosed cupboards beneath stairs.

<table>
<tr><th>+ Clause</th><th>+ Reference</th><th>+ Comment</th></tr>
<tr><td>D3D10
(Previously D2.9)
Width of Required Stairways and Ramps</td><td>A required stairway or ramp that exceeds 2m in width is considered as having a width of only 2m unless it is divided by a handrail or barrier and each division has a width not more than 2m.</td><td>Noted</td></tr>
<tr><td>D3D12
(Previously D2.11)
Fire-Isolated Passageways</td><td>The enclosing construction of a fire-isolated passageway must have an FRL when tested for a fire outside the passageway in another part of the building of-
+ If the passageway discharges from a fire-isolated stairway or ramp – not less than that required for the stairway or ramp shaft; or
+ In any other case – not less than 60/60/60.

Notwithstanding the above, the top construction of a fire-isolated passageway need not have an FRL if the walls of the fire-isolated passageway extend to the underside of-
+ A non-combustible roof covering; or
+ A ceiling having a resistance to the incipient spread of fire of not less than 60 minutes separating the roof space or ceiling space in all areas surrounding the passageway within the fire compartment.</td><td>Further Information Required:
Details to be included into the design.</td></tr>
<tr><td>D3D14
(Previously D2.13)
Goings and Risers</td><td>The stairs must comply with the tread, riser and going dimensions of this clause and the nosing of the stairs must be provided with a non-slip treads and meet the provisions of AS 1428.1-2009.
The following will apply in relation to the construction of all stairways:
+ Stairway must have not more than 18 and not less than 2 risers in each flight.
+ Goings and risers within the stair flights must be constant throughout.
+ Risers must be solid construction with no gaps and treads must have non slip finishes and stair nosings.
+ Goings and risers are to be in accordance with BCA Table D3D14
<table><tr><th rowspan="2">+ Application</th><th colspan="2">+ Surface Conditions</th></tr><tr><th>+ Dry</th><th>+ Wet</th></tr><tr><td>Tread or landing surface</td><td>P3/R10</td><td>P4/R11</td></tr><tr><td>Nosing or landing strip</td><td>P3</td><td>P4</td></tr></table></td><td>Compliance Readily Achievable:
The provided plans & advice from the design team indicate that compliance is readily achievable. Details to be included into the design supplied with the CC application.</td></tr>
</table>

<table>
<tr><th>+ Clause</th><th>+ Reference</th><th>+ Comment</th></tr>
<tr><td>D3D15
(Previously D2.14)
Landings</td><td>In a stairway, landings must –
+ Be a minimum of 750mm long, and where it involves a change of direction the length is measured 500mm from the inside edge of the landing; and
+ Have a slip resistance of the surface of the nosing strip in accordance with Table D3D15 and tested in accordance with AS 4586.
<table><tr><th rowspan="2">+ Application</th><th colspan="2">+ Surface Conditions</th></tr><tr><th>+ Dry</th><th>+ Wet</th></tr><tr><td>Ramps steeper than 1:14</td><td>P4/R11</td><td>P5/R12</td></tr><tr><td>Ramp steeper than 1:20 but not steeper than 1:14</td><td>P3/R10</td><td>P4/R11</td></tr><tr><td>Tread or landing surface</td><td>P3/R10</td><td>P4/R11</td></tr><tr><td>Nosing or landing strip</td><td>P3</td><td>P4</td></tr></table></td><td>Compliance Readily Achievable:
Details to be included into the design.</td></tr>
<tr><td>D3D16
(Previously D2.15)
Thresholds</td><td>The threshold of a doorway must not incorporate a step or ramp at any point closer to the doorway than the width of the door leaf unless –
+ In a building required to be accessible –
- The doorway opens to a road or open space; and
- Is provided with a threshold ramp or step ramp in accordance with AS 1428.1.
+ In other cases –
- the doorway opens to a road or open space, external stair landing or external balcony; and
- the door sill is not more than 190 mm above the finished surface of the ground, balcony, or the like, to which the doorway opens.</td><td>Compliance Readily Achievable:
Details to be included into the design.</td></tr>
<tr><td>D3D17
(Previously D2.16(a), (b) and (c))
Balustrades</td><td>A continuous barrier must be provided along the side of—
+ A roof to which general access is provided; and
+ A stairway or ramp; and
+ A floor, corridor, hallway, balcony, deck, verandah, mezzanine, access bridge or the like; and
+ Any delineated path of access to a building,
if the trafficable surface is 1 m or more above the surface beneath.

The above requirements of do not apply to—
+ The perimeter of a stage, rigging loft, loading dock or the like; or</td><td>Compliance Readily Achievable:
Details to be included into the design provided with the CC application.</td></tr>
</table>

+ Clause	+ Reference	+ Comment
	+ Areas referred to in D3D23; or + A retaining wall unless the retaining wall forms part of, or is directly associated with a delineated path of access to a building from the road, or a delineated path of access between buildings; or + A barrier provided to an openable window covered by D3D29. A barrier required by this clause must be constructed in accordance with D3D18, D3D19, D3D20 and, if a wire barrier is used, D3D21.	
D3D18 (Previously D2.16a) Height of Balustrades	The height of a barrier required by D3D17 must be not less than the following: + For stairways or ramps with a gradient of 1:20 or steeper — 865 mm. + For landings to a stair or ramp where the barrier is provided along the inside edge of the landing and does not exceed 500 mm in length — 865 mm. + In front of fixed seating on a mezzanine or balcony within an auditorium in a Class 9b building, - 1m; or - 700mm where the horizontal projection extends not less than 1m outwards from the top of the barrier; or + For all other locations — 1 m. For a barrier provided from D3D17 — + barrier heights are measured vertically from the surface beneath, except that for stairways the height must be measured above the nosing line of the stair treads; and + a transition zone may be incorporated where the barrier height changes from 865 mm on a stair flight or ramp to 1 m at a landing or floor.	**Further Information Required:** The handrail & balustrade associated with all non-fire isolated stairs must be separate from one another, as the height requirements of D3D18 (i.e. minimum 1000mm) & AS 1428.1 (i.e. between 865-1000mm) do not permit a single building element to serve as both a balustrade and handrail, unless installed at exactly 1m for its entirety. Provide design details demonstrating compliance with respect to the above.
D3D19 (Previously D2.16a) Openings in Balustrades	Openings in a required balustrade must not allow a 125 mm sphere to pass through unless in a fire-isolated stairway, fire-isolated ramp or other area used primarily for emergency purposes. This is to the exception of fire-isolated stairs and ramps serving a Class 9b early childhood centre, or generally external stairways, which must still comply with the 125mm gap requirement. In a fire-isolated stairway, fire-isolated ramps or other areas used primarily for emergency purposes openings in a required balustrade –	**Compliance Readily Achievable:** Details to be included into the design provided with the CC application.

+ Clause	+ Reference	+ Comment
	+ must not allow a 300mm sphere to pass through; or + where rails are used – - a 150 mm sphere must not be able to pass through the opening between the nosing line of the stair treads and the rail or between the rail and the floor of the landing, balcony, or the like; and - the opening between rails must not be more than 460 mm. In a class 7 (other than carparks) and Class 8 buildings, opening in a required balustrade – + must not allow a 300 mm sphere to pass through; or + where rails are used - - a 150 mm sphere must not be able to pass through the opening between the nosing line of the stair treads and the rail or between the rail and the floor of the landing, balcony or the like; and - the opening between the rails must not be more than 460 mm. The maximum 125 mm balustrade opening for a stairway, such as a non-fire isolated stairway, is measured above the nosing line of the stair treads. Where a required balustrade is fixed to the vertical face forming an edge of a landing, balcony, deck, stairway or the like, the opening formed between the balustrade and the face must not exceed 40 mm. The opening is measured horizontally from the edge of the surface to the nearest internal face of the balustrade	
D3D20 (Previously D2.16a) Barrier Climbability	A barrier required by D3D17, located on a floor more than 1m above the surface beneath, must not incorporate horizontal or near horizontal elements that could facilitate climbing between 150mm and 760mm above the floor. This does not apply to – + Fire isolated stairways, fire-isolated ramps and other areas used primarily for emergency purposes, other than – - external stairways; and - external ramps; and + Class 7 (other than carparks) and Class 8 buildings	**Compliance Readily Achievable:** Details to be included into the design provided with the CC application.

+ Clause	+ Reference	+ Comment	
D3D21 (Previously D2.16a) Wire Balustrades	Where a required balustrade is constructed of wire, it is deemed to meet the requirements of D3D19 if it is constructed in accordance with the following: + For horizontal wire systems – - when measured with a strain indicator, it must be in accordance with the tension values in Table D3D21a; or - must not exceed the maximum deflections in Table D3D21c. + For non-continuous vertical wire systems, when measured with a strain indicator, must be in accordance with the tension values in Table D3D21a (see Note 4). + For continuous vertical or continuous near vertical sloped wire systems— - must have wires of no more than 2.5 mm diameter with a lay of 7×7 or 7×19 construction; and - changes in direction at support rails must pass around a pulley block without causing permanent deformation to the wire; and - must have supporting rails, constructed with a spacing of not more than 900 mm of a material that does not allow deflection that would decrease the tension of the wire under load; and - when the wire tension is measured with a strain indicator, it must be in accordance with the tension values - in Table D3D21b and measured in the furthermost span from the tensioning device.	**Compliance Readily Achievable:** Details to be included into the design where applicable.	
D3D22 **(Previously D2.17)** Handrails	Handrails must be located along at least one side of a ramp or flight unless the required width is 2m or more, thus requiring handrails on both sides. In a building that contains an early childhood centre; + have one handrail fixed at a minimum height of 865mm and a second handrail fixed between 665mm and 750mm, and + with a cross sectional dimension not less than 16mm and not greater than 45mm as measured in any direction across its centre, fixed at a height between 450mm and 700mm in a class 9b early childhood centre.	**Further Information Required:** Details to be included into the design and compliance to be achieved with AS 1428.1-2009. Specific attention is drawn to the requirements for early childhood centre handrails.	

+ Clause	+ Reference	+ Comment
	In other cases; Handrails must fixed at a minimum height of 865mm and be continuous between stair flight landings and have no on or above them that may break the hand hold. If in a required exit serving an accessible area, must comply with AS 1428.1. Handrails in a Class 2 part of a building must; + Be located along at least one side; and + Be located along the full length, except where it is associated with a barrier; and + Have the top surface of the handrail a minimum of 865mm above the stairs or floor; and + Have no obstruction on or above that may break a handhold, except for newel posts, stanchions or the like. These requirements do not apply to handrails referred to in D3D23, a stairway or ramp providing a change in elevation of less than 1m, a land or a winder where a newel post is installed to provide a handhold.	
D3D23 **(Previously D2.18)** Fixed Platforms, Walkways Stairways and Ladders	A fixed platform, walkway, stairway, ladder, any going and riser, any balustrade or other barrier attached thereto may comply with AS1657 if it only serves a machinery or plant room or non-habitable part of a sole-occupancy unit in a Class 2 building.	**Compliance Readily Achievable:** Details to be included into the design.
D3D24 **(Previously D2.19)** Doorways and Doors	A doorway forming part of a required exit must not be fitted with a revolving door and must not be fitted with a roller shutter or tilt-up door unless it serves a part with a floor area not more than 200m^2 and the doorway is the only required exit from the building or part; and it is held in the open position while the building or part is lawfully occupied. A doorway forming part of a required exit must not be fitted with a sliding door unless it leads directly to a road or open space; and the door is able to be opened manually under a force of not more than 110 N. If fitted with a door which is power-operated it must be able to be opened manually under a force of not more than 110 N if there is a malfunction or failure of the power source; and if it leads directly to a road or open space it must open automatically if there is a power failure to the door or on the activation of a	**Further Information Required:** Details to be included into the design. Specific attention is drawn to the roller shutter door associated with the 'Residential Waste B' room on Level B1.

+ Clause	+ Reference	+ Comment
	fire or smoke alarm anywhere in the fire compartment served by the door. A power-operated door in a path of travel to a required exit must be able to be opened manually under a maximum force of 110 N if there is a malfunction.	
D3D25 **(Previously D2.20)** Swinging Doors	A swinging door forming part of a required exit must not encroach the required width of a required exit by way of the swing of the door, or the door itself including associated hardware whilst in the open position. A swinging door must not swing against the direction of egress unless + It serves a building or part with a floor area not more than 200m^2, it is the only required exit from the building or part and it is fitted with a device for holding it in the open position; or + It serves a sanitary compartment or airlock (in which case it may swing in either direction).	**Further Information Required:** All exit doorways (doors into fire stairways, to open space or horizontal exits) must open in the direction of egress. The provided plans depict the majority of exit doors swinging in the direction of egress, with the following exceptions, which will achieve compliance if provided with a device for holding it in the open position: + Door associated with the eastern corridor adjacent the substation on Level B1, + Various Live Work units on Ground Floor. **Noted:** Doors providing egress from the Fire Control Room are permitted to swing against the direction of egress, as they are required to open into the Fire Control Room by cl. S19C10. The doors providing access from the Live/Work units into corridors on Levels 1+, and the doors between the Live/Work units and residential units are not assessed as required exit doors, thus they need not swing in the direction of egress.
D3D26 **(Previously D2.21)** Operation of Latch	A door in a path of travel to an exit must be readily openable via the provision of single downward lever action hardware located between 900mm and 1.1m from FFL in area required to be accessible, otherwise single pushing action hardware between 900mm and 1.2m form FFL is permitted. These requirements do not apply to a door serving: + a vault, strong-room, sanitary compartment, or the like, + a sole-occupancy unit in a Class 2 building or a Class 4 part of a building; or	**Further Information Required:** Details to be included into the design, with specific attention drawn to the door hardware associated with the Live/Work units, noting they are not permitted to utilise the concessions applicable to Class 2 SOUs.

+ Clause	+ Reference	+ Comment
	+ a sole-occupancy unit in a Class 3 building (other than an entry door to a sole-occupancy unit of a boarding house, guest house, hostel, lodging house or backpacker accommodation); or + a sole-occupancy unit with a floor area not more than 200 m2 in a Class 5, 6, 7 or 8 building; or + a space which is otherwise inaccessible to persons at all times when the door is locked; or In addition, provided that the door can be immediately unlocked by a fail-safe control switch, not contained within a protective enclosure, to actuate a device to unlock the door; or by hand by a person or persons, specifically nominated by the owner, properly instructed as to the duties and responsibilities involved and available at all times when the building is lawfully occupied so that persons in the building or part may immediately escape if there is a fire, these requirements also do not apply to the secure parts of an early childhood centre.	
D3D27 **(Previously D2.22)** Re-Entry From Fire-Isolated Exits	Doors of a fire-isolated exit must not be locked from the inside in Class 9b early childhood centre and in a fire-isolated exit serving a storey above 25m effective height, throughout the exit. This clause details the exceptions to the above requirements if the doors are fitted with an automatic failsafe device that automatically unlocks the door upon the activation of a fire alarm as follows: + On at least every fourth storey, the doors are not able to be locked and a sign is fixed on such doors stating that re-entry is available; or + An intercommunication system, or an audible or visual alarm system, operated from within the enclosure is provided near the doors and a sign is fixed adjacent to such doors explaining its purpose and method of operation.	**Compliance Readily Achievable:** Details to be included into the design, noting that this applies to all of the proposed fire isolated stairs serving the above ground storeys.
D3D28 **(Previously D2.23)** Signs on Doors	It is a requirement that signs to alert persons that the operation of smoke doors, fire doors, and doors discharging from fire isolated exits, must not be impaired must be installed where they can be readily seen.	**Compliance Readily Achievable:** Details to be included into the design.

+ A sign, to alert persons that the operation of certain doors must not be impaired, must be installed where it can readily be seen on, or adjacent to, a—
  - A required fire door providing direct access to a fire-isolated exit; and

+ Clause	+ Reference	+ Comment

- A required smoke door, on the side of the door that faces a person seeking egress and, if the door is fitted with a device for holding it in the open position, on either the wall adjacent to the doorway or both sides of the door; and
- Fire door forming part of a horizontal exit; and
- Smoke door that swings in both directions; and
- Door leading from a fire isolated exit to a road or open space, on each side of the door.

+ A sign referred to in (a) must be in capital letters not less than 20 mm high in a colour contrasting with the background and state—

Any new self-closing fire and/or smoke doors leading into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:

Any new automatic closing fire and/or smoke doors which are held on hold open devices that leads into the fire stair or forming part of a Horizontal Exit or smoke compartment are to be provided with signage as follows:

In addition to the above, the doors which provide access to the fire isolated exits and also the Horizontal Exits must have signage provided adjacent to the entry doorway which states the following (see Section 109 of EP&A DCFS Reg 2021):

D3D29 **(Previously D2.24)** Protection of Openable Windows	In a Class 2 or 9b early childhood centre building – A window must be provided with protection if the floor below the window is 2m or more above the surface beneath. Where the lowest level of the window opening is less than 1.7m above the floor, a window opening must be protected. In all other cases – A barrier no less than 865mm is required to an openable window when a child resistant release mechanism is required, as well as when the floor below the window is >4m above the surface beneath. The design requirements for this balustrade are specified within the clause.	**Compliance Readily Achievable:** Details to be included into the design.	
Part D4	**Access for People with Disabilities**		
Part D4 **(Previously D3)**	Refer to commentary in the report issued by the Access Consultant.		
Section E	**Services and Equipment**		

+ Clause	+ Reference	+ Comment
Part E1	Fire Fighting Equipment	
E1D2 **(Previously E1.3)** Fire Hydrants	A Hydrant system is required to be installed in accordance with AS 2419.1 – 2021 given the total floor area of the building >500m^2. Note: The below comprises a limited summary of requirements under AS 2419.1 – 2021. Refer to the full standard for all applicable requirements. **+ Fire Brigade Booster Assemblies** A fire brigade booster assembly shall be located (including but not limited to) - + Within or affixed to the facade of the building containing the principal pedestrian entrance and not more than 20m from the principal pedestrian entrance; + Within or affixed to the facade of the building containing the principal pedestrian entrance and identified by a visual alarm device (VAD) in accordance with Clause 7.3.2; or + Remote from the building and within sight of the principal pedestrian entrance to the building - - adjacent to the site boundary and the principal vehicle access for the fire brigade pumping appliance to the building or site; or - not more than 20 m from the facade of the building containing the principal pedestrian entrance and not more than 20 m from the main pedestrian entrance. In addition, a fire brigade booster assembly shall be (including but not limited to): + Not more than 10m from a hardstand + Not less than 10m from: - Any high voltage electrical distribution equipment such as transformers and distribution boards - Any electric vehicle charging station regardless of voltage - Any stored quantity of dangerous goods - Any external combustible storage + Not less than 3m from the vent terminal of any gas assembly or gas measurement systems	**Further Information Required:** Design statement to be provided at with the CC application. The fire services designer is to identify any proposed deviations from the DtS provisions of this clause/AS 2419.1. Booster Assemblies: It is understood that the principal pedestrian entrance is the northern lobby, accessed off Wilson Street, thus the location of the fire hydrant booster on Wilson Street, as shown on the provided plans, demonstrates compliance in this respect. Confirm this is considered the principal pedestrian entry. The vegetation around the booster must also be confirmed to not interfere with the operation of the booster, in accordance with cl. 7.3.3 of AS 2419.1. Internal Hydrants: Based on the provision of a hydrant within each of the fire isolated stairs, fire hose reel coverage. It is however noted that a number of fire hydrants appear to be located remote from exits (i.e. >4m from an exit). Designs demonstrating compliance are to be provided with the CC application. Pump Room: The pump room is located on Basement 1 Mezzanine, and is provided with an airlock to a pressurised fire stair, demonstrating compliance with AS 2419.1 cl. 6.11.2 (d). Compliance with the remaining requirements of this clause is readily achievable. Appendix D: Based on the effective height being less than 135m (120.78m), AS 2419.1 does not require the design to be carried out in accordance with Appendix D. Notwithstanding, consideration may be given to the design principles being adopted in the subject building, noting the standard states that the themes

+ Clause	+ Reference	+ Comment
	+ Not less than 3m from the discharge outlet of any building exhaust system when operating in fire mode. Where located less than 10m from a non-sprinkler protected building, the booster shall be protected in accordance with the requirements of clause 7.6.2 of AS 2419.1 - 2021. **+ Internal Hydrants** Any Internal Hydrants are to be located within the fire isolated exits, or within 4m of the top riser of the non-fire isolated exits. **+ Hydrant Pump Rooms** Where required, a hydrant pump room is required to have a door opening to a road or open space, or a door opening direct into a fire isolated airlock connected to a fire stair. Pump rooms shall be weatherproof and only contain firefighting pump sets and associated equipment. A minimum of 1m clearance must be provided around all sides of each pump set. For additional requirements refer to Cl. 6.11 of AS 2419.1 – 2017. **+ Appendix D** Buildings over 135m in effective height require a Fire Engineered Performance Solution addressing the design of the hydrant system. Appendix D of AS 2419.1-2021 sets out the principles for the design of a hydrant system serving tall/super-tall buildings.	discussed in the appendix are "considered applicable to fire hydrant system design in all high-rise buildings".
E1D3 **(Previously E1.4)** Fire Hose Reels	*Note: The provisions of this clause do not apply to Class 2 or 5 parts.* A fire hose reel system must be provided to serve a building where one or more internal fire hydrants are installed or in a building with a floor area greater than 500m². Fire Hose Reels are to be located within 4m of an exit, or located adjacent to an internal hydrant (other than one within a fire isolated exit). Where system coverage is not achieved by the above, additional FHR may be located in paths of travel to an exit. Fire hose reels must be located internally, externally or in any combination to achieve the system coverage specified in AS 2441. Fire hose reels must not pass through any fire or smoke doors except if it is a doorway referred to in BCA Clause C3D6 (1)(e), C3D6(5)(d), C3D13, C3D14 or C4D14.	**Performance Solution:** Fire hose reel coverage is required to the car park, the early childhood centre, the retail/commercial units, as well as the Live/Work units. It is understood that omission of fire hose reels to one or more of the above areas is proposed via a Fire Engineered Performance Solution. **Further Information Required:** It is noted that a number of fire hose reels appear to be located remote from exits and remote from fire hydrants. Further, a hose reel is shown located in the FS-4 shaft on Ground Floor, which is not a permissible location in accordance with this clause. Designs demonstrating compliance are to

+ Clause	+ Reference	+ Comment
	Fire hose reels must only serve the storey on which they are located except for an SOU or not more than 2 storeys for a Class 5 or 6 building may be served by a single fire hose reel located at the level of egress.	be provided with the CC application.
E1D4 (Previously E1.5) Sprinklers	A sprinkler system must be installed in a building or part of a building where required by Clause E1D5 – E1D12 as applicable, and comply with Spec 17 and 18 as applicable.	**Further Information Required:** Design statement to be provided at Construction Certificate stage. The fire services designer is to identify any proposed deviations from the DtS provisions of this clause & AS 2118.1.
E1D5 (Previously table E1.5) Where sprinklers are required: all classifications	Sprinklers are required throughout all buildings if any part of the building has an effective height of more than 25m – + including an open-deck carpark within a multi-classified building; but + excluding - an open-deck carpark being a separate building; and - a class 8 electricity network substation, with a floor area not more than 200m^2, located within a multi-classified building.	**Noted:** The provisions of this clause require provision of a sprinkler system throughout the proposed building.
E1D6 (Previously Table E1.5) Where sprinklers are required: Class 2 and 3 buildings other than residential care buildings	In a class 2 or 3 building and any other class of building containing a Class 2 or 3 part, sprinklers are required throughout the building if any part of the building has— + a rise in storeys of 4 or more; and + and effective height of not more than 25m. Note: This clause does not apply to a residential care building.	**Noted:** The provisions of this clause require provision of a sprinkler system throughout the proposed building. **Performance Solution:** It is understood that it is proposed to omit the provision of sprinklers to the covered area above the swimming pool, via a Fire Engineered Performance Solution.
E1D9 (Previously Table E1.5) Where sprinklers are required: Class 7a building, other than an open-deck carpark	In a class 7a building, other than an open-deck carpark, sprinklers are required in fire compartments where more than 40 vehicles are accommodated.	**Performance Solution:** The provisions of this clause require provision of a sprinkler system throughout the proposed car park. It is understood that it is proposed to omit sprinklers from the electrical rooms located on the car parking levels, despite these rooms not containing only low-voltage equipment and thus not meeting the DtS exemptions listed under AS 2118.1. This omission is proposed to be addressed via a Fire Engineered Performance Solution.

+ Clause	+ Reference	+ Comment	
E1D11 (Previously Table E1.5) Where sprinklers are required: Class 9b buildings	+ Sprinklers are required in a Class 9b building, other than an early childhood centre, refer to Part I1. + In a building containing a Class 9b early childhood centre, sprinklers are required throughout the entire building, including any part of another class. Exemption: does not apply to a Class 9b early childhood centre— + wholly within a storey that provides direct egress to a road or open space; or + with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in the building.	**Noted:** The provisions of this clause require provision of a sprinkler system throughout the proposed building.	
E1D14 (Previously 1.6 and Table E1.6) Portable Fire Extinguishers	Portable fire extinguishers must be provided as listed in Table E1D14 and must be selected, located and distributed in accordance with Sections 1, 2, 3 and 4 of AS 2444. In a Class 2 or 3 building, portable fire extinguishers must be located within 10m of each SOU doorway.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
E1D15 (Previously E1.8) Fire Control Centres	A Fire Control Centre facility in accordance with Spec 19 must be provided for building with a total floor area of >18,000m^2 or over 25m Effective Height. The fire control centre must provide an area from which fire-fighting operations or other emergency procedures can be directed or controlled.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
E1D16 (Previously E1.9) Fire Precautions During Construction	In buildings under construction at least one fire extinguisher to suit Class A, B and C fires and electrical fires must be provided at all times on each storey adjacent to a required exit and if the building has reached an effective height of 12m the required hydrant and hose reel systems must be installed, as set out in (b)(ii) and be operational and any required booster connections must be installed.	**Noted:** Contractor to note.	
E1D17 (Previously E1.10) Provisions for Special Hazards	Suitable additional provisions must be made for fire-fighting if unique problems could arise due to; + The nature or quantity of materials stored, displayed or used in a building on the allotment; or + The location of the building in relation to a water supply for firefighting purposed.	**Performance Solution:** As the development proposes the provision of Electric Vehicle charging, a Fire Engineer (i.e. Registered Certifier – Fire Safety) is required to prepare a strategy to deal with the fire safety risks as required by BCA E1D17.	
Part E1 Specifications			

+ Clause	+ Reference	+ Comment
Spec 17 **(Previously Spec E1.5)** Fire Sprinkler Systems	**+ Application of Sprinkler Standards** Subject to the requirements of this specification, an automatic fire sprinkler system must comply with the applicable standard as listed in S17C2. **+ Separation of Sprinkler Protected and Non Sprinkler Protected Areas** Where a part of a building is not protected with sprinklers, the sprinklered and non-sprinklered parts must be fire-separated with a wall or floor which must— + comply with any specific requirement of the Deemed-to-Satisfy Provisions of the BCA; or + where there is no specific requirement, comply with the relevant part of AS 2118, FPAA101D or FPAA101H. + Any openings must be protected in accordance with the requirements of Part C4 of the BCA. **+ Quick Response Sprinklers** Quick response sprinklers may be installed only if they are suitable for the type of application proposed and it is demonstrated that the sprinkler system is designed to accommodate their use. **+ Sprinkler Valve Enclosures** Sprinkler alarm valves must be located in a secure room or enclosure which has direct egress to a road or open space. All sprinkler valve rooms and enclosures must be secured with a system suitable for use by the fire brigade. **+ Water Supply** A required sprinkler system must be provided with at least one water supply. A required sprinkler system in a building greater than 25 m in effective height must be provided with dual water supply except that a secondary water supply storage capacity of 25,000 litres may be used if— + The storage tank is located at the topmost storey of the building; and + The building occupancy is classified as no more hazardous than Ordinary Hazard 2 (OH2) under AS 2118.1; and + An operational fire brigade service is available to attend a building fire.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.

+ Clause	+ Reference	+ Comment
	+ Building Occupant Warning System A required sprinkler system, except a FPAA101D sprinkler system, must be connected to and activate a building occupant warning system complying with S20C7. **+ Connection to Other Systems** Where a smoke hazard management system is installed and is actuated by smoke detectors, the sprinkler system must, wherever practicable, be arranged to also activate the smoke hazard management system. **+ Anti Tamper Devices** Where a sprinkler system is installed— + over any stage area in a theatre, public hall or the like, visual and audible status indication of sprinkler valves must be provided at the location normally used by the stage manager; or + in a space housing lift electrical and control equipment (including machine rooms, secondary floors and sheave rooms), any valves provided to control sprinklers in these spaces must be located adjacent to the space. + Any valves provided to control sprinklers required by (1) must be fitted with anti-tamper monitoring devices connected to a monitoring panel. **+ Sprinklers in Car Parks** A sprinkler system protecting a carpark complying with S5C19(3) in a multi-classified building must— + be independent of the sprinkler system protecting any part of the building not used as a carpark; or + if forming part of a sprinkler system protecting a part of the building not used as a carpark, be designed such that the section protecting the non-carpark part can be isolated without interrupting the water supply or otherwise affecting the effective operation of the section protecting the carpark. **+ Residential Care Buildings** In addition to the provisions of AS 2118.4, a sprinkler system in—	

+ Clause	+ Reference	+ Comment
	+ a Class 3 building used as a residential care building; or + a Class 9a health-care building used as a residential care building; or + a Class 9c building, must comply with sub-clause (2). Any sprinkler system referred to in (1) must— + be provided with a monitored main stop valve in accordance with AS 2118.1; and + be permanently connected with a direct data link or other approved monitoring system to a fire station or fire station dispatch centre. **+ Sprinkler Systems in Lifts** Where sprinklers are installed in a space housing lift electrical and control equipment, including machine rooms, secondary floors and sheave rooms, sprinklers in these spaces must— + have heads protected from accidental damage by way of a guard that will not impair the performance of the head; and + be capable of being isolated and drained, either separately or collectively, without isolating any other sprinklers within the building. Valves provided to control sprinklers referred to in (1) must be installed in accordance with S17C10(2). **+ Early Childhood Centres** Quick response sprinklers must be provided to a Class 9b early childhood centre required to have an automatic fire sprinkler system. Note: The above does not apply to a Class 9b early childhood centre— + wholly within a storey that provides direct egress to a road or open space; or + with a rise in storeys of not more than 2, where the Class 9b early childhood centre is the only use in that building.	
Spec 19 **(Previously Spec E1.8)** Fire Control Centres	This Specification describes the construction and content of required fire control centres and rooms. A fire control room is a fire control centre in a dedicated room with additional specific requirements.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
S19C3	A fire control centre must—	**Compliance Readily Achievable:**

+ Clause	+ Reference	+ Comment	
Purpose and Content of Fire Control Centre	+ provide an area from which fire-fighting operations or other emergency procedures can be directed or controlled; and + contain controls, panels, telephones, furniture, equipment and the like associated with the required fire services in the building; and + not be used for any purpose other than the control of— - fire-fighting activities; and - other measures concerning the occupant safety or security.	Design statement to be provided at Construction Certificate stage.	
S19C4 Location of a Fire Control Centre	A fire control centre must be so located in a building that egress from any part of its floor, to a road or open space, does not involve changes in level which in aggregate exceed 300 mm.	**Complies:** The provided plans indicate compliance in this regard.	
S19C5 Equipment not Permitted within a Fire Control Centre	An internal combustion engine, pumps, sprinkler control valves, pipes and pipe fittings must not be located in a fire control centre, but may be located in rooms accessed through the fire control centre.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
S19C6 Ambient Sound Level for a Fire Control Centre	The ambient sound level within the fire control centre measured when all fire safety equipment is operating in the manner in which it operates in an emergency must not exceed 65 dB(A). Noting: + The measurement must be taken for a sufficient time to characterise the effects of all sound sources. + Where there is not a great variation in noise level, a measurement time of 60 seconds may be used.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
S19C7 Construct-ion of a Fire Control Room	A fire control centre in a building more than 50m in effective height must be in a separate room where— + The enclosing construction is of concrete, masonry or the like, sufficiently impact resistant to withstand the impact of any likely falling debris, and with an FRL of not less than 120/120/120; and + Any material used as a finish, surface, lining or the like within the room complies with the requirements of Spec. 7; and	**Further Information Required:** Plans & supporting documentation are to be provided at CC stage, demonstrating compliance.	

+ Clause	+ Reference	+ Comment	
	+ Services, pipes, ducts and the like that are not directly required for the proper functioning of the fire control room do not pass through it; and + Openings in the walls, floors or ceiling which separate the room from the interior of the building are confined to doorways, ventilation and other openings for services necessary for the proper functioning of the facility.		
S19C8 Protection of Openings in a Fire Control Room	Openings permitted by S19C7 must be protected as follows: + Openings for windows, doorways, ventilation, service pipes, conduits and the like, in an external wall of the building that faces a road or open space, must be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4. + Openings in the floors, ceilings and internal walls enclosing a fire control room must, except for doorways, be protected in accordance with the Deemed-to-Satisfy Provisions of Part C4. + A door opening in the internal walls enclosing a fire-control room, must be fitted with a self-closing –/120/30 smoke sealed fire door. + Openings associated with natural or mechanical ventilation must— - not be made in any ceiling or floor immediately above or below the fire control room; and - be protected by a –/120/– fire damper if the opening is for a duct through a wall required to have an FRL, other than an external wall.	**Further Information Required:** Plans & supporting documentation are to be provided at CC stage, demonstrating compliance.	
S19C9 Doors to a Fire Control Room	Required doors to a fire control room must open into the room, be lockable and located so that persons using escape routes from the building will not obstruct or hinder access to the room.	**Complies:** The provided plans indicate compliance in this regard.	
S19C10 Size and Contents of a Fire Control Room	The fire control room must be accessible via two paths of travel: + One from the front entrance of the building; and + One direct from a public place or fire-isolated passageway which leads to a public place and has a door with an FRL of not less than –/120/30.	**Further Information Required:** The Fire Control Room must have a minimum length and with of 2.5m. The room is shown as exactly 2.5m wide, which does not allow for any construction tolerances.	
S19C11	A fire control room must be ventilated by—	**Further Information Required:**	

+ Clause	+ Reference	+ Comment	
Ventilation and Power Supply for a Fire Control Room	+ Natural ventilation from a window or doorway in an external wall of the building which opens directly into the fire control room from a road or open space; or + a pressurisation system that only serves the fire control room, and is installed in accordance with AS 1668.1 as though the room is a fire-isolated stairway; and - is activated automatically by operation of the fire alarm, or sprinkler system complying with Specification (ii)17, installed in the building and manually by an over-riding control in the room; and - provides a flow of fresh air through the room of not less than 30 air changes per hour when the system is operating and any door to the room is open; and - has fans, motors and ductwork that form part of the system but not contained within the fire control room - protected by enclosing construction with an FRL of not less than 120/120/120; and - has any electrical supply to the fire control room or equipment necessary for its operation connected to the supply side of the main disconnection switch for the building. No openable devices other than necessary doorways, pressure controlled relief louvres and windows that are openable by a key, must be constructed in the fire control room.	Plans & supporting documentation are to be provided at CC stage, demonstrating compliance.	
S19C12 Sign for a Fire Control Room	The external face of the door to the fire control room must have a sign with the words— FIRE CONTROL ROOM in letters not less than 50 mm high and of a colour which contrasts with that of the background.	**Noted:** Contractor to note.	
S19C13 Lighting for a Fire Control Room	Emergency lighting in accordance with the DtS Provisions of Part E4 must be provided, except that an illumination level of not less than 400 lux must be maintained at the surface of the plan table.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
Part E2	**Smoke Hazard Management**		
E2D3	+ An air-handling system which does not form part of a smoke hazard	**Compliance Readily Achievable:**	

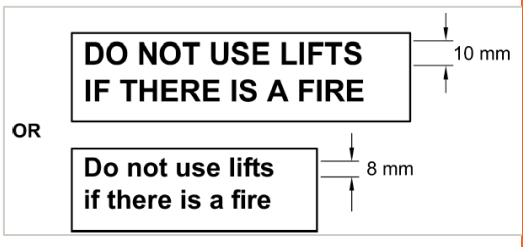
+ Clause	+ Reference	+ Comment	
(Previously E2.2) General Requirements	management system in accordance with E2D4 to E2D20 and which recycles air from one fire compartment to another fire compartment or operates in a manner that may unduly contribute to the spread of smoke from one fire compartment to another fire compartment must be designed and installed— - to operate as a smoke control system in accordance with AS 1668.1; or - such that it— ▪ incorporates smoke dampers where the air-handling ducts penetrate any elements separating the fire compartments served; and ▪ is arranged such that the air-handling system is shut down and the smoke dampers are activated to close automatically by smoke detectors complying with clause 7.5 of AS 1670.1. + For the purposes of the above, each sole-occupancy unit in a Class 2 or 3 building is treated as a separate fire compartment. + Miscellaneous air-handling systems covered by Sections 5 and 6 of AS 1668.1 serving more than one fire compartment (other than a carpark ventilation system) and not forming part of a smoke hazard management system must comply with these Sections of the Standard. + A smoke detection system must be installed in accordance with S20C6 to operate AS 1668.1 systems that are provided for zone pressurisation and automatic air pressurisation for fire-isolated exits.	Design statement to be provided at Construction Certificate stage from the Mechanical Engineer.	
E2D4 (Previously Table E2.2a) Fire-isolated exits	+ A part of a building listed below must be provided with - An automatic air pressurisation system for fire-isolated exits in accordance with AS 1668.1 or; - Open access ramps of balconies in accordance with D3D6 + The above requirements apply to— - The required fire-isolated stairway, including any associated fire-isolated passageway or fire-isolated ramp serving—	**Performance Solution:** Stair pressurisation is required to all of the required exit stairs & their associated fire isolated passageways. It is understood that a Fire Engineering assessment will be necessary to address the inability to achieve the pressure differential across the door at the exit of each of the pressurised stairs where rising and descending flights meet.	

+ Clause	+ Reference	+ Comment
	▪ Any storey above an effective height of 25m; or ▪ More than 2 below ground storeys, not counted in the rise in storeys in accordance with C2D3 - A required fire-isolated passageway or fire-isolated ramp with a length of travel more than 60m to a road or open space. + An automatic air pressurisation system for a fire-isolated exit must serve the entire exit.	
E2D5 (Previously Table E2.2a) Building more than 25m in effective height: Class 2 and 3 buildings and Class 4 part of a building	An automatic smoke detection and alarm system complying with Spec. 20 must be provided to: + Class 2 buildings that are more than 25m in effective height. + A Class 2 part of a building in which is more than 25m in effective height.	**Compliance Readily Achievable:** This clause requires the provision of a smoke detection & alarm system to be provided throughout the building. Design statement to be provided at Construction Certificate stage for all other areas. **Performance Solution:** It is understood that it is proposed to omit the provision of a smoke detection system to the covered area above the swimming pool, via a Fire Engineered Performance Solution.
E2D6 (Previously Table E2.2a) Buildings more than 25m in effective height: Class 5, 6, 7b, 8 and 9b buildings	A Class 5, 6 or 9b building or part of a building must be provided with a zone pressurisation system between vertically separated fire compartments in accordance with AS 1668.1, if the building is more than 25m in effective height. The requirements of the above do not apply to a building that has a fire compartment containing a Class 5, 6 or 9b part (or a combination of these classes in the same fire compartment) where there is only one fire compartment containing these classifications in an otherwise Class 2 building. Note: For the purposes of the above, 'vertically separated fire compartments' are fire compartments above and below each other, and not fire compartments within the same storey.	**Performance Solution:** This clause requires the provision of a zone smoke control system to be provided to all parts of the building comprising a Class 5, 6 or 9b part. This includes all Live/Work units. It is understood that the rationalisation of this system is proposed to be permitted via a Fire Engineered Performance Solution.

+ Clause	+ Reference	+ Comment
E2D12 (Previously Table E2.2a) Class 7a buildings	A Class 7a building, including a basement, provided with a mechanical ventilation system in accordance with AS 1668.2, must comply with clause 5.5 of AS 1668.1.	**Further Information Required:** Mechanical Engineer to confirm the design/configuration of the proposed jet fans in the car park achieve compliance with AS 1668.1 & 2. Any deviations from this standard are to be addressed via a Fire Engineered Performance Solution. **Performance Solution:** The use of jet fans in the car park is to be considered in the Fire Engineering Report, having regard to the effect of the fans on the fire scenarios in the basement.
E2D14 (Previously Table E2.2a) Class 6 buildings – in fire compartments more than 2000m^2: Class 6 building (not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit)	This clause applies to a Class 6 building not containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit, except for— + a Class 6 sole-occupancy unit that— - has a floor area of not more than 2000 m2; and - is single storey with a main public entrance opening to a road or open space; and - is separated from other parts of the fire compartment by construction, including openings, penetrations and junctions with other building elements, that prevents the free passage of smoke; and - parts of any other classification that are smoke separated from a Class 6 part by construction complying with. Where the floor area of a Class 6 part of a fire compartment referred to above is more than 2000m^2, the fire compartment must be provided with— + an automatic smoke exhaust system complying with Spec. 21; or + if the building is single storey, automatic smoke-and-heat vents complying with Spec. 22; or + if the floor area of the fire compartment is not more than 3500m^2 and the building— - is single storey, an automatic smoke detection and alarm system complying with Spec. 20; or - has a rise in storeys of not more than 2, a sprinkler system (other than a	**Noted:** The provisions of this clause do not apply, as the proposed fire compartmentation is understood to limit the compartment size of each Class 6 part to less than 2000m^2.

+ Clause	+ Reference	+ Comment
	FPAA101D or FPAA101H system) complying with Specification 17.	
E2D15 (Previously Table E2.2a) Class 6 buildings – in fire compartments more than 2000m²: Class 6 building (Containing an enclosed common walkway or mall)	This clause applies to a Class 6 building containing an enclosed common walkway or mall serving more than one Class 6 sole-occupancy unit (SOU), except for— + a Class 6 SOU that— - opens onto the enclosed common walkway or mall if the Class 6 SOU has a floor area of not more than 1000m²; or - does not open onto the enclosed common walkway or mall if the Class 6 SOU— ▪ has a floor area of not more than 2000m²; and ▪ is single storey with a main entrance opening to a road or open space; and ▪ is separated from other parts of the fire compartment by construction, including openings, penetrations and junctions with other building elements, that prevents the free passage of smoke; and + parts of any other classification that are smoke separated from a Class 6 part by construction complying with (b)(a)(ii)(C). Where the floor area of a Class 6 part of a fire compartment referred to above is more than 2000m², the fire compartment, including the enclosed common walkway or mall, must be provided with— + an automatic smoke exhaust system complying with Spec. 21; or + if the building is single storey, automatic smoke-and-heat vents complying with Spec. 22; or + if the floor area of the fire compartment is not more than 3500m² and the building has a rise in storeys of not more than 2, a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Spec. 17.	**Noted:** The provisions of this clause do not apply, as the proposed fire compartmentation is understood to limit the compartment size of each Class 6 part to less than 2000m².
E2D19 (Previously NSW Table E2.2b) Class 9b assembly	The below requirements apply to a Class 9b assembly building where the building or part of the building is used for a purpose other than that described in NSW E2D16-E2D18, or is a club, discotheque or the like; or an exhibition hall, museum or art gallery.	**Compliance Readily Achievable:** As the Class 9b (early childcare centre) fire compartment does not exceed 2000m², the provision of a smoke detection & alarm system throughout the building will achieve

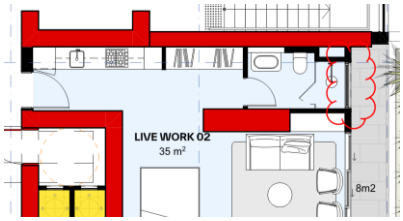
+ Clause	+ Reference	+ Comment
buildings: Other assembly buildings (not listed in NSW E2D16 to E2D18)	Each fire compartment (other than one in a building referred to above) having a floor area of more than 2000m^2 must be provided with— + an automatic smoke exhaust system complying with Spec. 21; or + if the building is single storey, automatic smoke-and-heat vents complying with Spec. 22; or + if the floor area of the fire compartment is not more than 5,000m^2 and the building has a rise in storeys of not more than 2— - an automatic smoke detection and alarm system complying with Specification 20; or - a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17. A building containing a Class 9b early childhood centre must be provided with an automatic smoke detection and alarm system complying with Spec. 20 throughout the whole building, including any part of another class.	compliance with the requirements of this clause. Design statement to be provided at Construction Certificate stage.
E2D21 (Previously Table E2.3) Provision for special hazards	Additional smoke hazard management measures may be necessary due to the— + Special characteristics of the building; or + Special function or use of the building; or + Special type or quantity of material stored, displayed or used in a building; or + Special mix of classifications within a building or fire compartment, which are not addressed in E2D4 to E2D20.	**Further Information Required:** Refer to comments under Clause E1D17.
Part E3	**Lift Installations**	
E3D3 (Previously E3.2) Stretcher Facilities in Lifts	Stretcher facilities, complying with this clause, must be provided in lifts in at least one emergency lift as required by E3D5 or in building where lifts serve any storey above an effective height of 12m. A stretcher facility must accommodate a raised stretcher with a patient lying on it horizontally by providing a clear space not less than 600mm wide x 2000mmm long x 1400mm high above the floor level.	**Compliance Readily Achievable:** At least one lift car per bank of lift cars (i.e. A-C & D-F) is to be provided with stretcher facilities. The provided design demonstrates compliance is readily achievable. Additionally, as the only lift serving the childcare centre is the 'child-care' lift, this must also be designed to accommodate stretcher facilities. Details to be included in the design at Construction Certificate stage.
E3D4	Warning signs required be provided must be displayed where they can be readily seen	**Compliance Readily Achievable:** Detail to be included in the design.

+ Clause	+ Reference	+ Comment
(Previously E3.3) Warning Against Use of Lifts in Fire	and must comply with the details and dimensions of Figure E3D4 below. 	
E3D5 **(Previously E3.4)** Emergency Lifts	An emergency lift (complying with AS 1735.2 or Appendix A of AS 1735.1) must be installed in: + A building exceeds 25m in effective height; and + A Class 9a building which has patient care areas located on a level that does not have direct egress to a road or open space. The emergency lift must be connected to a standby power supply system where installed; be contained within a fire resisting shaft; and have the following minimum internal dimensions (measured clear of all obstructions including handrails): + Depth of car – 2280mm + Width of car – 1600mm + Floor to ceiling height – 2300mm + Door height – 2100mm + Door width – 1300mm Emergency lifts serving storeys over 75m are required have a rating of at least: + 600kg if not provided with a stretcher facility; or + 900kg if provided with a stretcher facility.	**Compliance Readily Achievable:** At least two lift cars per bank of lift cars (i.e. A-C & D-F) are required to be an emergency lift. Additionally, as the only lift serving the childcare centre is the 'child-care' lift, this must also be designed as an emergency lift. Details to be included in the design statement at Construction Certificate stage.
E3D6 **(Previously E3.5)** Landings	Access and egress to and from lift well landings must comply with the Deemed-to-Satisfy Provisions of Parts D2, D3 and D4.	**Compliance Readily Achievable:** Details to be included in the design, along with a statement provided at Construction Certificate stage.
E3D7 **(Previously E3.6, Table E3.6a, Table E3.6b)** Passenger Lift types and their limitations	In an accessible building, every passenger lift must be one of the types identified in this clause, have accessible features in accordance with Table E3D8 and not rely on a constant pressure device for its operation if the lift car is fully enclosed.	**Compliance Readily Achievable:** Details to be included in the design, along with a statement provided at Construction Certificate stage.
E3D9	In passenger lifts designed in accordance with AS 1735 Parts 1 and 2, all lift cars	**Compliance Readily Achievable:**

+ Clause	+ Reference	+ Comment	
(Previously E3.7) Fire Service Controls	serving any storey above an effective height of 12m must be provided with fire service controls.	Details to be included in the design, along with a statement provided at Construction Certificate stage.	
E3D11 **(Previously E3.9)** Fire Service Recall Operation Switch	Each group of lifts must be provided with one fire service control switch (required by Clause E3D9 above) that activates the fire service recall operation. This clause details the switch, the labelling, the key and operation procedures for a fire service recall operation.	**Compliance Readily Achievable:** Details to be included in the design, along with a statement provided at Construction Certificate stage.	
E3D12 **(Previously E3.10)** Lift Car Fire Service Drive Control Switch	The lift car fire service drive control switch required by E3D9 must be activated from within the lift car. This clause details the switch, the initiation, the labelling and operation for the fire service drive control switch.	**Compliance Readily Achievable:** Details to be included in the design, along with a statement provided at Construction Certificate stage.	
Part E4	**Emergency Lighting, Exit Signage and Warning Systems**		
E4D2 **(Previously E4.2)** Emergency Lighting	This clause details when emergency lighting must be installed in Class 2-9 buildings. The requirements for buildings and parts of buildings are detailed in sub-clauses (a) to (i) and each sub-clause must be considered as more than one may apply to any single building.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
E4D3 **(Previously E4.3)** Measurement of Distances	Distance, other than vertical rise, must be measured along the shortest path of travel whether by straight lines, curves or a combination of both.	Noted	
E4D4 **(Previously E4.4)** Design and Operation of Emergency Lighting	Every required emergency lighting system must comply with AS 2293.1 – 2018.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
E4D5 **(Previously E4.5)** Exit Signs	An exit sign must be clearly visible to persons approaching the exit and must be installed on, above or adjacent to each door providing egress from a building. Sub-clauses (a) to (d) set out the situations where exit signs are required to be installed.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
E4D6	If an exit is not readily apparent to persons occupying or visiting the building then exit signs must be installed in appropriate	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	

+ Clause	+ Reference	+ Comment
(Previously E4.6) Direction Signs	positions in corridors, hallways, lobbies, and the like, indicating the direction to a required exit.	
E4D8 **(Previously E4.8)** Design and Operation of Exit Signs	Every required exit sign must comply with AS/NZS 2293.1 - 2018 and be clearly visible at all times when the building is occupied by any person having the legal right of entry into the building.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
E4D9 **(Previously E4.9)** Emergency Warning Intercom System (EWIS)	Emergency Warning Intercom System (EWIS) complying with AS 1670.4 - 2018 must be installed in a building with an effective height of more than 25 m.	**Compliance Readily Achievable:** This clause requires the provision of an EWIS system throughout the building. Design statement to be provided at Construction Certificate stage.
Section F	**Health and Amenity**	
Part F1	**Surface water management, rising damp and external waterproofing**	
F1D3 **(Previously F1.1)** Stormwater Drainage	Stormwater drainage must comply with AS/NZ 3500.3 – 2021. Note: The requirements of this clause do not apply to a balcony, podium or similar horizontal surface part of a building— + where the flooring is of timber decking or other perforated flooring; or + which is located directly above ground.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
F1D4 Exposed joints	Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must— + be protected in accordance with Section 2.9 of AS 4654.2; and + not be located beneath or run through a planter box, water feature or similar part of the building. Note: The requirements of this clause do not apply to— + a balcony, podium or similar horizontal surface part of a building— - where the flooring is of timber decking or other perforated flooring; or - which is located directly above ground.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.

+ Clause	+ Reference	+ Comment
	- A roof with a covering complying with F3D2(a) to (d).	
F1D5 **(Previously F1.4)** External waterproofing membranes	A roof, balcony, podium or similar horizontal surface part of a building must be provided with a waterproofing membrane— + consisting of materials complying with AS 4654.1; and + designed and installed in accordance with AS 4654.2. Note: The requirements of this clause do not apply to— + a balcony, podium or similar horizontal surface part of a building— - where the flooring is of timber decking or other perforated flooring; or - which is located directly above ground. + A roof with a covering complying with F3D2(a) to (d).	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
F1D6 **(Previously F1.9)** Damp-proofing	Moisture from the ground must be prevented from reaching— + the lowest floor timbers and the walls above the lowest floor joists; and + the walls above the damp-proof course; and + the underside of a suspended floor constructed of a material other than timber, and the supporting beams or girders. The following buildings need not comply with the above: + A Class 7 or 8 building where in the particular case there is no necessity for compliance. + A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes. An open spectator stand or open-deck carpark. Where a damp-proof course is provided, it must consist of— + a material that complies with AS/NZS 2904; or + impervious sheet material in accordance with AS 3660.1.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
F1D7	If a floor of a room is laid on the ground or on fill, moisture from the ground must be	**Compliance Readily Achievable:**

+ Clause	+ Reference	+ Comment	
(Previously F1.10) Damp-proofing of floors on the ground	prevented from reaching the upper surface of the floor and adjacent walls by the insertion of a vapour barrier in accordance with AS 2870. The above requirements of do not apply where— + weatherproofing is not required; + or the floor is the base of a stair, lift or similar shaft which is adequately drained by gravitation or mechanical means.	Design statement to be provided at Construction Certificate stage.	
F1D8 **(Previously F1.12)** Subfloor Ventilation	Subfloor spaces must— + be provided with openings in external walls and internal subfloor walls in accordance with Table F1D8 for the climatic zones given in Figure F1D8; and + have clearance between the ground surface and the underside of the lowest horizontal member in the subfloor in accordance with Table F1D8. Additional detailed requirements are listed in sub-clauses (3)-(5).	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
Part F2	**Wet Areas and Overflow Protection**		
F2D2 **(Previously F1.7)** Wet area construction	This clause requires that wet areas in Class 2 to 9 buildings must be waterproofed. It prescribes the standards to which the work must be carried on the construction of rooms containing urinals and their installation.	**Performance Solution:** A waterproofing Performance Solution will be necessary where external glazing forms part of the area required to be waterproofed (i.e. nearby windows shower areas). Refer to the below example:  It is understood that AS 3740 does not include methods for waterproofing windows, thus a Performance Solution is required.	
F2D3 **(Previously F1.7(b) and (c))** Rooms containing urinals	Where a urinal is installed within a building, this clause contains design requirements around the requirements for floor wastes and impervious wall and floor surfaces.	Noted	
F2D4 **(Previously F1.11)**	In a Class 2 or 3 building or Class 4 part of a building, a bathroom or laundry located at	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	

+ Clause	+ Reference	+ Comment	
Floor wastes	any level above a sole-occupancy unit or public space must have a floor waste. Where a floor waste is installed— + the minimum continuous fall of a floor plane to the waste must be 1:80; and + the maximum continuous fall of a floor plane to the waste must be 1:50.		
Part F3	**Roof and Wall Cladding**		
F3P1 **(Previously FP1.4)** Weather-proofing	A roof and external wall (including openings around windows and doors) must prevent the penetration of water that could cause— + unhealthy or dangerous conditions, or loss of amenity for occupants; and + undue dampness or deterioration of building elements. Note: There are **limited** Deemed-to-Satisfy Provisions for this Performance Requirement in respect of external walls.	**Performance Solution:** A performance solution report is required to be prepared to Performance Requirement F3P1 in relation to weatherproofing of external walls. This may be through Verification Method F3V1, or an alternative suitable method. This will be required from the Façade Engineer.	
F3D2 **(Previously F1.5)** Roof coverings	A roof must be covered with— + roof tiles complying with AS 2049, fixed in accordance with AS 2050; or + metal sheet roofing complying with AS 1562.1; or + plastic sheet roofing designed and installed in accordance with AS 1562.3; or + terracotta, fibre-cement and timber slates and shingles designed and installed in accordance with AS 4597, except in cyclonic areas; or an external waterproofing membrane complying with F1D5.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
F3D3 **(Previously F1.6)** Sarking	Sarking-type materials used for weatherproofing of roofs must comply with AS/NZS 4200 parts 1 and 2	**Compliance Readily Achievable:** Details to be included into the design.	
F3D4 **(Previously F1.13)** Glazed assemblies	The following glazed assemblies in an *external wall*, must comply with AS 2047 requirements for resistance to water penetration: + Windows. + Sliding and swinging glazed doors with a frame, including French and bi-fold doors with a frame. + Adjustable louvres. + Shopfronts.	**Compliance Readily Achievable:** Details to be included into the design.	

+ Clause	+ Reference	+ Comment
	+ Window walls with one piece framing. The following buildings need not comply with: + A Class 7 or 8 building where in the particular case there is no necessity for compliance. + A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the garage, tool shed, sanitary compartment or the like contributes to the weatherproofing of the other part of the building. + An open spectator stand or open-deck carpark. The following glazed assemblies need not comply: + All glazed assemblies not in an external wall. + Revolving doors. + Fixed louvres. + Skylights, roof lights and windows in other n the vertical plane. + Sliding and swinging glazed doors without a frame. + Windows constructed on site and architectural one-off windows, which are not design tested in accordance with AS 2047. + Second-hand windows, re-used windows and recycled windows. Heritage windows.	
F3D5 Wall cladding	External wall cladding must comply with one or a combination of the following: + Masonry, including masonry veneer, unreinforced and reinforced masonry: AS 3700. + Autoclaved aerated concrete: AS 5146.3. + Metal wall cladding: AS 1562.1. The following buildings need not comply: + A Class 7 or 8 building where in the particular case there is no necessity for compliance. + A garage, tool shed, sanitary compartment, or the like, forming part of a building used for other purposes, except where the construction of the	**Performance Solution:** Refer to comments under Performance Requirement F3P1.

+ Clause	+ Reference	+ Comment
	garage, tool shed, sanitary compartment or the like contributed to the weatherproofing of another part of the building that is required to be weatherproofed. + An open spectator stand or open deck carpark.	
Part F4	**Sanitary and Other Facilities**	
F4D2 **(Previously F2.1)** Facilities in Residential Buildings	In a Class 2 building, each residential SOU is required to be provided with a kitchen sink with facilities for cooking, a bath or shower, a closet pan and washbasin, a washtub and a space for a washing machine and drier.	**Further Information Required:** Plans demonstrating compliance are to be provided with the CC application package. Specific attention is drawn to the requirement to have laundry facilities available to the Live/Work units.
F4D3 **(Previously F2.2)** Calculation of Number of Occupants and Fixtures	This clause sets out the requirements for the calculation of the number of occupants and the number of sanitary facilities required to be installed in Class 2 to 9 buildings.	**Noted:**
F4D4 **(Previously F2.3)** Facilities in Class 3 to 9 buildings	This clause provides the requirements for sanitary facilities to be installed in Class 3, 5, 6, 7, 8 buildings. When accessible sanitary facilities are provided, they account once for each sex. Unisex sanitary compartments (other than strictly unisex accessible sanitary facilities) are not permitted for use, other than solely by staff in circumstances where not more than 10 persons are employed. A Class 9b early childhood centre must be provided with— + a kitchen or food preparation area with a kitchen sink, separate hand washing facilities, space for a refrigerator and space for cooking facilities, with— - the facilities protected by a door or gate with child proof latches to prevent unsupervised access to the facilities by children younger than 5 years old; and - the ability to facilitate supervision of children from the facilities if the early childhood centre accommodates children younger than 2 years old; and + one bath, shower or shower-bath; and	**Further Information Required:** Live/Work Units: **Proposed use:** Part Class 2 & part Class 6 – One sanitary facility is to be allocated to the Class 2 use, and one to the Class 5/6 use. Refer to comments under Clause F4D2 regarding the Class 2 use. The total number of staff would not be able to exceed 10, as the provision of only 1x facility for staff requires it to be unisex. The total number of patrons would not be able to exceed 20, as additional facilities for patrons is required once this occupant load is exceeded. **Should the occupant seek a change of use application at a future stage, the following will apply:** When used wholly as Class 5 – The provision of 1x male & 1x female WC accommodates up to 20 staff. Additionally, where the total number of staff will not exceed 10, the provision of unisex facilities is permissible.

+ Clause	+ Reference	+ Comment	
	+ if the centre accommodates children younger than 3 years old— - a laundry facility comprising a washtub and space in the same room for a washing machine; and - a bench type baby bath, which is within 1 m of the nappy change bench; and - a nappy changing bench which— ▪ is within 1 m of separate adult hand washing facilities and bench type baby bath; and ▪ must be not less than 0.9m^2 in area and at a height of not less than 850mm, but not more than 900mm above the finished floor level; and ▪ must have a space not less than 800mm high, 500mm wide and 800mm deep for the storage of steps; and ▪ is positioned to permit a staff member changing a nappy to have visibility of the play area at all times.	When used wholly as Class 6 – Sanitary facilities need not be provided for patrons where the total number of patrons does not exceed 20. The provision of 1x male & 1x female WC accommodates up to 20 staff. Additionally, where the total number of staff will not exceed 10, the provision of unisex facilities is permissible. <u>Early Childhood Centre:</u> The provided plans demonstrate that compliance with the requirements of this clause can be accommodated through design development.	
F4D5-F4D7 **(Previously F2.4)** Accessible Sanitary Facilities	Accessible unisex sanitary compartments must be provided, in accordance with F4D6 and unisex showers must be provided in accordance with Table F4D7, in buildings or parts that are required to be accessible.	**Noted:** Refer to commentary within the Access Consultant's Report.	
F4D8 **(Previously F2.5)** Construction of Sanitary Compartments	Other than in an early childhood centre, sanitary compartments must have doors and partitions that separate adjacent compartments and extend – + from floor level to the ceiling in the case of a unisex facility; or + a height of not less than 1.5m above the floor if primary school children are the principal users; or + 1.8m above the floor in all other cases. The door to a fully enclosed sanitary compartment must open outwards; or slide: or be readily removable from the outside of the sanitary compartment, unless there is a clear space of at least 1.2m, measured in accordance with Figure F4D8 between the closet pan within the sanitary compartment and the doorway. In an early childhood centre, facilities for use by children must have each sanitary compartment screened by a partition which,	**Compliance Readily Achievable:** Details to be included into the design.	

+ Clause	+ Reference	+ Comment	
	except for the doorway, is opaque for a height of at least 900mm but not more than 1200mm AFFL.		
F4D9 **(Previously F2.6)** Interpretation: Urinals and Wash Basins	A urinal may be an individual stall or wall-hung urinal, each 600mm length of a continuous urinal trough or a closet pan used in place of a urinal. A washbasin may be an individual basin or a part of a hand washing trough served by a single water tap.	Noted	
F4D12 **(Previously F2.9)** Accessible Adult Change Facility	Accessible adult change facilities: + Must be constructed in accordance with Spec. 27; and + Cannot be combined with another sanitary compartment. + One unisex accessible adult change facility must be provided in an accessible part of a: + Class 6 shopping centre having a design occupancy of not less than 3,500 people, containing a minimum of 2 sole-occupancy units. + Class 9b sports venues or the like that: + Have a design occupancy of not less than 35,000 spectators; or + Contains a swimming pool that has a perimeter of not less than 70m. + Museum, art gallery, or the like, having a design occupancy of not less than 1,500 persons; and + Passenger use area of an airport terminal building within an airport that accepts domestic or international flights that are public transport services as defined in the Disability Standards for Accessible Public Transport 2002.	**Noted:** An accessible adult change facility is not required to be provided, based on the triggers listed in this clause.	
Part F1	**Room Heights**		
F5D2 **(Previously F3.2)** Height of Rooms and Other Spaces.	The ceiling heights are prescribed and should be checked for all classes and parts during assessment or the design process. The ceiling minimum heights for a Class 2 building are as follows: + Kitchen, laundry or the like – 2.1m + Corridor or passageway – 2.1m + A habitable room, excluding kitchen – 2.4m The minimum ceiling heights in a Class 5, 6 or 7 building are as follows:	**Compliance Readily Achievable:** The provided plans demonstrate compliance is readily achievable. Specific attention is drawn to the Live/Work spaces, which require 2.4m ceiling heights generally.	

+ Clause	+ Reference	+ Comment
	+ Generally – 2.4m. + Corridor, passageways, or the like – 2.1m. The minimum ceiling heights in a Class 9b building are as follows: + Assembly building or part accommodating <100 persons – 2.4m. + Assembly building or part accommodating >100 persons – 2.7m. In any building: + Bathrooms, sanitary compartments, tea preparations rooms, pantries, store rooms or the like – 2.1m, + A commercial kitchen – 2.4m, + Above a stairway, ramp, landing or the like – 2m.	
F6D1 **(Previously F4.1)** Natural Lighting	Natural lighting must be provided in: + Class 2 buildings – to all habitable rooms. + Class 9b buildings — to all general purpose classrooms in primary or secondary schools and all playrooms or the like for the use of children in an early childhood centre.	**Compliance Readily Achievable:** The provided plans demonstrate compliance is readily achievable. It is noted that the small, unnamed rooms on L5-33 are understood to be for storage or similar, i.e. non-habitable & not requiring natural light. Similarly, the sauna on L35 is also not considered habitable.
F6D3/F6D4 **(Previously F4.2/F4.3)** Method and Extent of Achieving Natural Lighting	Windows or the like are to have an aggregate light transmitting area of not less than 10% of the floor area of the room. In a Class 2 or 9 building, a required window that faces a boundary of an adjoining allotment or a wall of the same building or another building on the allotment must not be less than a horizontal distance from that boundary or wall that is the greater of— + generally — 1 m; and + 50% of the square root of the exterior height of the wall in which the window is located, measured in metres from its sill. In a Class 9b early childhood centre, the sills of 50% of windows in children's rooms must be located not more than 500 mm above the floor level.	**Compliance Readily Achievable:** Details to be included in the design.
F6D5 **(Previously F4.4)** Artificial Lighting	Artificial lighting must be provided in required stairways, passageways, and ramps and where natural light is insufficient. The artificial lighting system must comply with AS/NZS 1680.0.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate Stage.

+ Clause	+ Reference	+ Comment	
	Windows or the like are to have an aggregate light transmitting area of not less than 10% of the floor area of the room. In the 9c building windows must be transparent and located in an external wall with a window sill not higher than 1.0m above the floor level and where the window faces an allotment, another building or structure, it must not be located less than 3m away to maintain amenity to the space. In this regard compliance is readily achieved. Artificial lighting must be provided where occupants seeking egress in an emergency, in— + Class 2 buildings — to sanitary compartments, bathrooms, shower rooms, airlocks, laundries, common stairways and other spaces used in common by the occupants of the building. + Class 5, 6, 7 and 9 buildings — to all rooms that are frequently occupied, all spaces required to be accessible, all corridors, lobbies, internal stairways, other circulation spaces and paths of egress.		
F6D6 **(Previously F4.5)** Ventilation of Rooms	A habitable room, office, shop, factory, workroom, sanitary compartment, bathroom, shower room, laundry and any other room occupied by a person for any purpose must have natural ventilation complying with F6D7 or a mechanical or air-conditioning system complying with AS1668.2 and AS/NZS 3666.1. Note: NSW F6D6 - a mechanical ventilation or air-conditioning system complying with AS 1668.2 – the reference to AS/NZS 3666.1 is deleted from the BCA in NSW as the need to comply with this standard is regulated under the relevant section of the Public Health Act 1991.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
F6D7 **(Previously F4.6)** Natural Ventilation	Natural ventilation must consist of openings, windows, doors or other devices which can be opened— with a ventilating area not less than 5% of the floor area of the room required to be ventilated. Additionally, open to a suitably sized space open to the sky or an adjoining room in accordance with F6D8.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.	
F6D8 **(Previously F4.7)**	Natural ventilation to a room may come through a window, opening ventilating door or other device from an adjoining room (including an enclosed verandah) if both	**Noted:**	

+ Clause	+ Reference	+ Comment
Ventilation Borrowed From Adjoining Rooms	rooms are within a sole-occupancy unit or the enclosed verandah is common property and be carried out in accordance with the requirements of sub-clauses (a), (b) & (c).	
F6D9 **(Previously F4.8)** Restriction on Position of Water Closets and Urinals	A room containing a water closet pan or urinal must not open directly into a kitchen or pantry, public dining room or restaurant, a dormitory in a Class 3 building, a room used for public assembly (which is not an early childhood centre, primary school or open spectator stand) or a workplace normally occupied by more than 1 person.	**Performance Solution:** A number of the Live/Work configurations result in the doors to bathrooms not being screened from view. It is understood that this is to be addressed via a Performance Solution.
F6D10 **(Previously F4.9)** Airlocks	If a sanitary compartment is prohibited under F6D9 from opening directly to another room— + in a sole-occupancy unit in a Class 2 or 3 building or Class 4 part of a building— - access must be by an airlock, hallway or other room; or - the sanitary compartment must be provided with mechanical exhaust ventilation; and + in a Class 5, 6, 7, 8 or 9 building (which is not an early childhood centre, primary school or open spectator stand— - access must be by an airlock, hallway or other room with a floor area of not less than 1.1m^2 and fitted with self-closing doors at all access doorways; or - the sanitary compartment must be provided with mechanical exhaust ventilation and the doorway to the room adequately screened from view.	**Compliance Readily Achievable:** Details demonstrating compliance are to be provided with the CC application.
F6D11 **(Previously F4.11)** Carparks	Every storey of a carpark, except an open-deck car park, must have: + A system of mechanical ventilation complying with AS 1668.2; or + A system of natural ventilation complying with Section 4 of AS 1668.4.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
F6D12 **(Previously F4.12)** Kitchen Local Exhaust Ventilation	A commercial kitchen must be provided with a kitchen exhaust hood complying with AS 1668.1 and 1668.2.	**Compliance Readily Achievable:** Design statement to be provided at Construction Certificate stage.
Part F7	**Sound Transmission and Insulation**	
F7D4	A floor must have the required value for weighted normalised impact sound pressure	**Compliance Readily Achievable:**

+ Clause	+ Reference	+ Comment	
(Previously F5.3) Determination of Impact Sound Insulation Ratings	level with spectrum adaptation term ($L_{n,w}$) determined in accordance with AS ISO 717.2 using results from laboratory measurements, or comply with Spec. 28. For a class 2 building a wall must of discontinuous construction.	Design statement and Acoustic Report to be provided at Construction Certificate stage. Specific attention is drawn to the requirement for discontinuous construction to the walls bounding the Live/Work units, to accommodate the various usage configurations.	
F7D5 **(Previously F5.4)** Sound Insulation Rating of Floors	A floor in a Class 2 & 3 building must have an $R_w + C_{tr}$ (airborne) not less than 50 and an L_{nw} (impact) not more than 62.	**Compliance Readily Achievable:** Design statement and Acoustic Report to be provided at Construction Certificate stage. Specific attention is drawn to the floors in the Live/Work units, to accommodate the various usage configurations.	
F7D6 **(Previously F5.5)** Sound Insulation Rating of Walls	A wall separating a sole occupancy unit from another part of the building must have an airborne sound insulation rating of not less than 50 and be provided with discontinuous construction if it separates a bathroom, sanitary compartment, laundry, kitchen in another sole occupancy unit or a plant room or lift shaft. A door that separates a sole occupancy unit from a public corridor must have a weighted sound reduction index of not less than 30. For a class 9c building, a wall must have an R_w not less than 45 if it separates SOUs, or a SOU from a kitchen, bathroom, sanitary compartment (excluding an ensuite), laundry, plant room, or utilities room. Where a wall is required to have sound insulation and has a floor or roof above, the wall must continue to the underside of the floor or roof above, or a ceiling that provides the sound insulation required for the wall.	**Further Information Required:** Design statement and Acoustic Report to be provided at Construction Certificate stage. Specific attention is drawn to the walls in the Live/Work units, to accommodate the various usage configurations.	
F7D7 **(Previously F5.6)** Sound Insulation Rating of Internal Services	If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one SOU, the duct or pipe must be separated from the rooms of an SOU by construction with a $R_w + C_{tr}$ (airborne) not less than- + 40 if the adjacent room is a habitable room (other than a kitchen); or + 25 if the adjacent room is a kitchen or non-habitable room.	**Compliance Readily Achievable:** Design statement and Acoustic Report to be provided at Construction Certificate stage.	

+ Clause	+ Reference	+ Comment
	If a storm water pipe passes through a SOU, it must also be separated in accordance with this clause.	
F7D8 **(Previously F5.7)** Sound Isolation of Pumps	A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump.	**Compliance Readily Achievable:** Design statement and Acoustic Report to be provided at Construction Certificate stage.
Part F8	**Condensation Management**	
F8D2 **(Previously F6.1)** Application of Part	The Deemed-to-Satisfy Provisions of this Part only apply to a sole-occupancy unit of a Class 2 building.	**Compliance Readily Achievable:** Detail to be included in the design.
F8D3 **(Previously F6.2)** Pliable Building Membrane	Where a pliable building membrane is installed in an external wall, it must— + comply with AS/NZS 4200.1; and + be installed in accordance with AS 4200.2; and + be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building. Except for single skin masonry and single skin concrete, where a pliable building membrane is not installed in an external wall, the primary water control layer must be separated from water sensitive materials by a drained cavity. Where pliable building membranes, sarking-type materials or insulation layers are installed on the exterior side of the primary insulation layer of an external wall they must have a vapour permeance of no less than- + in climate zones 4 and 5, 0.143 µg/N,s: and + in climate zones 6, 7 and 81 1.14 µg/N,s.	**Compliance Readily Achievable:** Detail to be included in the design.
F8D4 **(Previously F6.3)** Flow Rate and Discharge of Exhaust Systems	An exhaust system installed in a kitchen, bathroom; or sanitary compartment 1 must have a minimum flow rate of- + for a bathroom or sanitary compartment; - 25 L/s where operated on demand: or - 10 L/s where operated continuously: and + for a kitchen: - 40 L/s where operated on demand: or	**Compliance Readily Achievable:** Detail to be included in the design.

+ Clause	+ Reference	+ Comment	
	- 12 L/s where operated continuously. Exhaust from a kitchen, kitchen range hood, bathroom, sanitary compartment, or a vented clothes dryer must be discharged directly or via a shaft or duct to outdoor air. An exhaust system serving a bathroom or sanitary compartment that is not naturally ventilated must- + be interlocked with the room's light switch: and + include a run-on timer so that it continues to operate for 10 minutes after the light switch is turned off. A bathroom sanitary compartment or room with a venting clothes dryer that is not naturally ventilated must be provided with make-up air in accordance with Table F8D4.		
F8D5 **(Previously F6.4)** Ventilation of Roof Space	In climate zones 6, 7 and 81 a roof must have a roof space that + is located immediately above the primary insulation layer: and + has a height of not less than 20 mm: and + is either- - ventilated to outdoor air through evenly distributed openings in accordance with Table F8D5: or - located immediately underneath the sarking of a tiled roof where the sarking has a vapour permeance of not less than 1.14 µg/N,s. Exemption: The about does not apply to a roof that is subject to Bushfire Attack Level FZ requirements.	**Compliance Readily Achievable:** Detail to be included in the design.	
Section G	**Ancillary Provisions**		
Part G1	**Minor Structures and Components**		
G1D2 **(Previously G1.1)** Swimming Pools	A swimming pool with a depth of water more than 300mm in a Class 2, 3 or 4 part of a building, must have suitable barriers to restrict access by young children to the immediate pool surrounds in accordance with AS 1926 Parts 1 and 2.	**Compliance Readily Achievable:** Details to be included into the design.	
G1D4 **(Previously G1.3)** Outdoor Play Spaces	Any outdoor play space in a Class 9b early childhood centre must be enclosed on all sides with a barrier which— + where the edge of the trafficable surface of the outdoor play space is at the same level or less than 2m above the surface beneath — complies with AS 1926.1; and	**Compliance Readily Achievable:** Details to be included into the design.	

+ Clause	+ Reference	+ Comment
	+ where the edge of the trafficable surface of the outdoor play space is 2m or more above the surface beneath— - is not less than 1.8m high, as measured from above the trafficable surface; and - Is non-climbable and does not contain horizontal or other elements that could facilitate climbing; and - does not have any openings or apertures through which a 100 mm or greater sphere could pass; and - is not within 1.8m, as measured directly from the top of the barrier, of any elements within the outdoor play space that facilitate climbing; and - Is not within 900mm of elements in a wall that facilitate climbing; and + has strength and rigidity complying with AS 1926.1. For the purposes of compliance with AS 1926.1, this is applied as if there is a swimming pool located outside the outdoor play space, so that the barrier restricts children from exiting the premises without the knowledge of staff in the centre. The above requirements of do not apply to a wall, including doors and windows, which form part of the Class 9b early childhood centre, except where the wall is within a non-climbable zone.	
NSW G1D5 **(Previously NSW G1.101)** Provision for Cleaning of Windows	A building must provide for a safe manner of cleaning any windows located 3 or more storeys above ground level. A building satisfies this requirement where the windows can be cleaned wholly from within the building; or provision is made for the cleaning of the windows by a method complying with the Work Health and Safety Act 2011 and regulations made under that Act.	**Compliance Readily Achievable:** Details to be included into the design.
Part G2	**Boilers, Pressure Vessels, Heating Appliances, Fireplaces, Chimneys and Flues**	
G2D2 **(Previously G2.2)** Installation of Appliance	Domestic solid-fuel burning appliances must comply with AS/NZS 2918. Boilers and pressure vessels must comply with Specification 30.	**Compliance Readily Achievable:** Details to be included into the design.
Part G6	**Occupiable Outdoor Areas**	

+ Clause	+ Reference	+ Comment	
G6D1 **(Previously G6.1)** Application of Part	The Deemed-to-Satisfy Provisions of this Part apply to buildings containing an occupiable outdoor area in addition to the other Deemed-to-Satisfy Provisions of the BCA. The Deemed-to-Satisfy Provisions of this Part take precedence where there is a difference to the Deemed-to-Satisfy Provisions of Sections C, D, E, F and G. Except for G6D2, the Deemed-to-Satisfy Provisions of this Part do not apply to— + an occupiable outdoor area of a sole-occupancy unit in a Class 2 or 3 building, Class 9c building or Class 4 part of a building; or + an occupiable outdoor area with an area less than $10m^2$.	**Compliance Readily Achievable:** It is noted that the provisions of this part apply to the external spaces on Levels 1-4.	
G6D2 **(Previously G6.2)** Fire Hazard Properties	Subject to the below, a lining, material or assembly in an occupiable outdoor area must comply with C2D11 as for an internal element. The following fire hazard properties of a lining, material or assembly in an occupiable outdoor area are not required to comply with C2D11: + Average specific extinction area. + Smoke-Developed Index. + Smoke development rate + Smoke growth rate index	**Compliance Readily Achievable:** Details to be included into the design.	
G6D3 **(Previously G6.3)** Fire Separation	For the purposes of the Deemed-to-Satisfy Provisions of C3D8, C3D9, C3D10, a reference to a storey includes an occupiable outdoor area, however a fire wall cannot be used to separate an occupiable outdoor area into different fire compartments.	**Compliance Readily Achievable:** Details to be included into the design.	
G6D4 **(Previously G6.4)** Provision of Escape	For the purposes of the Deemed-to-Satisfy Provisions of Part D2, a reference to a storey or room includes an occupiable outdoor area.	**Compliance Readily Achievable:** Detail to be included in the design.	
G6D5 **(Previously G6.5)** Construction of Exits	For the purposes of the Deemed-to-Satisfy Provisions of Part D3, a reference to a storey or room includes an occupiable outdoor area.	**Compliance Readily Achievable:** Detail to be included in the design.	
G6D6	Except for S17C7(2)(a), for the purposes of the Deemed-to-Satisfy Provisions of Part E1,	**Compliance Readily Achievable:** Detail to be included in the design.	

+ Clause	+ Reference	+ Comment	
(Previously G6.6) Fire Fighting Equipment	a reference to a storey includes an occupiable outdoor area.		
G6D7 **(Previously G6.7)** Lift Installations	For the purposes of the Deemed-to-Satisfy Provisions of Part E3, a reference to a storey includes an occupiable outdoor area.	**Compliance Readily Achievable:** Detail to be included in the design.	
G6D8 **(Previously G6.8)** Visibility in an Emergency, Exit Signs, and Warning Signs	For the purposes of the Deemed-to-Satisfy Provisions of Part E4, a reference to a storey includes an occupiable outdoor area.	**Compliance Readily Achievable:** Detail to be included in the design. Ensure exit and emergency lighting comply within occupiable outdoor areas as if they were internal areas.	
Part G7	**Livable Housing Design**		
NSW G7 Livable Housing Design	Part G7 does not apply in NSW as livable housing design requirements do not apply to sole-occupancy units in a Class 2 building in NSW.	**Noted:** Not Applicable in NSW.	
Section I	**Special Use Buildings**		
Part I1	**Class 9b Buildings**		
I1D1 **(Previously H1.1)** Application of Part	The Deemed-to-Satisfy Provisions of this Part apply to every Class 9b building or part of a building which is a school assembly, church or community hall with a stage and any backstage area with a total floor area of more than 300m^2 or a stage/backstage in any other building with a total floor area of more than 200m^2 or any other stage with an associated rigging loft. Parts I1D4 applies to all Class 9b buildings & I1D7 applies to all enclosed Class 9b buildings.	**Noted:** I1D4 & I1D7 apply to the childcare centre, however, as there is no fixed seating, nor any aisle lighting, there are no requirements to apply in this respect. No action is required. This is provided as compliance commentary only.	
Section J	**Energy Efficiency**		
J1V3 **(Previously JV3)**	Verification using referenced building.	**Noted:** Where a J1V3 report is undertaken. the Performance-Based Design Brief (PBDB) & associated Performance Solution Report is to be provided for review.	
J3 Elemental Provisions for a SOU of a Class	This Part contains Deemed-to-Satisfy Provisions (elemental) for compliance with Part J1. It sets out provisions for the insulation of building fabric and the energy efficiency of domestic services of a sole-	**Compliance Readily Achievable:** Design statement and Section J Report to be provided at Construction Certificate stage.	

+ Clause	+ Reference	+ Comment
2 building or Class 4 part	occupancy unit of a Class 2 building or a Class 4 part of a building.	Specific attention is drawn to the requirement to apply both BASIX & the DtS provisions of this Clause to the construction of the Live/Work units.
J4 **(Previously J1)** Building Fabric	This Part contains Deemed-to-Satisfy Provisions for compliance with Part J1. It sets out provisions for the building envelope including roofs, ceilings, roof lights, walls, glazing and floors.	**Compliance Readily Achievable:** Design statement and Section J Report to be provided at Construction Certificate stage. Specific attention is drawn to the requirement to apply both BASIX & the DtS provisions of this Clause to the construction of the Live/Work units.
J5 **(Previously J3)** Building Sealing	This Part contains Deemed-to-Satisfy Provisions for compliance with Part J1. It sets out provisions for the sealing of a building's glazing, doors, exhaust fans and the like in order to increase thermal comfort for occupants and reduce the energy consumption of any installed air-conditioning systems.	**Compliance Readily Achievable:** Design statement and Section J Report to be provided at Construction Certificate stage. Specific attention is drawn to the requirement to apply both BASIX & the DtS provisions of this Clause to the construction of the Live/Work units.
J6 **(Previously J5)** Air-conditioning and ventilation	This Part contains Deemed-to-Satisfy Provisions for compliance with Part J1. It sets out the provisions for the efficiency and control of air-conditioning, space heating and ventilation equipment, the efficiency, sealing and insulation requirements for ductwork systems containing fans, and for the efficiency and insulation of pipework and pump systems.	**Compliance Readily Achievable:** Design statement and Section J Report to be provided at Construction Certificate stage. Specific attention is drawn to the requirement to apply both BASIX & the DtS provisions of this Clause to the construction of the Live/Work units.
J7 **(Previously J6)** Artificial lighting and power	This Part contains Deemed-to-Satisfy Provisions for compliance with Part J1. It sets out provisions for the design and configuration of artificial lighting and power, boiling and chilled water units, lifts and escalators and moving walkways.	**Compliance Readily Achievable:** Design statement and Section J Report to be provided at Construction Certificate stage. Specific attention is drawn to the requirement to apply both BASIX & the DtS provisions of this Clause to the construction of the Live/Work units.
J8 **(Previously J7)** Heated Water Supply and Swimming Pool and Spa Pool Plant	This Part contains Deemed-to-Satisfy Provisions for compliance with Part J1. It sets out provisions for ensuring water heaters, swimming pool and spa heaters and pump systems use energy efficiently.	**Compliance Readily Achievable:** Design statement and Section J Report to be provided at Construction Certificate stage. Specific attention is drawn to the requirement to apply both BASIX & the DtS provisions of this Clause to the construction of the Live/Work units.

+ Clause	+ Reference	+ Comment
J9 **(Previously J8)** Energy monitoring and on-site distributed energy resources	This Part contains Deemed-to-Satisfy Provisions for compliance with Part J1. It sets out provisions that enable the monitoring of energy use (other than for billing purposes) and facilitate easy retrofit of renewable energy and electric vehicle charging equipment.	**Further Information Required:** Design documentation & certification from the Electrical Engineer to be provided with the CC application demonstrating compliance with the requirements of this clause. Specific attention is drawn to the requirements relating to the provision for EV charging stations.

4.0 Conclusion

This report contains an assessment of the referenced architectural documentation for the proposed mixed use development at 849-859 Pacific Highway & 2-8 Wilson Street, Chatswood against the Deemed-to-Satisfy provisions of the Building Code of Australia 2022.

Arising from the assessment, key compliance issues have been identified that require further resolution, either by way of fire engineered Performance Solutions or plan amendments prior to the Construction Certificate stage.

Notwithstanding the above, it is considered that the proposed development can readily achieve compliance with the BCA subject to resolution of the matters identified in the Section 3.0 and 4.0 of this report.

Appendices

+ Appendix 1 – Fire Resisting Construction Requirements

TYPE A CONSTRUCTION: FRL OF BUILDING ELEMENTS				
+ Building Element	+ Class of Building - FRL: (in minutes) Structural adequacy/integrity/insulation			
	2, 3 or 4 part	**5, 7a or 9**	**6**	**7b or 8**
EXTERNAL WALL – (Including any column and other building element incorporated within it) or other external building element, where the distance from any fire-source feature to which it is exposed is:				
For loadbearing parts:				
Less than 1.5m	90/90/90	120/120/120	180/180/180	240/240/240
1.5 to less than 3m	90/60/60	120/90/90	180/180/120	240/240/180
3m or more	90/60/30	120/60/30	180/120/90	240/180/90
For non-loadbearing parts:				
less than 1.5m	–/90/90	–/120/120	–/180/180	–/240/240
1.5 to less than 3m	–/60/60	–/90/90	–/180/120	–/240/180
3m or more	–/–/–	–/–/–	–/–/–	–/–/–
EXTERNAL COLUMN - Not incorporated in an external wall				
For loadbearing columns	90/–/–	120/–/–	180/–/–	240/–/–
For non-loadbearing columns	–/–/–	–/–/–	–/–/–	–/–/–
COMMON WALLS and FIRE WALLS	90/90/90	120/120/120	180/180/180	240/240/240
INTERNAL WALLS				
Fire-resisting lift and stair shafts				
Loadbearing	90/90/90	120/120/120	180/120/120	240/120/120s
Non-loadbearing	–/90/90	–/120/120	–/120/120	–/120/120
Bounding public corridors, public lobbies and the like:				
Loadbearing	90/90/90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/60/60	–/–/–	–/–/–	–/–/–
Between or bounding sole-occupancy units:				
Loadbearing	90/90/90	120/–/–	180/–/–	240/–/–
Non-loadbearing	–/60/60	–/–/–	–/–/–	–/–/–
Ventilating, pipe, garbage, and the like shafts not used for the discharge of hot products of combustion:				
Loadbearing	90/90/90	120/90/90	180/120/120	240/120/120
Non-loadbearing	–/90/90	–/90/90	–/120/120	–/120/120
OTHER LOADBEARING INTERNAL WALLS, INTERNAL BEAMS, TRUSSES, AND:				
COLUMNS	90/–/–	120/–/–	180/–/–	240/–/–
FLOORS	90/90/90	120/120/120	180/180/180	240/240/240
ROOFS	90/60/30	120/60/30	180/60/30	240/90/60

Notes:

1. *Any lightweight construction in a fire wall or an internal wall required to have an FRL is to comply with Spec. 11.*
2. *Where a part of a building required to have an FRL depends upon direct vertical or lateral support from another part to maintain its FRL, that supporting part must typically achieve the same FRL. Where that part is also required to be non-combustible, the supporting part must also be non-combustible.*
3. *A loadbearing internal wall and a loadbearing fire wall (including those that are part of a loadbearing shaft) must be constructed from; concrete or masonry.*
4. *The method of attaching or installing a finish, lining, ancillary element, or service installation to a building must not reduce the fire-resistance of that element to below that required.*
5. *Fire rated shafts are required to be enclosed at the top and bottom by construction having an FRL of not less than what the shaft requires (in both directions)*
6. *The concession granted under S5C15 results in the roof of the building not being required to be fire rated (the building is provided throughout with sprinklers). Notwithstanding, the Atrium provisions override this general concession in BCA Spec. 5.*
7. *Where roof lights are proposed they are required to be located not less than 3 metres from a roof light in an adjoining fire separated part; and must not be more than 20% of the area of the roof.*
8. *Any loadbearing internal walls or loadbearing fire walls are to be masonry or concrete.*
9. *External walls must be non-combustible construction. Non-loadbearing parts of an external wall that are more than 3m from a fire source feature need not be fire rated.*

+ Appendix 2 – Fire Safety Schedule

The following table is a list of the required fire safety measures within the building. These measures may be subject to further change, based on design development & fire engineering.

+ Statutory Fire Safety Measure	+ Design/Installation Standard	+ Proposed
Access Panels, Doors & Hoppers	BCA 2022 Clause C4D14 AS 1530.4 – 2014 Manufacturer's Specifications	✓
Alarm Signalling Equipment	AS 1670.3 – 2018	✓
Automatic Fail Safe Devices	BCA 2022 Clause D3D26	✓
Automatic Fire Detection & Alarm System	BCA 2022 Spec. 20 AS 1670.1 – 2018	✓
Automatic Fire Suppression Systems	BCA 2022 Spec. 17 AS 2118.1 – 2017 or AS 2118.6 – 2012	✓
Emergency Lifts	BCA 2022 Clause E3D5 AS 1735.2 – 2001	✓
Emergency Lighting	BCA 2022 Clause E4D2 & E4D4 AS 2293.1 – 2018	✓
Emergency Evacuation Plan	AS 3745 - 2010	✓
Emergency Warning Intercom System (EWIS)	BCA 2022 E4D9 AS 1670.4 - 2018	✓
Exit Signs	BCA 2022 Clauses E4D5, NSW E4D6 & E4D8 AS 2293.1 – 2018	✓
Fire Control Room	BCA 2022 Spec. 19	✓
Fire Blankets	BCA 2022 Clause E1D14 AS 3504 – 1995 & AS2444 – 2001	✓
Fire Dampers	BCA 2022 Clause C4D15 AS 1668.1 – 2015 & AS 1682.1 & 2 – 2015 Manufacturer's Specifications	✓
Fire Doors	BCA 2022 Clause C3D13, C3D14, C4D3, C4D5, C4D6, C4D8 & C4D12 AS 1905.1 – 2015 Manufacturer's Specifications	✓
Fire Hose Reels	BCA 2022 Clause E1D3 AS 2441 – 2005	✓
Fire Hydrant Systems	BCA 2022 Clause E1D2 AS 2419.1 – 2021	✓
Fire Seals	BCA 2022 Clause C4D15, AS 1530.4 – 2014 & AS 4072.1 – 2014 Manufacturer's Specifications	✓

Lightweight Construction	BCA 2022 Clause C2D9 AS 1530.4 – 2014 Manufacturer's Specifications	✓
Mechanical Air Handling Systems (Automatic Shutdown)	BCA 2022 Clause E2D3 AS/NZS 1668.1 – 2015 & AS 1668.2 – 2012	✓
Portable Fire Extinguishers	BCA 2022 Clause E1D14 AS 2444 – 2001	✓
Smoke Alarms	BCA 2022 Spec 20 AS 3786 – 2014	✓
Smoke Hazard Management Systems + Stair Pressurisation	BCA 2022 Part E2 AS/NZS 1668.1 –2015	✓
Wall-Wetting Sprinklers	BCA 2022 Clause C4D5 AS 2118.2 – 2010	✓
Warning & Operational Signs	BCA 2022 Clause D3D28, D4D7 & E3D4. AS 1905.1 – 2015 EP&A (DCFS) Regulation 2021 Section 108	✓
Fire Engineered Performance Solutions relating to: 1. TBC	BCA 2022 Performance Requirements … Fire Safety Engineering Report prepared by … Report No. … Revision … dated …	✓